

EMC, Filters & Suppression

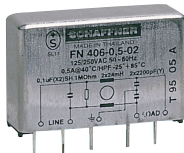
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Filters - Power Line PCB Mount - Schaffner

- For maximum efficiency it is recommended that the filter current rating be as close to, but greater than the maximum circuit current, i.e. for a circuit with a maximum current of 0.5A select a 1A filter.
- Attenuation curves shown for filters are measured in the asymmetrical mode (common mode). This is where measurement is carried out between the phase and neutral connected together, and the protection earth.

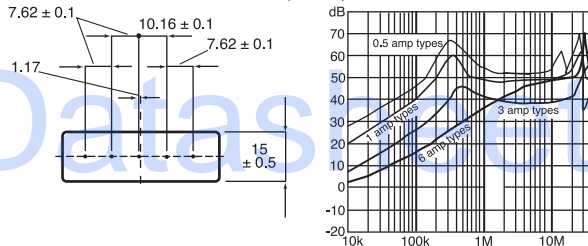
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Ultra-Compact PCB Mounting



- High performance aluminium cased PCB mounted filter for equipment applications where PCB footprint space is at a premium.
- Approved to **VDE, SEV, CSA** and **IEC950** compliant
- UL** recognised

H=29.5, W=15, D=45
Pins : L=7, W=0.8, D=0.8



Voltage rating	250V @ 0 to 400Hz	Inductance	24mH (0.5A)
Earth leakage current @ 250V ac	2 x 0.21mA		12mH (1A)
Capacitance	1 x 0.1µF(x) + 2 x 2200pF(y)		2.5mH (3A)
			0.78mH (6A)
		Operating temperature	-25°C to +85°C

Mfrs. List No. FN406-X/02/ where X=Rating in Amps

204032

Rating	Order Code	Price Each			
		1+	10+	50+	100+
0.5A	119-1336	7.35	6.53	5.94	5.79
1A	119-1337	7.35	6.53	5.94	5.79
3A	119-1338	8.42	7.47	6.80	6.67
6A	119-1339	8.42	7.47	6.80	6.67

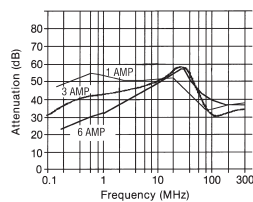
PCB Mounting



H=19.5
Pins: L=7.0, Dia=0.8

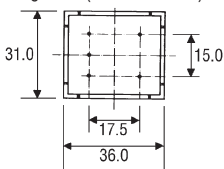
- PCB mounted filter designed to provide effective reduction of broadband line-to-ground (common mode) interference.

SCHAFFNER



- VDE, SEV and CSA** approved.
- UL** recognised
- Designed to meet **IEC950**.

Voltage rating	250V @ 0 to 400Hz
Earth leakage current @ 250V ac	2 x 0.2mA
Capacitance	1 x 0.015µF(X) + 2 x 2200pF(Y)
Inductance	24mH (0.5A)
	10mH (1A)
	2mH (3A)
	0.8mH (6A)
Operating temperature	-25°C to +85°C



Mfrs. List No. FN 405-0.5/02 = 119-1332 FN 405-1/02 = 119-1333 FN 405-3/02 = 119-1334
FN 405-6/02 = 119-1335

203993

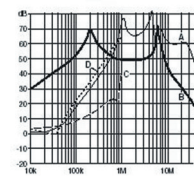
Rating	Order Code	Price Each			
		1+	10+	50+	100+
0.5A	119-1332	9.93	8.45	7.87	7.48
1A	119-1333	9.93	8.45	7.87	7.48
3A	119-1334	9.93	8.45	7.87	7.48
6A	119-1335	14.21	11.71	10.17	7.70

PCB Mounting

FN402 Series



0.5 amp types



- Compact PCB mounting filters
- Very low profile
- Approved to **VDE, CSA** and **SEMKO**
- UL** recognised

Voltage rating 250V 0/400Hz
Leakage current 190µA

Rating (A)	Capacitors		Inductance (mH)	Dimensions			Mfrs. List No.	Order Code
	Cx	Cy		H	W	D		
0.5	100nF	2 x 2.2nF	40	16.5	45	28	FN 402-0.5/02	119-1324
1	100nF	2 x 2.2nF	10	16.5	45	28	FN 402-1/02	119-1326
1.6	100nF	2 x 2.2nF	6	16.5	45	28	FN 402-1.6/02	119-1325
2.5	100nF	2 x 2.2nF	2	16.5	45	28	FN 402-2.5/02	119-1327
4	100nF	2 x 2.2nF	1	16.5	45	28	FN 402-4/02	119-1328
6.5	100nF	2 x 2.2nF	1	16.5	45	28	FN 402-6.5/02	119-1331

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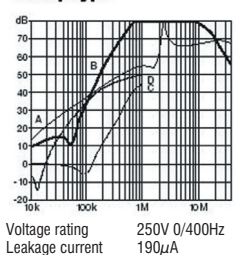
Rating	Order Code	Price Each				
		1+	10+	20+	60+	120+
0.5A	119-1324	5.57	4.95	4.48	3.95	3.84
1A	119-1326	5.77	5.13	4.82	4.71	4.21
1.6A	119-1325	5.77	5.13	4.66	4.11	3.99
2.5A	119-1327	6.39	5.67	5.16	4.78	4.63
4A	119-1328	6.39	5.67	5.16	4.78	4.63
6.5A	119-1331	6.39	5.67	5.16	4.78	4.22

PCB Mounting for DC/DC Converters

FN409 Series



3 amp type



Voltage rating 250V 0/400Hz
Leakage current 190µA

- Very compact PCB mounting filters
- Exceptional attenuation performance
- Designed for DC/DC converter, IT and telecom applications

Rating (A)	Capacitors		Inductance (mH)		Dimensions			Mfrs. List No.	Order Code
	Cx	Cy	L	L1	H	W	D		
3	4700nF	2 x 4.7nF	2.9	-	11.7	50.8	27.9	FN 409-3/02	119-1341
6.5	4700nF	2 x 4.7nF	0.5	-	11.7	50.8	27.9	FN 409-6.5/02	120-9500
13	4700nF	2 x 4.7nF	0.08	0.18	12.7	50.8	40.6	FN 409-13/02	119-1340

333805

Rating	Order Code	Price Each				
		1+	10+	20+	50+	100+
3A	119-1341	40.19	37.95	36.68	34.17	31.35
6.5A	120-9500	39.96	37.73	36.97	34.66	31.77
13A	119-1340	39.01	36.85	36.80	34.95	32.77

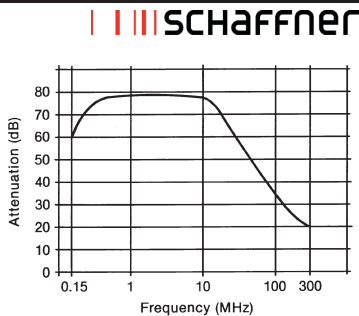


Filters - Power Line PCB Mount - Schaffner - continued

PCB Mounting, 2 Stage Ultra High Performance



H=19, W=33, D=72
Pins L=7.0, Th=0.8 x 0.8.
Fixing centres = 60 x 30



- 2 stage pcb mounting filter designed to provide excellent attenuation over a wide frequency range.

- Approved to **VDE, SEV** and **CSA**.
- Complies with **IEC950**.
- **UL** recognised

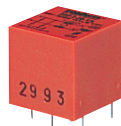
Voltage rating 250V @ 0 to 400Hz Inductance 2 x 2mH + 2 x 2mH
Earth leakage current 2 x 0.21mA Operating temperature -25°C to +85°C
Capacitance 0.033µF (x) + 2 x 2200pF (y)
Mfrs. List No. FN410XX/02 where XX=Rating in Amps

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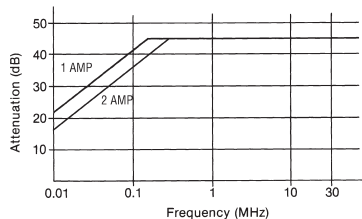
Rating	Order Code	Price Each			
		1+	10+	50+	100+
0.5A	119-1343	16.55	16.27	15.45	14.27
3A	119-1344	18.67	18.49	17.07	15.99
6A	119-1345	18.10	15.74	14.54	13.13

Filters - Power Line PCB Mount - Schurter

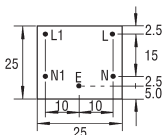
PCB Mounting, 1" Cube



H=25,
Pins: L=15, Dia=0.6



- Compact PCB mounting filter
- Designed to meet the requirements of **VDE** and **IEC**.
- Approved to **SEV, CSA, VDE** and **EN 133 200, IEC950** compliant
- **UL** recognised



Voltage rating 115V to 250V ac Inductance 2 x 10mH (150-490)
Earth leakage current <0.5mA 2 x 4mH (248-400)
Capacitance 1 x 0.015µF (X) Operating temperature -25 to +85°C
+ 2 x 2200pF (Y) Mfrs. List No. FPP2-25-1/A=116-2774
FPP2-25-2/A=116-2775

204102

Rating	Order Code	Price Each				
		1+	10+	50+	100+	500+
1A	116-2774	5.44	4.34	3.95	3.51	3.16
2A	116-2775	9.07	7.32	6.41	5.67	5.13

Filters - Power Line PCB Mount - Tyco Corcom

EDP Series



- Available up to 10 amps
- Low leakage current for European safety
- Cost effective alternative to on board components
- Compact design allowing PC mounting with minimal space requirements

The **EDP series** RFI filters provide enhanced differential mode performance for applications requiring more line-to-line protection.

Operating voltage 250VAC
Operating frequency 50Hz to 60Hz
Maximum leakage current, each line-to-ground:
@ 120 VAC 60 Hz: 0.22mA
@ 250 VAC 50 Hz: 0.38mA

Current Rating	Dimensions			Mfrs. List No.	Order Code
	H	W	L		
1A	24.15	31.5	36.6	1EDP	958-5788
3A	24.15	31.5	36.6	3EDP	958-5796
6A	24.15	31.5	36.6	6EDP	958-5800
10A	24.15	31.5	36.6	10EDP	958-5818

548337

Mfrs List No.	Order Code	Price Each			
		1+	10+	50+	100+
1EDP	958-5788	10.40	9.97	9.14	8.02
3EDP	958-5796	14.16	10.98	9.63	8.88
6EDP	958-5800	7.88	--	--	--
10EDP	958-5818	15.36	11.91	10.46	9.64

Filters - Power Line Chassis Mount - Epcos

Single Phase - Chassis Mounting



- Chassis mounting filter range offering choice of performance
- Shielded aluminium case
- Approved to **EN133 221, CSA** and **UL** recognised

Case Size	Length O/A	Width O/A	Height
A1	76.5	70	22.3
B1	76.5	45	28.6
B3	89.5	50.8	28.6
B4	89.5	50.8	38.1
B7	125	84	38.1
B8	89.5	50.8	38.1

Leakage current <0.5mA
IEC climatic category 25/85/21
Voltage rating 250V ac 50/60Hz

Type A for normal attenuation

Rating	Capacitance	L _N	Case Size	Mfrs. List No.	Order Code
3A	2 x 0.1µF(X2) 2 x 4700pF(Y2)	2 x 1.5mH	A1	B84111AA30	975-1980
2A	2 x 0.1µF(X2) 2 x 4700pF(Y2)	2 x 1.5mH	A1	B84111AA20	975-2099
10A	2 x 0.1µF(X2) 2 x 4700pF(Y2)	2 x 820µH	B1	B84111AB110	975-2005
6A	2 x 0.1µF(X2) 2 x 4700pF(Y2)	2 x 1.8mH	B1	B84111AB60	975-2030

Type B for enhanced attenuation

6A	2 x 0.33µF(X2) 2 x 4700pF(Y2)	2 x 3.3mH	B1	B84112BB60	975-1920
10A	2 x 0.47µF(X2) 2 x 4700pF(Y2)	2 x 1.8mH	B1	B84112BB110	975-1939
20A	2 x 0.68µF(X2) 2 x 4700pF(Y2)	2 x 1.8mH	B3	B84112BB120	975-1955
2A	2 x 0.1µF(X2) 2 x 4700pF(Y2)	2 x 10mH	B3	B84112BB20	975-1998
1A	2 x 0.1µF(X2) 2 x 4700pF(Y2)	2 x 10mH	B4	B84112BB10	975-2064
3A	2 x 0.22µF(X2) 2 x 4700pF(Y2)	2 x 10mH	B7	B84112BB30	975-2072

Type C for high attenuation

10A	2 x 0.1µF(X2) 2 x 4700pF(Y2)	2 x 3.6mH	B4	B84113CB110	975-1963
3A	2 x 0.47µF(X2) 2 x 4700pF(Y2)	2 x 4.7mH	B8	B84113CB30	975-1912

Type D for high attenuation

3A	2 x 0.47µF(X2) 2 x 4700pF(Y2)	2 x 5.6mH	B3	B84114DB30	975-1971
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Type E for high attenuation below 100KHz

3A	2 x 0.47µF(X2) 2 x 4700pF(Y2)	2 x 270µH 2 x 16mH	A4	B84115EB30	975-1947
6A	2 x 0.47µF(X2) 2 x 22nF(Y2)	2 x 47µH 2 x 3.6mH	A4	B84115EB60	975-2048

204012

Rating	Order Code	Price Each			
		1+	10+	20+	50+
Type A					
3A	975-1980	11.60	10.63	9.85	9.60
2A	975-2099	14.19	--	--	--
10A	975-2005	12.47	12.28	11.96	11.65
6A	975-2030	11.51	10.55	10.07	9.49

Type B					
6A	975-1920	17.69	--	--	--
10A	975-1939	18.68	16.93	15.97	15.49
20A	975-1955	47.16	--	--	--
2A	975-1998	12.15	11.13	10.88	10.60
1A	975-2064	11.57	11.37	10.59	9.94
3A	975-2072	18.13	--	--	--

Type C					
10A	975-1963	39.78	36.47	33.67	29.18
3A	975-1912	13.90	13.43	13.08	12.73

Type D					
3A	975-1971	28.97	26.56	24.52	21.26

Type E					
3A	975-1947	35.38	--	--	--
6A	975-2048	29.13	28.47	27.60	25.90

Over half a million products available online



SIFI-F 250V 2-Line Filters

Low Insertion Loss



- Optimized leakage current
- Easy to install
- Compact design
- Cost-optimized construction

- Applications include switched-mode power supplies for industrial electronics, telecom systems and data systems, DC applications

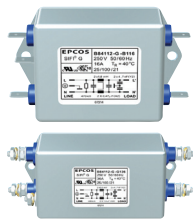
Current rating	Capacitance (mH)	Inductance (mH)	H	W	D	Mftrs. List No.	Order Code	
3A	0.1µF	4700pF	1.5	64	60.6	26	B84111FB30	146-7058
6A	0.1µF	4700pF	1.8	64	60.6	26	B84111FB60	146-7059
10A	0.1µF	4700pF	870	64	60.6	26	B84111FB110	146-7060
16A	0.1µF	4700pF	650	72	74.6	26	B84111FB116	146-7061

484943

Current Rating	Order Code	Price Each				
		1+	8+	48+	96+	192+
3A	146-7058	11.57	10.42	8.81	7.49	6.69
6A	146-7059	9.02	8.13	6.85	5.82	4.96
10A	146-7060	9.60	8.63	7.29	6.20	5.26
16A	146-7061	19.55	17.58	14.84	12.59	10.72

SIFI-G 250V EMC Filters

High Insertion Loss



- Optimized leakage current
- Compact design
- Cost-optimized construction
- Applications include switched-mode power supplies for industrial electronics, telecom systems and data systems, DC applications

Current rating	Capacitance (mH)	Inductance (mH)	H	W	D	Mftrs. List No.	Order Code	
3A	0.22µF	4700pF	10	89.5	52	29	B84112GB30	146-7064
6A	0.47µF	4700pF	3.3	89.5	52	29	B84112GB60	146-7065
10A	0.68µF	4700pF	1.8	89.5	52	29	B84112GB110	146-7066
16A	0.47µF	4700pF	1.8	89.5	52	29	B84112GB116	146-7067
20A	1.0µF	4700pF	1.8	135	52	43	B84112GG120	146-7068
25A	1.0µF	4700pF	1.6	135	52	43	B84112GG125	146-7069
36A	1.5µF	4700pF	0.75	135	52	43	B84112GG136	146-7070

484944

Current Rating	Order Code	Price Each				
		1+	8+	48+	96+	192+
3A	146-7064	15.64	13.29	12.76	12.37	12.12
6A	146-7065	20.24	17.76	16.87	15.70	15.17
10A	146-7066	14.83	12.60	11.12	10.14	9.74
16A	146-7067	20.62	14.11	13.41	12.74	12.00
20A	146-7068	33.92	29.86	26.78	24.28	23.56
25A	146-7069	47.90	42.02	39.92	37.66	36.89
36A	146-7070	41.90	38.41	34.92	33.59	32.27

Three Phase Filters - B84143 Series
8A to 150A



- Low leakage current
- Compact and easy to install
- Optimised for long motor cables and full load operation
- Construction complies with EN 133200, CSA 22.2 No. 8 1986
- UL recognised
- Safe to touch terminal connections

Operating voltage 520V
 Operating frequency 50Hz to 60Hz
 Overload capability 1.5 x Rated Current for 3 min/hour or 2.5 x Rated Current for 30 sec/hour
 Climate category 25/085/21

Current Rating @ 40°C	Leakage Current (mA)	Dimensions (L x W x H) (O/A)	Fixing Centres	Weight (kg)	Mftrs. List No.	Order Code
8A	12	165 51.4 63	155 x 38	0.58	B84143A8R105	975-1157
16A	14	231 46.4 70	221 x 38	0.9	B84143A16R105	975-1165
36A	14	265 58 90	255 x 35	1.75	B84143A36R105	975-1181

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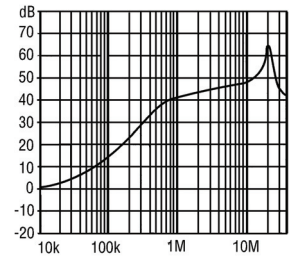
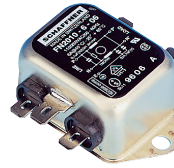
Rating	Order Code	Price Each			
		1+	+	+	+
8A	975-1157	74.42	--	--	--
16A	975-1165	81.87	--	--	--
36A	975-1181	150.07	--	--	--

Filters - Power Line Chassis Mount - Schaffner

Chassis Mounting - General Purpose



FN2010 Series



- Economic solution to general purpose filter requirements
- Good attenuation over a wide frequency range
- UL recognised, VDE, CSA and SEV approved, IEC950 compliant

Voltage rating 250Vac
 Leakage current 0.4mA/phase
 Tabs 6.35mm x 0.8mm
 Frequency range DC to 400Hz

Bleed resistor 1MΩ
 Capacitance (X)=0.1µF (Y)=2 x 4.7nF

Current rating	Inductance (mH)	H	W	D	FC	Weight (g)	Mftrs. List No.	Order Code
1	12	24.3	35	64	54	65	FN2010-1/06	119-1358
3	2.5	24.3	35	64	54	65	FN2010-3/06	119-1363
6	1	24.3	35	64	54	65	FN2010-6/06	119-1364
10	0.8	29.3	35	64	54	85	FN2010-10/06	119-1360
16	0.65	29.3	46.6	71	61	140	FN2010-16/06	119-1361

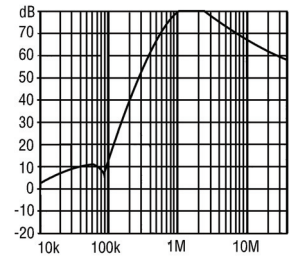
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Rating	Order Code	Price Each					
		1+	10+	30+	60+	90+	270+
1A	119-1358	9.25	8.21	7.47	7.32	6.63	5.86
3A	119-1363	9.25	8.21	7.47	7.32	6.63	5.83
6A	119-1364	9.25	8.21	7.47	7.32	6.63	5.83
10A	119-1360	9.87	8.77	7.98	7.59	6.85	6.05
16A	119-1361	11.90	9.98	7.73	6.97	6.86	6.69

Chassis Mounting



FN2020 Series



- Similar to the FN2010 Series above but with additional phase to neutral capacitance for improved differential mode performance
- UL recognised, VDE, CSA and SEV approved. IEC950 compliant

Voltage rating 250Vac
 Leakage current 0.4mA/phase
 Tabs 6.35mm x 0.8mm
 Frequency range DC to 400Hz

Bleed resistor 1MΩ
 Capacitance (X)=0.15µF (Y)=2 x 4.7nF

Current rating	Inductance (mH)	H	W	D	FC	Weight (g)	Mftrs. List No.	Order Code
1A	12	29.3	35	64	54	80	FN2020-1/06	119-1365
3A	2.5	29.3	35	64	54	80	FN2020-3/06	119-1372
6A	1	29.3	35	64	54	80	FN2020-6/06	119-1373
10A	0.8	29.3	35	64	54	85	FN2020-10/06	119-1367
16A	0.65	29.3	46.6	71	61	140	FN2020-16/06	119-1368
20A	0.6	30.3	85	54	75	210	FN2020-20/06	119-1370

204114

Rating	Order Code	Price Each					
		1+	10+	30+	60+	240+	480+
1A	119-1365	11.96	10.61	9.65	9.32	8.99	7.93
3A	119-1372	11.96	10.61	9.65	9.32	8.99	7.93
6A	119-1373	11.96	10.61	9.65	9.32	8.99	7.93
10A	119-1367	11.96	10.61	9.65	9.32	8.99	7.93
16A	119-1368	14.86	12.70	11.88	11.60	11.28	9.95
20A	119-1370	20.96	18.62	17.15	16.44	15.96	14.26

FN2030 Series



EMI Filter with High Attenuation Performance



- High performance filter attenuation
- High differential mode attenuation
- Designed for easy and fast chassis mounting
- UL recognised, CSA and ENEC approved



204191

Filters - Power Line Chassis Mount - Schaffner - continued

FN2030 Series - continued

EMI Filter with High Attenuation Performance - continued

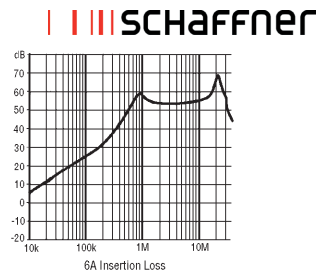
Voltage rating 250Vac Operating temperature -25°C to 100°C
Frequency range DC to 400Hz

Current rating	Inductance (mH)	Leakage Current (mA)	Resistance (kR)	H	W	D	Mfrs. List No.	Order Code
Standard Version								
1	20	0.34	1000	64	35	24.3	FN2030-1-06	130-4843
4	14	0.52	1000	71	46.6	22.3	FN2030-4-06	130-4844
6	8	0.73	680	71	46.6	22.3	FN2030-6-06	130-4845
10	8	0.73	680	85	54	30.3	FN2030-10-06	130-4846
16	4	0.87	330	85	54	40.3	FN2030-16-06	130-4848
30	2	0.87	330	85	54	40.3	FN2030-30-08	130-4849
Medical Version								
1	20	0.002	1000	64	35	24.3	FN2030B-1-06	130-4850
6	8	0.002	680	71	46.6	22.3	FN2030B-6-06	130-4852
10	8	0.002	680	85	54	30.3	FN2030B-10-06	130-4853
16	4	0.002	330	85	54	40.3	FN2030B-16-06	130-4854
30	2	0.002	330	85	54	40.3	FN2030B-30-08	130-4855

451934

Rating	Order Code	1+	10+	30+	90+	180+
Standard Version						
1A	130-4843	12.94	10.99	10.77	10.56	9.24
4A	130-4844	14.47	12.76	11.97	11.52	11.37
6A	130-4845	14.37	13.26	12.15	11.53	10.57
10A	130-4846	12.32	10.47	10.25	10.06	8.80
16A	130-4848	17.66	16.31	15.05	14.40	12.61
30A	130-4849	53.30	47.33	43.39	42.13	41.22
Medical Version						
1A	130-4850	18.04	15.45	13.54	12.02	10.82
6A	130-4852	17.74	15.21	13.30	11.83	10.65
10A	130-4853	19.48	16.70	14.61	12.98	11.69
16A	130-4854	22.83	19.57	17.13	15.23	13.71
30A	130-4855	60.48	51.82	45.35	40.31	36.28

Single Stage FN9675 Series



- Single stage filter offering good attenuation
- Applications include switch mode power supplies and equipment where space is at a premium
- CSA, SEV and VDE approved
- UL recognised

Current Rating	Inductance (mH)	Dimensions (H x W x D)	FC	Weight (g)	Mfrs. List No.	Order Code
3A	18	40 x 54 x 85	75	270	FN9675-3/06	120-9502
6A	3	40 x 54 x 85	75	270	FN9675-6/06	120-9503

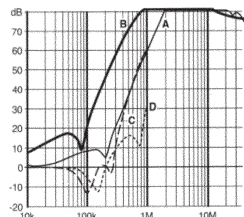
204158

Rating	Order Code	1+	5+	10+	25+	50+	100+
3A	120-9502	51.77	49.29	44.46	41.49	34.95	30.27
6A	120-9503	55.75	53.07	46.42	43.86	36.72	31.64

Chassis Mounting - Multi stage - Earth Line Choke



3 amp types



H=30, W=69, D=70
FC = 60, Tabs = 6.3 x 0.8

- Two stage filter with earth line choke
- VDE and SEV approved
- UL and CSA recognised

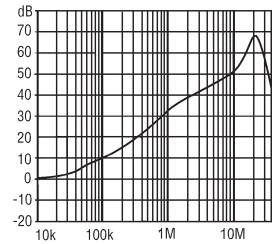
Current Rating	Inductance (mH)	Mfrs. List No.	Order Code
3A	L1: 1.1, L2: 2, L3: 0.4	FN 343-3/05	119-1316
6A	0.43, 0.77, 0.4	FN 343-6/05	119-1318
10A	0.27, 0.66, 0.4	FN 343-10/05	119-1315

Rating	Order Code	1+	10+	50+	100+
3A	119-1316	34.06	29.12	28.25	27.39
6A	119-1318	34.37	31.67	30.71	27.77
10A	119-1315	34.37	31.67	30.71	27.77

Chassis Mounting - Multi Stage FN2060 Series



SCHAFFNER



- Multi stage general purpose filters with 2 inductors per phase for high common mode attenuation
- UL recognised, VDE, SEV and CSA approved. IEC950 compliant

Voltage rating	Leakage current	Frequency range	Capacitance Tabs	(Y) = 2 x 4.7nF					
250V ac	0.4mA/phase	DC to 400Hz							
Current Rating	Inductance (mH)	Capacitors Cx (µF)	H	W	D	FC	Weight (g)	Mfrs. List No.	Order Code
1	12	0.22	29.3	46.6	71	61	120	FN2060-1/06	119-1374
3	2.5	0.22	29.3	46.6	71	61	120	FN2060-3/06	119-1383
6	0.97	0.22	29.3	46.6	71	61	120	FN2060-6/06	119-1385
10	0.8	0.47	30.3	54	85	75	190	FN2060-10/06	119-1375
12	0.58	0.47	30.3	54	85	75	190	FN2060-12/06	119-1376
16	0.65	0.33	40.3	54	85	75	260	FN2060-16/06	119-1381
20	0.6	1	45.4	57.5	113.5	103	480	FN2060-20/06	119-1382

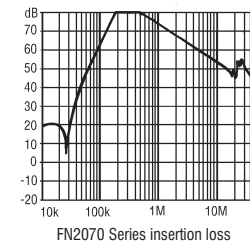
204112

Rating	Order Code	1+	10+	48+	144+	240+	480+
1A	119-1374	20.79	18.46	11.07	9.98	9.04	7.99
3A	119-1383	20.79	18.46	11.07	9.98	9.04	7.99
6A	119-1385	20.79	18.46	11.07	9.98	9.04	7.99
10A	119-1375	20.79	18.46	11.07	10.39	10.12	9.86
12A	119-1376	31.21	26.58	25.92	22.63	21.75	18.34
16A	119-1381	28.07	24.93	22.66	21.80	20.94	19.15
20A	119-1382	47.36	41.19	34.89	31.86	28.37	26.02

Multi stage - High Performance FN2070 Series



SCHAFFNER



- Multi stage filters with high values of capacitors and inductors for excellent differential and common mode attenuation
- UL recognised, VDE, CSA and SEV approved, IEC950 compliant

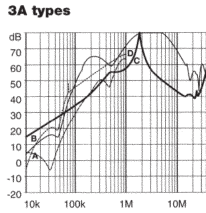
Voltage rating	Leakage current	Frequency Range	Capacitance	DC to 400Hz					
250V ac	0.4mA/phase		6.3 x 0.8	(Y) = 2 x 4.7nF					
Current Rating	Inductance (mH)	Capacitor Cx (µF)	H	W	D	FC	Weight (g)	Mfrs. List No.	Order Code
1A	22	0.33	30.3	54	85	75	190	FN2070-1/06	119-1386
3A	9.8	0.47	40.3	54	85	75	250	FN2070-3/06	119-1392
6A	7.8	1	45.4	57.5	113.5	103	450	FN2070-6/06	119-1394
10A	4.5	1	45.4	57.5	156	143	730	FN2070-10/06	119-1387
12A	3.25	1	45.4	57.5	156	143	730	FN2070-12/06	119-1388
16A	2.8	1	57.6	85.5	119	109	1000	FN2070-16/06	119-1389

Mfrs. List No. FN2070M-X/06 where X=Rating in Amps

204111

Rating	Order Code	1+	10+	40+	160+	250+	500+
FN2070 Series							
1A	119-1386	22.52	20.00	18.18	17.40	16.62	14.69
3A	119-1392	26.26	23.32	21.49	21.41	20.97	18.49
6A	119-1394	30.32	26.93	24.48	23.57	21.34	18.82
10A	119-1387	46.23	41.05	37.84	36.74	35.94	31.74
12A	119-1388	62.50	56.37	50.70	45.85	41.86	39.45
16A	119-1389	71.48	63.49	58.51	58.38	58.25	51.38

Multi stage - High Performance
FN 2080 Series



- Very high differential and common mode attenuation
- Good low frequency attenuation
- VDE and SEV approved, UL and CSA recognised
- IEC950 compliant

Voltage rating 250V ac Frequency range DC to 400Hz
Leakage current 0.4mA/ph Operating temperature -25°C to + 85°C
Capacitance Cy = 4.7nF

Current Rating	Inductance (mH)		Capacitor Cx (µF)	Dimensions (mm)			Weight (g)	Mftrs. List No.	Order Code
	L1	L2		H	w	D			
1A	22	0.49	0.33	30.3	54	85	75	FN2080-1/06	119-1396
3A	9.8	0.16	0.47	40.3	54	85	75	FN2080-3/06	119-1400
6A	7.8	0.11	1	45.4	57.5	113.5	103	FN2080-6/06	119-1401
10A	4.5	0.06	1	45.4	57.5	156	143	FN2080-10/06	119-1397

204201

Price Each

Rating	Order Code	1+	10+	50+	100+
1A	119-1396	25.85	20.05	17.75	14.72
3A	119-1400	29.15	24.78	23.51	22.35
6A	119-1401	50.15	42.63	39.48	36.32
10A	119-1397	61.67	52.43	46.71	36.32

FN2090 Series

EMI Filter with Excellent Attenuation Performance



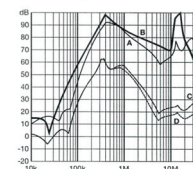
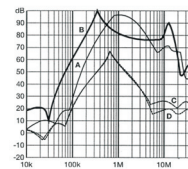
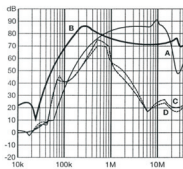
- Two stage filter
- Very high differential and common mode attenuation
- Designed for easy and fast chassis mounting
- Optional medical versions (B type)
- UL recognised, CSA and ENEC approved

Typical Attenuation
Per CISPR 17: A = 50Ω/50Ω sym; B = 50Ω/50Ω asym; C = 0.1Ω/100Ω sym; D = 100Ω/0.1Ω sym

1 to 4A types

6 to 10A types

12 to 20A types



Voltage rating 250Vac Frequency range DC to 400Hz
Operating temperature -25°C to 100°C

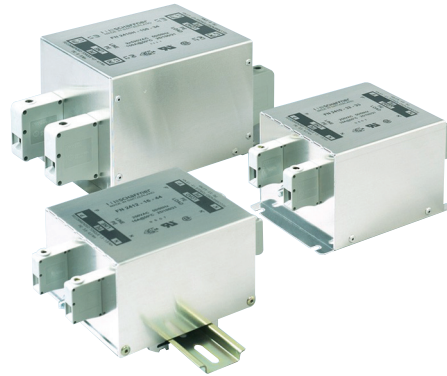
Current rating	Inductance (mH)	Leakage Current (mA)	Resistance (kR)	Dimensions (mm)			Mftrs. List No.	Order Code
				H	D	D		
Standard Version								
4	14	0.5	470	85	54	30.3	FN2090-4-06	130-4857
6	8	0.67	330	85	54	30.3	FN2090-6-06	130-4858
10	8	0.67	330	113.5	57.5	45.4	FN2090-10-06	130-4861
16	4	1.02	220	113.5	57.5	45.4	FN2090-16-06	130-4862
20	2.7	1.02	220	113.5	57.5	45.4	FN2090-20-08	130-4863
Medical Version								
6	8	0.002	330	85	54	30.3	FN2090B-6-06	130-4866
10	8	0.002	330	113.5	57.5	45.4	FN2090B-10-06	130-4867
20	2.7	0.002	220	113.5	57.5	45.4	FN2090B-20-08	130-4869

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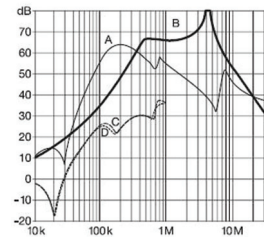
Price Each

Rating	Order Code	1+	10+	30+	90+	180+
Standard Version						
4A	130-4857	34.05	28.94	27.81	26.41	23.50
6A	130-4858	36.87	31.35	30.47	29.07	28.94
10A	130-4861	26.23	24.52	22.30	22.07	21.85
16A	130-4862	26.28	26.23	25.52	24.86	24.21
20A	130-4863	64.12	54.96	48.09	42.75	38.48
Medical Version						
6A	130-4866	31.68	27.15	23.75	21.11	19.01
10A	130-4867	40.44	34.66	30.34	26.96	24.26
20A	130-4869	53.86	46.18	40.39	35.91	32.32

Single phase EMC/RFI filter
FN 2410/2412 Series



8 to 45A types



- Excellent filter performance for applications with high interference levels
- Available from 8 to 100A
- Industrial grade terminal blocks for unsurpassed electrical safety
- FN2410 designed for chassis mounting, FN2412 suitable for DIN rail mounting

Current rating	Dimensions (mm)			Mftrs. List No.	Order Code
	H	W	D		
32	130	93	76	FN2410-32-33	110-0356
45A	130	93	76	FN2410-45-33	110-0357
60A	165	115	100	FN2410-60-34	110-0358
16	110	93	73	FN2412-16-44	110-0363
25A	110	93	87	FN2412-25-33	110-0364

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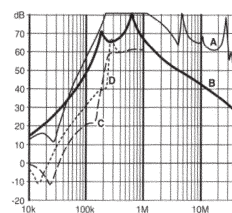
Price Each

Rating	Order Code	1+	5+	10+	25+
32A	110-0356	126.88	111.31	110.51	109.71
45A	110-0357	141.79	129.97	124.19	123.47
60A	110-0358	162.03	147.37	143.69	140.01
16A	110-0363	97.53	86.87	78.75	77.44
25A	110-0364	75.59	71.02	67.31	66.97

Motor Drive Filter
FN350 Series



12 amp types



- Compact design
- Ideal for a large variety of motor drive applications
- Designed to meet IEC950
- Approved to VDE
- UL and CSA recognised

Current Rating	Inductance L (mH)	Dimensions (mm)	Weight (kg)	Mounting			Mftrs. List No.	Order Code
				Fixing	Centres	D		
12A	7.5	57 99.5 84.5	0.7	95	51	FN 350-12/29	119-1319	
20A	3.2	57 99.5 84.5	0.7	95	51	FN 350-20/29	119-1320	
30A	1.3	60 115 85	0.7	115	100	FN 350-30/33	119-1321	
55A	1	60 115 85	1.800	115	100	FN 350-55/33	120-9491	

204190

Price Each

Rating	Order Code	1+	5+	10+	25+
12A	119-1319	82.58	81.29	78.28	74.37
20A	119-1320	94.70	93.22	89.97	85.47
30A	119-1321	110.41	108.69	103.25	96.90
55A	120-9491	131.40	120.44	111.22	105.65

FREE Re-reeling service

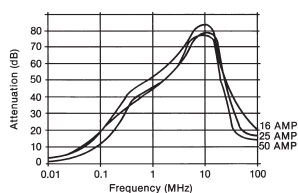
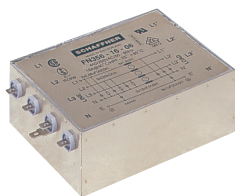


Only buy what you need and improve assembly efficiency. Look for the **RL** logo or find out more: www.farnell.co.uk / 08447 11 11 11



Filters - Power Line Chassis Mount - Schaffner - continued

Three Phase with Neutral



- High performance three phase chassis mounting filters in a very compact package
- Suitable for use in installations which require a highly attenuated three phase mains supply, e.g. communication installations, computer rooms, laboratories and industrial control systems
- Connections are 6.3 x 0.8 fast-ons for the 16A unit, M6 screw terminals for the 25A, 36A, and 50A units and M10 for the 100A unit. Approved to **SEV** and **CSA**
- Designed to meet **IEC950**.

Voltage rating 440/250V @ 0 to Earth Operating temperature -25°C to +85°C

Current Rating	Leakage Current	Inductance	Dimensions	Weight	Mfrs. List No.	Order Code
40°C	25°C	(mH)	H W D	(g)		
16A	18.4A	2.85	50 104 149	1.6	FN 356-16/06	119-1322
25A	28.7A	2.85	80 105 140	1.5	FN356-25/24	120-9482
36A	41.5A	2.58	80 105 189.5	1.2	FN 356-36-24	119-1323
50A	57.5A	2.85	102 122 143.5	2.3	FN356-50/24	120-9483

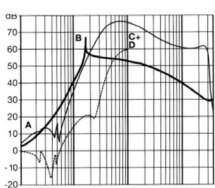
Price Each

Rating	Order Code	1+	5+	10+	25+
16A	119-1322	116.25	111.97	109.71	97.76
25A	120-9482	130.27	120.09	117.68	113.60
36A	119-1323	181.83	168.05	164.67	158.95
50A	120-9483	268.17	235.96	231.25	224.15

Three Phase and Neutral



8 amp types



- Designed for asymmetrical loads
- High attenuation
- Small leakage current
- Compact design
- Approved to **SEMKO**

Current Rating	Leakage Current	Inductance	Dimensions	Weight	Mfrs. List No.	Order Code
50°C	40°C	(mH)	H W D	(g)		
16A	18.1A	3.4	80 120 115	1100	FN 256-16/46	120-9485
25A	28.3A	3.4	115 130 125	1400	FN 256-25/47	120-9487
36A	40.8A	3.4	115 130 125	1500	FN 256-36/47	120-9488
64A	72.6A	3.4	125 140 125	2200	FN 256-64/52	120-9489

Price Each

Rating	Order Code	1+	5+	10+	25+
16A	120-9485	111.65	100.47	96.25	92.01
25A	120-9487	140.40	125.31	121.56	119.05
36A	120-9488	158.58	143.77	136.78	130.68
64A	120-9489	218.40	187.74	182.29	176.85

3 Phase Inverter Filters

FN3258 Series



- 3 Phase filters for industrial frequency inverters and motor drive systems
- Exceptional attenuation from 150kHz to 30MHz
- Designed to meet **EN133200**, **UL1283** and **CSA 22.2 No. 8 1986**
- Ultra-compact bookend style case for vertical or horizontal mounting
- Input and output via terminal blocks.

Operating voltage 480V
 Overload capability 4 x Rated Current at switch on, 1.5 x Rated Current for 1 min/hour
 Operating frequency DC to 60Hz @ 50°C
 Flame retardant to **UL94V-4**

Rating @ 50°C	Leakage Current (mA)	Dimensions L(O/A) W H	Fixing Centres	Weight (kg)	Mfrs. List No.	Order Code
30A	33.04	270 50 85	225 x 30	1.2	FN3258-30/47	119-1403

Price Each

Rating	Order Code	1+	5+	10+	25+
30A	119-1403	123.72	113.01	109.01	97.98

Filters - Power Line Chassis Mount - Tyco Corcom

B Series



- General purpose common-mode filters
- Provides RFI control of line-to-ground noise in a small size at low cost
- Available in a broad selection of current ratings and termination styles
- Very low leakage current required by VDE portable equipment, and (120 Volt) UL544 non-patient medical equipment

Operating voltage 250VAC
 Operating frequency 50Hz to 60Hz
 Maximum leakage current, each line-to-ground:
 @ 120 VAC 60 Hz: 0.21mA
 @ 250 VAC 50 Hz: 0.36mA

Current Rating	Dimensions L W H	Mfrs. List No.	Order Code
1A	16.8 64.3 57.2	1EB1	958-6040
3A	19.8 64.3 66.3	3EB1	958-6059
5A	19.8 64.3 66.3	5EB1	958-6067
10A	29.5 64.3 66.3	10EB1	958-6075
1A	16.8 64.3 24.4	1EB3	958-6083
3A	19.8 64.3 33.5	3EB3	958-6091
5A	19.8 64.3 33.5	5EB3	958-6105
10A	29.5 64.3 33.5	10EB3	958-6113

Price Each

Mfrs. List No.	Order Code	1+	10+	50+	100+
1EB1	958-6040	11.68	8.37	7.37	6.64
3EB1	958-6059	10.66	8.93	8.29	7.78
5EB1	958-6067	13.68	10.60	9.31	8.58
10EB1	958-6075	10.10	8.76	8.09	7.68
1EB3	958-6083	6.01	5.83	5.67	5.53
3EB3	958-6091	14.23	11.41	10.18	9.45
5EB3	958-6105	10.38	10.02	9.64	9.19
10EB3	958-6113	19.53	15.11	13.27	12.23

EMC Series



The EMC Series of RFI filters has been developed to reduce conducted noise to acceptable limits for equipment that must comply with the requirements of CISPR in Europe and the FCC specifications in the USA.

The EMC Series was designed to address the need for more differential mode attenuation in the lower frequency range while still maintaining high common mode performance. This type of performance is typically needed for motor drives and switch mode

power supplies with increased operating frequencies. The EMC Series is ideal for applications that require a high level of performance in a compact, cost effective package.

Operating voltage 250VAC
 Operating frequency 50Hz to 60Hz
 Maximum leakage current, each line-to-ground
 @ 120 VAC 60 Hz: **3.6, 10 Amp** 0.21mA
 @ 250 VAC 50 Hz: 0.43mA **15.20 Amp** 0.73mA 1.52mA

Current Rating	Dimensions (mm) H W L	Mfrs. List No.	Order Code
3A	29.5 46 85.1	3EMC1	958-6458
6A	29.5 52.6 97.8	6EMC1	958-6466
10A	38.9 52.6 97.8	10EMC1	958-6474
15A	45.2 57.2 126.2	15EMC1	958-6482
20A	45.2 57.2 126.2	20EMC1	958-6490

Price Each

Mfrs List No.	Order Code	1+	10+	50+	100+
3EMC1	958-6458	19.56	15.17	13.31	12.27
6EMC1	958-6466	24.63	18.15	15.93	14.12
10EMC1	958-6474	22.83	18.35	16.22	14.92
15EMC1	958-6482	34.98	32.15	27.87	23.38
20EMC1	958-6490	38.23	33.11	30.13	24.04

Over half a million products available online



RK Series

tyco Electronics corcom



- Compact Size
- High Performance
- 250 Rated Voltage
- UL Recognized, CSA Certified, and VDE Approved

Operating voltage 250VAC
 Operating frequency 50 / 60 Hz
 Maximum leakage current, each line-to-ground @ 120 VAC 60 Hz: 0.16 mA
 @ 250 VAC 50 Hz: 0.26 mA

Current Rating	Dimensions (mm)			Mfrs. List No.	Order Code
	H	W	D		
3A	29.46	46.26	85.09	3ERK1	180-0488
6A	32.51	46.23	85.09	6ERK1	180-0489
10A	45.21	52.58	97.79	10ERK1	180-0490
15A	45.21	52.58	97.79	15ERK1	180-0491
20A	45.21	52.58	97.79	20ERK1	180-0492

605792

Mfrs List No.	Order Code	Price Each		
		1+	10+	50+
3ERK1	180-0488	25.84	22.31	19.38
6ERK1	180-0489	28.60	24.70	21.45
10ERK1	180-0490	32.35	27.94	24.26
15ERK1	180-0491	37.21	32.13	27.90
20ERK1	180-0492	42.79	36.95	32.09

Q Series

tyco Electronics corcom



- Very low leakage current
- Offers higher common mode performance
- Ideal choice for applications meeting emission limits below 150kHz, as well as the limits above 150kHz
- Well suited for bringing ISM equipment in-to compliance with the limits of FCC Part 18, from 10kHz to 30MHz

Operating voltage 250VAC
 Operating frequency 50Hz to 60Hz
 Maximum leakage current, each line-to-ground: @ 120 VAC 60 Hz: 0.22mA
 @ 120 VAC 60 Hz: 0.29mA
 @ 250 VAC 50 Hz: 0.38mA
 @ 250 VAC 50 Hz: 0.51mA

Current Rating	Dimensions			Mfrs. List No.	Order Code
	W	H	L		
3A	52.6	45.2	97.8	3EQ1	958-6210
6A	57.7	45.7	126.8	6EQ1	958-6229
20A	52.6	57.9	168.1	20EQ1	958-6237

548339

Mfrs List No.	Order Code	Price Each			
		1+	5+	10+	25+
3EQ1	958-6210	51.31	39.78	34.92	32.20
6EQ1	958-6229	68.86	53.37	46.85	43.20
20EQ1	958-6237	109.20	84.65	74.30	68.51

AYO Series

tyco Electronics corcom



The AYO series filters are designed for 3-phase, four wire, WYE applications providing filtering in each of the three lines plus neutral. These lower current RFI filters provide filtering to industrial 3-phase applications.

Operating voltage phase-to-phase 440VAC
 phase-to-neutral/ground 250VAC
 Operating frequency 50Hz to 60Hz
 Maximum leakage current, each line-to-ground @ 120 VAC 60 Hz: 3, 6, 10A 2mA
 @ 250 VAC 50 Hz: 3mA 5mA

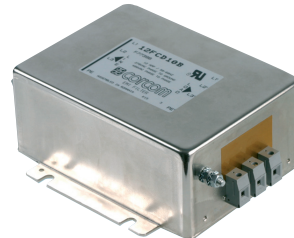
Current Rating	Dimensions			Mfrs. List No.	Order Code
	W	H	L		
3A	52.5	81.5	85.6	3AYO1	958-6156
6A	52.5	81.5	85.6	6AYO1	958-6164
10A	52.5	81.5	85.6	10AYO1	958-6172
20A	52.5	81.5	85.6	20AYO1	958-6180

548341

Mfrs. List No.	Order Code	Price Each			
		1+	5+	20+	50+
3AYO1	958-6156	23.27	20.59	18.88	18.35
6AYO1	958-6164	35.82	31.71	29.07	28.26
10AYO1	958-6172	30.74	27.20	24.95	24.25
20AYO1	958-6180	43.07	33.39	29.30	27.02

FCD Series

tyco Electronics corcom



The FCD Series filters provide three phase filtering for frequency inverters and variable speed motor drives. Designed for very noisy Delta applications, they attenuate conducted interference at low and high frequency ranges and better protect programmable logic controllers from RF noise on the AC power line. These filters perform best when installed on the line side of the motor drive. The FCD filters better prevent noise from returning to the line, enabling equipment to meet strict European regulations on RFI.

- Suited for field wiring applications
- Ideal for EMC troubleshooting and field refurbishing
- Can also be sold as an accessory to motor drives marketed into Europe
- Features side flanges for easy mounting and DIN type terminals, which eliminate live metal parts, allowing safer and easier connection

Operating voltage phase-to-phase 480VAC
 phase-to-neutral/ground 277VAC
 Operating frequency 50Hz to 60Hz
 Maximum leakage current, each line-to-ground

6 Amps 2.9mA
 50 Amps 5.7mA
 @ 120 VAC 60 Hz: 4.9mA
 @ 250 VAC 60 Hz: 9.8mA

Current Rating	Dimensions (mm)			Mfrs. List No.	Order Code
	H	W	L		
12A	140	111	151	12FCD10B	958-6245
25A	64.8	160	215	25FCD10B	958-6253
36A	64.8	160	215	36FCD10B	958-6261

548342

Mfrs. List No.	Order Code	Price Each			
		1+	5+	10+	25+
12FCD10B	958-6245	98.39	93.35	87.74	83.35
25FCD10B	958-6253	194.52	181.58	175.89	162.72
36FCD10B	958-6261	235.82	193.83	173.40	163.38

BCF Series

tyco Electronics corcom

3-Phase Filter



- Very compact bookform filter
- Low weight design
- Insulated, high quality safety terminals for in and output



Current Rating	Leakage Current (mA)	Inductance (mH)	Dimensions (mm)			Weight (kg)	Mfrs. List No.	Order Code	
			H	W	D				
7A	8A	30	2.44	70	40	190	0.7	7BCF10	180-0484
16A	18A	30	2.32	70	45	250	1.1	16BCF10	180-0485
30A	33A	30	1.61	85	50	270	1.5	30BCF10	180-0487

605791

Rating	Order Code	Price Each		
		1+	5+	10+
7A	180-0484	113.20	97.77	84.90
16A	180-0485	134.31	115.99	100.73
30A	180-0487	180.80	156.15	135.60

element14 | www.element-14.com

The solutions are out there, you just haven't registered yet



Filters - Power Line Chassis Mount - Roxburgh EMC

Single and Three Phase



Single phase
H=55, W=116,
D=174
FC=80 x 101



Three phase
H=55, W=143,
D=230
FC=120 x 128

- Compact high performance industrial filters built to satisfy **IEC950** safety standards which when installed correctly will allow compliance with **VDE0871, EN55011** (Industrial) and **EN55022** (Domestic) EMC emission levels
- IHF range is available in single phase or three phase (with neutral), feature a maximum leakage current of 3.5mA and are suitable for all general purpose applications
- The MDF range is available in single phase or three phase (without neutral) and feature higher performance than the standard IHF range
- Primarily designed for use with Motor Drive Inverters they are suitable for all applications without a neutral conductor where leakage current is not a limiting factor

Termination is via colour coded M6 studs.

Voltage rating	250V ac single phase 440/250V ac three phase	Operating temperature	-25°C to +85°C
Line frequency	50/60Hz	Test voltage	2kV ac

- Compact high performance industrial filters built to satisfy **IEC950** safety standards which when installed correctly will allow compliance with **VDE0871, EN55011** (Industrial) and **EN55022** (Domestic) EMC emission levels
- IHF range is available in single phase, features a maximum leakage current of 3.5mA and is suitable for all general purpose applications
- Primarily designed for use with Motor Drive Inverters they are suitable for all applications without a neutral conductor where leakage current is not a limiting factor

Termination is via colour coded M6 studs.

Rating	Inductance (mH)	Resistance per Winding (mΩ)	Dimensions			Mfrs. List No.	Order Code
			H	W	D		
IHF Series							
18A, single phase	6.4	15	55	116	174	IHF18	118-7699
25A, single phase	4.4	8.5	55	116	174	IHF25	118-7678
36A, single phase	2.5	3.8	55	116	174	IHF36	118-7700
50A, single phase	1.1	2	55	116	174	IHF50	118-7679
8A, three phase with neutral	2.8	64	38	220	120	IHF408	118-7695
25A, three phase with neutral	1.1	4	55	143	230	IHF425	118-7680
36A, three phase with neutral	0.55	1.65	55	143	230	IHF436	118-7696
50A, three phase with neutral	0.28	1	55	143	230	IHF450	118-7681
70A, three phase with neutral	0.72	0.52	85	182	238	IHF470	118-7698
100A, three phase with neutral	0.4	0.3	85	238	182	IHF4100	118-7716
MDF Series							
18A single phase	0.4	15	55	120	174	MDF18	118-7701
25A, single phase	4.4	8.5	55	120	174	MDF25	118-7682
50A, single phase	1.1	2	55	120	174	MDF50	118-7684
36A, three phase	0.96	2.4	55	147	230	MDF336	118-7705
50A, three phase	0.55	1.8	55	147	230	MDF350	118-7687
70A, three phase	1.1	2.1	85	180	230	MDF370	118-7706
100A, three phase	0.71	1.7	85	180	230	MDF3100	118-7707
150A, three phase	0.45	0.5	80	290	280	MDF3150	118-7708

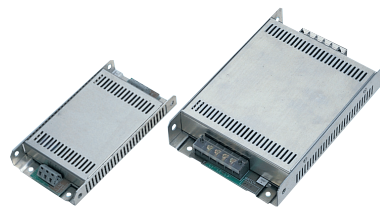
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Price Each

Order Code	1+	5+	10+	25+	
IHF Series					
18A, single phase	118-7699	81.99	74.12	65.37	62.79
25A, single phase	118-7678	103.38	90.47	72.85	67.31
36A, single phase	118-7700	101.94	92.15	78.77	77.22
50A, single phase	118-7679	111.17	97.27	78.34	72.38
8A, three phase with neutral	118-7695	80.19	78.30	69.04	61.37
25A, three phase with neutral	118-7680	170.72	149.44	118.09	102.90
36A, three phase with neutral	118-7696	168.40	152.18	127.72	119.42
50A, three phase with neutral	118-7681	187.76	156.55	126.08	116.48
70A, three phase with neutral	118-7698	256.78	232.03	200.83	182.13
100A, three phase with neutral	118-7716	285.30	266.49	237.74	212.20
MDF Series					
18A, single phase	118-7701	81.99	80.35	72.45	69.79
25A, single phase	118-7682	90.30	79.00	63.64	58.81
50A, single phase	118-7684	111.17	97.27	78.34	72.38
36A, three phase	118-7705	147.09	144.14	125.08	115.91
50A, three phase	118-7687	175.60	153.67	123.76	114.33
70A, three phase	118-7706	256.78	251.64	220.28	202.35
100A, three phase	118-7707	264.14	258.85	231.27	224.87
150A, three phase	118-7708	502.40	454.04	414.59	406.29

Motor Inverter Filters

Single and Three Phase



612-080

612-145

- Motor inverter high performance filters designed to enable inverters to meet the most stringent EMC limits as laid down in **EN55022B**
- Flexible mounting options ensure minimal panel space occupation
- Finger proof terminals are used up to 30A, and insulating boots cover stud terminals above 30A
- Designed to meet **IEC950**

Operating voltage	250V ac Single phase 520V ac Three phase					
Operating temperature	-25°C to +85°C					
Overload current	150% 1 minute, 200% 1 second					
Typical worst case insertion loss	70-80dB					
Rating	L	W	H	Weight (kg)	Mfrs. List No.	Order Code
Single Phase						
3A	170	90	25	0.3	MIF03	118-7726
Three Phase						
16A	214	204	47	1.6	MIF316	118-7732
30A	360	175	50	1.8	MIF330	118-7734
50A	618	230	70	4.8	MIF350	118-7735
100A	785	275	80	9.5	MIF3100	118-7736

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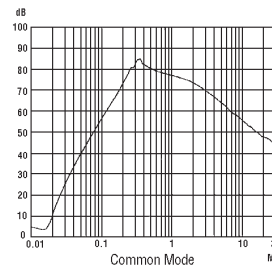
Order Code	Price Each	1+	5+	10+	25+	50+
Single Phase						
3A	118-7726	69.83	67.25	61.88	56.85	54.07
Three Phase						
16A	118-7732	162.51	156.46	151.51	148.47	142.96
30A	118-7734	172.99	166.55	153.27	131.05	124.65
50A	118-7735	215.58	207.57	194.55	181.70	172.79
100A	118-7736	358.10	344.91	323.33	312.03	296.69

KMF Range Optimum Performance

Three Phase



967-076



- Industrial three phase filters designed to meet the requirements of **UL1283, EN133200**, and enable users to meet **EN55011A** and **EN55022B** legislation.
- High performance, lightweight, small footprint and IP rated
- terminal blocks
- Book end case style ensures easy fitting into cabinets and panel

Operating temperature	-25°C to +100°C	Voltage rating	520V ac up to 25A 520V ac above
-----------------------	-----------------	----------------	------------------------------------

Rating	Leakage Current (mA)	Dimensions			Weight (kg)	Mfrs. List No.	Order Code
		L	W	H			
36A	42	272	74	161	2.7	KMF 336	118-7743
50A	90	272	74	161	2.9	KMF 350	118-7744
70A	90	312	93	190	4.1	KMF 370	118-7745
100A	198	319	93	190	4.5	KMF 3100	118-7746

204157

Order Code	Price Each	1+	5+	10+	25+	50+
36A	118-7743	144.74	130.49	114.84	105.93	89.01
50A	118-7744	146.54	132.07	116.24	107.25	90.12
70A	118-7745	178.13	160.57	141.33	130.36	109.55
100A	118-7746	206.87	186.49	164.11	151.41	127.22

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REACH - SVHCs



We've checked over **200,000 products** for **Substances of Very High Concern** under REACH and are continuing to check more every day. Easily identify these products online and access supporting safety datasheets when you see this logo. Visit www.farnell.co.uk to stay up-to-date.

DIN Rail Filters



- General purpose DIN rail mounting filter for use in industrial applications and rack mounted equipment
- Compact design which offers high performance and VDR protection
- Can be used in conjunction with Roxburgh DIN rail surge suppressors
- Designed to meet IEC 950, UL, CSA and VDE requirements.

H=74, W=80, D=22.5

Rating	Inductance (mH)	Resistance Per Winding (MΩ)	Mfrs. List No.	Order Code
1A	18	640	DRF01	118-7690
3A	3.2	71	DRF03	118-7691
6A	1.4	19	DRF06	118-7692
8A	1.5	15	DRF08	118-7694

Voltage rating 250V ac Line frequency DC to 440Hz
Operating temperature -25°C to ++85°C

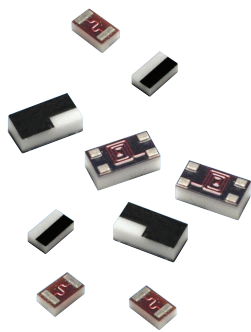
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Rating	Order Code	Price Each				
		1+	10+	25+	50+	100+
1A	118-7690	40.63	39.44	35.65	29.96	27.58
3A	118-7691	42.49	41.24	37.27	31.35	28.85
6A	118-7692	42.49	41.24	37.27	31.35	28.85
8A	118-7694	45.87	44.51	39.46	34.05	31.48

Filters - Circuit Filters - AVX

LP Series

Thin-Film Low Pass Filters



- These filters are based on thin-film multilayer technology. This technology provides a miniature part with excellent high frequency performance and rugged construction for reliable automatic assembly.
- They are offered in a variety of frequency bands compatible with various types of high frequency wireless systems



Bandwidth (MHz)	Frequency (MHz)	Insertion Loss (dB)	Mfrs. List No.	Order Code
0402 Case				
1950	1980 - 1920	0.3	LP0402N1950ANTR/500	167-2702
2442	2484 - 2400	0.35	LP0402N2442ANTR/500	167-2703
5500	5650 - 5350	-0.2	LP0402N5500ANTR/500	167-2704
0603 Case				
902	915 - 890	0.35	LP0603A0902ANTR/500	167-2706
947	960 - 935	0.35	LP0603A0947ANTR/500	167-2707
1747	1785 - 1710	0.3	LP0603A1747ANTR/500	167-2709
1842	1880 - 1805	0.3	LP0603A1842ANTR/500	167-2711
3599	-	-	LP0603N3599ANTR/500	167-2712
3500	3600 - 3400	-0.3	LP0603N3500ANTR/500	167-2713
5200	5350 - 5050	-0.2	LP0603N5200ANTR/500	167-2714

528700

MHz	Order Code	Price Each				
		1+	50+	100+	500+	1K+
0402 Case Size						
1950	167-2702	1.04	0.82	0.68	0.58	0.51
2442	167-2703	0.50	0.45	0.41	0.38	0.35
5500	167-2704	1.04	0.82	0.68	0.58	0.51
0603 Case Size						
902	167-2706	0.79	0.72	0.65	0.61	0.56
947	167-2707	1.12	0.93	0.79	0.68	0.61
1747	167-2709	0.79	0.72	0.65	0.61	0.56
1842	167-2711	1.65	1.32	1.08	0.94	0.82
3599	167-2712	1.75	1.39	1.14	0.99	0.86
3500	167-2713	0.79	0.72	0.65	0.61	0.56
5200	167-2714	1.27	1.06	0.91	0.80	0.72

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W2H/W3H Series

0805 & 1206 Case Sizes



High current feedthru filters are designed as a broadband EMI filter that is specially designed to have high current handling capability. These SMD feedthru filters offer an optimised frequency response with high attenuation across a wide RF spectrum due to optimised parallel and series inductances. They can also replace discrete L/C filter networks.



- Low parallel inductance provides significant noise reduction in circuits with operating frequencies up to 5GHz
- Broad frequency response with high attenuation
- Compact size
- High rated current

0805 Case Size

nF	Mfrs. List No.	Order Code	Price Each				
			1+	25+	500+	1K+	3K+
100 Volt d.c. NP0							
0.022	W2H1A2208AT1A	SMD 125-1588	0.490	0.370	0.230	0.184	0.173
0.047	W2H1A4708AT1A	SMD 125-1590	0.095	0.075	0.070	0.068	0.067
0.1	W2H1A1018AT1A	SMD 125-1587	0.470	0.310	0.191	0.156	0.147
0.22	W2H1A2218AT1A	SMD 125-1589	0.320	0.240	0.158	0.132	0.125
0.47	W2H1A4718AT1A	SMD 125-1591	0.570	0.390	0.230	0.189	0.178
25 Volt d.c. X7R							
100	W2H13C1048AT1A	SMD 125-1592	0.570	0.440	0.260	0.220	0.196
50 Volt d.c. X7R							
1	W2H15C1028AT1A	SMD 125-1593	0.450	0.300	0.184	0.150	0.140
10	W2H15C1038AT1A	SMD 125-1595	0.400	0.310	0.230	0.184	0.140
22	W2H15C2238AT1A	SMD 125-1596	0.510	0.390	0.250	0.200	0.188
47	W2H15C4738AT1A	SMD 125-1597	0.510	0.370	0.230	0.184	0.173

1206 Case Size

nF	Mfrs. List No.	Order Code	Price Each				
			1+	25+	500+	1K+	3K+
50 Volt d.c. X7R							
22	W3H15C2238AT1A	SMD 125-1585	0.350	0.290	0.210	0.183	0.144
47	W3H15C4738AT1A	SMD 125-1586	1.180	0.790	0.480	0.400	0.360

RL FREE Re-reeling service. Only buy what you need and improve assembly efficiency. For more information visit www.farnell.com

W3F Series Feedthrough Filters



- 1206 case size nickel barrier terminations
- Broad band RFI attenuation
- Ultra low inductance ground connection
- Supplied on tape



Capacitance pF	Volt dc	Tolerance %	Mfrs. List No.	Order Code
1000	50	+50-20	W3F15C1028AT1A	121-6396
2200	50	+50-20	W3F15C2228AT1A	121-6397
22000	50	+50-20	W3F15C2238AT1A	121-6398
22	100	+50-20	W3F1A2208AT1A	121-6400
47	100	+50-20	W3F1A4708AT1A	121-6401
100	100	+50-20	W3F1A1018AT1A	121-6402
220	100	+50-20	W3F1A2218AT1A	121-6403
470	100	+50-20	W3F1A4718AT1A	121-6404

204159

pF	Order Code	Price Each				
		5+	50+	100+	250+	500+
50 Volt dc						
1000	SMD 121-6396	0.290	0.240	0.191	0.165	0.146
2200	SMD 121-6397	0.300	0.240	0.198	0.170	0.150
22000	SMD 121-6398	0.370	0.290	0.240	0.210	0.183
100 Volt dc						
22	SMD 121-6400	0.280	0.220	0.181	0.155	0.137
47	SMD 121-6401	0.270	0.220	0.177	0.152	0.134
100	SMD 121-6402	0.340	0.270	0.220	0.190	0.167
220	SMD 121-6403	0.360	0.290	0.240	0.210	0.182
470	SMD 121-6404	0.193	0.168	0.162	0.125	0.095

Over half a million products available online



Filters - Circuit Filters - AVX - continued

AVX Feedthrough Capacitor Designer Kits



A feedthrough capacitor designer kit giving the user maximum range choice with enough samples to be useful during test and development. Once used, each product in the kit can be replenished through Farnell InOne. Also included with the kit is a full range card and a data CD Rom. 5 of each capacitance value (within the stated range) is supplied in each kit.

No. of Values	Resistance Values	Mfrs List No.	Order Code	Price Each
26 Values	22 pF to 100 nF	ADVFEEDTHRU001	130-1944	452083
			1+	3+
			130-1944	87.93 74.41

W2F4/W3F4 Series Feedthru Filter Arrays



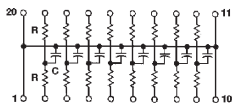
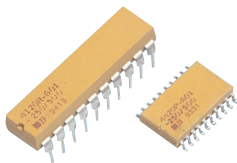
- Ideal choice for EMI suppression, broadband I/O filtering, LCD filtering and V_{cc} power line conditioning
- Unique construction provides low parallel inductance and offers excellent decoupling capabilities
- Contains four elements with a common ground connection, making it ideal for multi-line designs

Case Size	Capacitance pF	Volt dc	Tolerance %	Mfrs. List No.	Order Code
0805	22	25	-20/+50	W2F43A2208AT1A	125-1568
0805	47	25	-20/+50	W2F43A4708AT1A	125-1571
1206	220	50	-20/+50	W3F45C2218AT1A	125-1575
1206	470	50	-20/+50	W3F45C4718AT1A	125-1576
1206	22	100	-20/+50	W3F41A2208AT1A	125-1573
1206	47	100	-20/+50	W3F41A4708AT1A	125-1574
1206	100	100	-20/+50	W3F41A1018AT1A	125-1572

Case Size	Order Code	Price Each				
		5+	25+	500+	1K+	3K+
0805	SMD 125-1568	0.560	0.370	0.230	0.186	0.176
1206	SMD 125-1572	0.800	0.540	0.330	0.270	0.250

Filters - Circuit Filters - Bourns

601 Series RC Network T-Filter



Standard H=4.57, W=7.87, L=27.05
Lead spacing = 2.54 x 8.64

Surface Mount H=2.78, W=10.34, L=12.95
Lead spacing = 1.27 x 10.34

- Low pass noise filters designed to filter out the high frequency noise content of digital signals at board level
- Can be used to filter a maximum of eight signal lines
- Flame retardant case to **UL94V-0**.

Voltage Rating	50V	Capacitance voltage	25V
Resistance temperature coefficient	±300ppm/°C	Capacitance tolerance	±30%
Capacitance temperature coefficient	Z5U		

pF	Ω	Attenuation (dB)					Mfrs. List No.	Order Code
		10MHz	20MHz	100MHz	200MHz	1GHz		
50	25	3dB	4dB	7dB	14dB	19dB	4120R-601-250/500L	935-6029
200	25	4dB	7dB	15dB	40dB	17dB	4120R-601-250/201L	935-6010
50	25	3dB	4dB	7dB	14dB	19dB	4420P-T06-250/500L	935-6045
200	25	4dB	7dB	15dB	40dB	17dB	4420P-T06-250/201L	935-6037

204275

Price Each

pF	Ω	Order Code	1+	25+	50+	100+	250+
Standard							
50	25	935-6029	3.40	2.84	2.52	2.17	1.98
200	25	935-6010	3.58	2.99	2.63	2.28	2.07
Surface Mount							
50	25	SMD 935-6045	3.44	2.86	2.53	2.19	2.00
200	25	SMD 935-6037	3.55	2.96	2.61	2.26	2.06

Filters - Circuit Filters - Murata

LFB Series

Bandpass Filters for Communication Equipment



- Ultra-small, low-profiled, light-weight bandpass filters
- Absolutely no adjustment required
- Reflow solderable

Frequency (MHz)	Bandwidth (MHz)	Insertion Loss (dB)	Mfrs. List No.	Order Code
0603 Case Size				
2450	100	2.2	LFB182G45SG9A246	129-4673
5787.5	125	2.2	LFB185G78SGAB713	129-4674
0805 Case Size				
1906.5	27	2.2	LFB211G90SG8B704	129-4675
2450	100	3.5	LFB212G45BA1A220	129-4676
2450	100	3.5	LFB212G45BA1A234	129-4677
2450	100	3.5	LFB212G45BA1B763	129-4678
2450	100	1.4	LFB212G45SG8A192	129-4681
5125	550	2.6	LFB215G12SG8A178	129-4682
5125	550	1.5	LFB215G12SG8A183	129-4683
5250	200	1.5	LFB215G25SG8A144	129-4685
5375	950	2.8	LFB215G37BA1A233	129-4686
5375	950	1.5	LFB215G37SG8A180	129-4687
5375	950	1.8	LFB215G37SG8A185	129-4688
5512	726	2.2	LFB215G51SG8A132	129-4689
5512	726	1.9	LFB215G51SG8A154	129-4690
1008 Case Size				
1906.5	27	2.2	LFB2H1G90SG6A157	129-4711
2450	100	1.2	LFB2H2G45SG7A158	129-4715
2450	100	2.1	LFB2H2G45SG7A159	129-4716
2450	100	2.1	LFB2H2G45SG7B734	129-4717
5787.5	100	3	LFB2H5G78SG7A175	129-4718
1210 Case Size				
205.5	63	1.5	LFB32205MSK1-948	129-4693
5787.5	125	1.5	LFB215G78SG8A170	129-4691

452092

Price Each

MHz	Order Code	5+	25+	100+	250+	500+
0603 Case Size						
2450	SMD 129-4673	0.132	0.101	0.099	0.096	0.093
5787.5	SMD 129-4674	0.155	0.130	0.127	0.124	0.121
0805 Case Size						
1906.5	SMD 129-4675	0.128	0.108	0.105	0.102	0.100
2450	129-4676	0.240	0.193	0.157	0.147	0.143
2450	SMD 129-4677	0.164	0.154	0.150	0.147	0.143
2450	SMD 129-4678	0.210	0.169	0.150	0.147	0.143
2450	SMD 129-4681	0.189	0.140	0.126	0.108	0.105
5125	SMD 129-4682	0.123	0.114	0.111	0.108	0.105
5125	129-4683	0.173	0.141	0.120	0.106	0.104
5250	SMD 129-4685	0.123	0.112	0.109	0.106	0.104
5375	SMD 129-4686	0.164	0.154	0.150	0.147	0.143
5375	SMD 129-4687	0.123	0.112	0.109	0.106	0.104
5375	129-4688	0.290	0.230	0.195	0.153	0.140
5512	SMD 129-4689	0.136	0.119	0.115	0.112	0.109
5512	SMD 129-4690	0.148	0.132	0.129	0.125	0.122
1008 Case Size						
1906.5	SMD 129-4711	0.165	0.157	0.153	0.146	0.143
2450	SMD 129-4715	0.360	0.270	0.220	0.176	0.143
2450	129-4716	0.360	0.270	0.220	0.176	0.143
2450	SMD 129-4717	0.174	0.143	0.140	0.136	0.133
5787.5	SMD 129-4718	0.191	0.144	0.140	0.136	0.133
1210 Case Size						
205.5	SMD 129-4693	0.660	0.490	0.450	0.380	0.320
5787.5	SMD 129-4691	0.131	0.119	0.115	0.112	0.109

Technical information at your fingertips



Over 420,000 technical datasheets available online.

Visit www.farnell.co.uk and look for the Tech Info heading in your search results.

LFL Series

Lowpass Filters for Communication Equipment



- Ultra-small, low-profiled, lightweight chip filters based on ceramic multi-layer technology
- Offer stable high selectivity up to very high frequency
- Absolutely no adjustment required
- Reflow solderable

Frequency (MHz)	Bandwidth (MHz)	Insertion Loss (dB)	Mfrs. List No.	Order Code
0402 Case Size				
2450	100	0.45	LFL152G45TC1A219	129-4694
0603 Case Size				
815.5	19	0.8	LFL18815MTC2A072	129-4721
924.5	70	0.4	LFL18924MTC1A052	129-4722
2450	100	0.37	LFL182G45TC1A108	129-4719
0805 Case Size				
600	500	1.37	LFL21600MTC1A002	129-4708
847.5	75	0.75	LFL21847MTC1A006	129-4709
902.5	25	0.6	LFL21902MTC1A018	129-4710
1350	500	0.92	LFL211G35TC1A001	129-4695
1441	24	0.47	LFL211G44TC1A014	129-4697
1795	170	0.47	LFL211G79TC1A011	129-4698
1890	20	0.47	LFL211G89TC1A015	129-4699
1920	140	0.6	LFL211G92TC1A060	129-4701
2450	100	0.5	LFL212G45TC1A007	129-4703
5250	200	0.7	LFL215G25TC1A156	129-4704
5787.5	125	0.7	LFL215G78TC1A155	129-4707

452093

Price Each

MHz	Order Code	5+	25+	100+	250+	500+
0402 Case Size						
2450	SMD 129-4694	0.138	0.111	0.104	0.079	0.077
0603 Case Size						
815.5	SMD 129-4721	0.120	0.103	0.101	0.097	0.096
924.5	SMD 129-4722	0.189	0.157	0.129	0.100	0.091
2450	SMD 129-4719	0.220	0.176	0.141	0.107	0.100
0805 Case Size						
600	SMD 129-4708	0.196	0.142	0.138	0.135	0.131
847.5	SMD 129-4709	0.164	0.137	0.133	0.130	0.126
902.5	SMD 129-4710	0.360	0.290	0.230	0.188	0.156
1350	SMD 129-4695	0.340	0.240	0.195	0.162	0.136
1441	SMD 129-4697	0.135	0.119	0.117	0.115	0.113
1795	SMD 129-4698	0.270	0.182	0.150	0.125	0.108
1890	SMD 129-4699	0.190	0.148	0.141	0.137	0.134
1920	SMD 129-4701	0.240	0.182	0.152	0.124	0.121
2450	SMD 129-4703	0.360	0.290	0.230	0.188	0.156
5250	SMD 129-4704	0.230	0.159	0.133	0.113	0.101
5787.5	SMD 129-4707	0.230	0.165	0.141	0.118	0.100

DFCB Series

Dielectric Filters (GIGAFIL®)



- Low insertion loss for using high Q-value dielectric resonators
- Small and light for using high dielectric constant ceramics
- Excellent temperature stability for temperature compensated dielectric constant (0±5ppm/degree C max.)
- Excellent mechanical stability without vibratile structure
- SMD and reflow soldering is available
- Mountable by automatic placing machine

Frequency (MHz)	Bandwidth (MHz)	Insertion Loss (dB)	Attenuation (dB)	Mfrs. List No.	Order Code
836.5	25	2.6	6.5	DFCB2836MLDJAA	129-4728
881.5	25	3	15	DFCB2881MLDJAA	129-4729
881.5	25	2.5	27	DFCB3881MLDJAA	129-4739
915	26	3	15	DFCB2915MLDJAA	129-4730
915	26	2.6	27	DFCB3915MLDJAA	129-4741
947.5	25	3	45	DFCB2947MLDJAA	129-4731
947.5	25	3.5	45	DFCB3947MLDJAA	129-4742
1747.5	75	2	20	DFCB31G74LBJAA	129-4732
1960	60	3.7	5	DFCB21G96LBJAA	129-4727
1960	60	3.7	30	DFCB31G96LBJAA	129-4735
2140	60			DFCB32G14LBJAA	129-4736

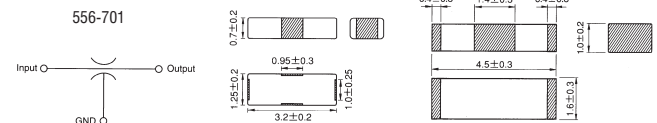
452096

Frequency	Order Code	1+	25+	100+	250+	500+
836.5MHz	SMD 129-4728	1.77	1.42	1.30	1.13	1.05
881.5MHz	SMD 129-4729	1.54	1.33	1.29	1.27	1.23
881.5MHz	SMD 129-4739	2.26	1.77	1.50	1.40	1.36
915MHz	SMD 129-4730	1.85	1.44	1.25	1.17	1.09
915MHz	SMD 129-4741	1.87	1.83	1.79	1.74	1.70
947.5MHz	SMD 129-4731	1.44	1.33	1.29	1.27	1.23
947.5MHz	SMD 129-4742	2.25	1.76	1.49	1.39	1.35
1747.5MHz	SMD 129-4732	2.14	1.66	1.49	1.36	1.28
1960MHz	SMD 129-4727	1.35	1.28	1.25	1.22	1.20
1960MHz	SMD 129-4735	1.82	1.67	1.63	1.61	1.58
2140MHz	SMD 129-4736	2.12	1.65	1.20	1.12	1.10

Capacitor – 3 Terminal



- 3 terminal capacitors in chip form which offer a high level of noise suppression and excellent high frequency characteristics
- Applications include suppression of EMI in signal circuits and DC power lines.
- Supplied on tape.



NFM3212R Series			
Voltage rating	50V dc	Current rating	300mA
Capacitance tolerance	1000MΩ min.	Insulation resistance	1000
Operating temperature	125-55°C to + °C	DC resistance	0.3Ω max
Capacitance pF	Mfrs. List No.	Order Code	Capacitance pF
220	NFM3DCC221R1H3L	952-8253	2200
1000	NFM3DCC102R1H3L	952-8245	22000
			NFM3DCC223R1H3L
			952-8270

NFM4516R Series			
Voltage rating	100V dc	Current rating	300mA
Capacitance tolerance	1000MΩ min.	Insulation resistance	1000MΩ min.
Operating temperature	-55°C to +125°C	DC resistance	0.3Ω max
Capacitance pF	Mfrs. List No.	Order Code	Capacitance pF
470	NFM41CC471R2A3L	952-8350	2200
1000	NFM41CC102R2A3L	952-8318	22000
			NFM41CC222R2A3L
			952-8334
			NFM41CC223R2A3L
			952-8342

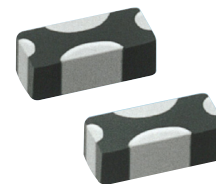
NFM40R Series			
Voltage rating	25V dc	Current rating	200mA
Insulation resistance	1000MΩ min.	DC resistance	0.6Ω max
Operating temperature	-55°C to +125°C		
Capacitance pF	Tolerance %	Mfrs. List No.	Order Code
47	+50 to -20	NFM3DCC470U1H3L	952-8288
100	+50 to -20	NFM3DCC101U1H3L	952-8237
100	+80 to -20	NFE31PT101C1E9L	952-8148
1500	+50 to -20	NFE31PT152Z1E9L	952-8156
220	+50 to -20	NFE31PT221D1E9L	952-8164
470	+50 to -20	NFE31PT471F1E9L	952-8180
470	+50 to -20	NFM3DCC471R1H3L	952-8296
2200	+50 to -50	NFE31PT222Z1E9L	952-8172

NFM41R Series			
Voltage rating	100V dc	Current rating	300mA
Insulation resistance	1000MΩ	DC resistance	0.3Ω max
Operating temperature	-55°C to +125°C		
Capacitance pF	Tolerance %	Mfrs. List No.	Order Code
22	+50 to -20	NFM41CC220U2A3L	952-8326

204064

Order Multiple=5	Order Code	Price Each				
		5+	50+	100+	250+	500+
NFM3212R Series	All Values	0.290	0.270	0.240	0.210	0.156
NFM4516R Series	All Values	0.570	0.440	0.340	0.290	0.280
NFM40R Series	All Values	0.240	0.220	0.180	0.176	0.173
NFM41R Series	All Values	0.720	0.550	0.440	0.360	0.350

NFM Series



Capacitance	Voltage Rating	Tolerance	Mfrs. List No.	Order Code
Case Style 0603				
1μF	6.3V	-20% to +20%	NFM18PC105R0J3D	168-6505
1μF	6.3V	-20% to +20%	NFM18PS105R0J3D	168-6506
0.1μF	16V	-20% to +20%	NFM18PC104R1C3D	168-6508
0.47μF	6.3V	-20% to +20%	NFM18PS474R0J3D	168-6509
0.22μF	16V	-20% to +20%	NFM18PC224R0J3D	168-6510
0.47μF	16V	-20% to +20%	NFM18PC474R0J3D	168-6511
Case Style 0805				
2.2μF	6.3V	-20% to +20%	NFM21PC225B0J3D	168-6512
1μF	10V	-20% to +20%	NFM21PC105B1A3D	168-6514
0.22μF	16V	-20% to +20%	NFM21PC224R1C3D	168-6515



Filters - Circuit Filters - Murata - continued

NFM Series - continued

Case Style	Capacitance	Voltage	Temp. Range	Part No.	Part No.
Case Style 0805	0.47µF	16V	-20% to +20%	NFM21PC474R1C3D	168-6516
	1µF	16V	-20% to +20%	NFM21PC105B1C3D	168-6517
	0.1µF	25V	-20% to +20%	NFM21PC104R1E3D	168-6518
Case Style 1205	22µF	50V	-20% to +20%	NFM3DPC223R1H3L	168-6519
Case Style 1806	1.5µF	25V	-20% to +80%	NFM41PC155B1E3L	168-6520
	0.2µF	50V	-20% to +20%	NFM41PC204F1H3L	168-6521
Case Style 2220	1.5µF	50V	-20% to +80%	NFM55PC155F1H4L	168-6522

Order Multiple=5	Price Each						
µF	Order Code	5+	50+	100+	250+	500+	4K+

Case Style 0603	Capacitance	Order Code	0.156	0.102	0.092	0.078	0.071	0.054
1	SMD 168-6505	RL	0.156	0.102	0.092	0.078	0.071	0.054
1	SMD 168-6506	RL	0.168	0.114	0.102	0.086	0.077	0.044
0.1	SMD 168-6508	RL	0.390	0.290	0.260	0.230	0.220	0.106
0.47	SMD 168-6509	RL	0.176	0.114	0.102	0.086	0.077	0.058
0.22	SMD 168-6510	RL	0.200	0.132	0.119	0.102	0.092	0.049
0.47	SMD 168-6511	RL	0.220	0.141	0.127	0.105	0.097	0.053

Case Style 0805	Capacitance	Order Code	0.280	0.176	0.119	0.102	0.097	0.071
2.2	SMD 168-6512	RL	0.280	0.176	0.119	0.102	0.097	0.071
1	SMD 168-6514	RL	0.156	0.102	0.092	0.077	0.071	0.049
0.22	SMD 168-6515	RL	0.220	0.141	0.127	0.105	0.102	0.069
0.47	SMD 168-6516	RL	0.220	0.141	0.127	0.105	0.102	0.054
1	SMD 168-6517	RL	0.176	0.119	0.105	0.087	0.084	0.058
0.1	SMD 168-6518	RL	0.189	0.149	0.132	0.113	0.108	0.054

Case Style 1205	Capacitance	Order Code	0.420	0.270	0.240	0.210	0.196	0.139
22	SMD 168-6519	RL	0.420	0.270	0.240	0.210	0.196	0.139

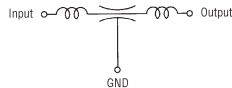
Case Style 1806	Capacitance	Order Code	1.670	1.330	1.180	1.000	0.930	0.490
1.5	SMD 168-6520	RL	1.670	1.330	1.180	1.000	0.930	0.490
0.2	SMD 168-6521	RL	0.630	0.420	0.360	0.320	0.300	0.220

Case Style 2220	Capacitance	Order Code	9.830	8.010	6.660	5.490	5.400	--
1.5	SMD 168-6522	RL	9.830	8.010	6.660	5.490	5.400	--

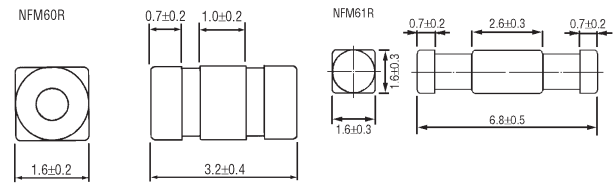
NFM/NFE Design Kit	Order Code	63.780	57.410	51.020
NEW 176-0706		63.780	57.410	51.020

3 Terminal with Ferrite Beads

T Circuit EMFIL®



The NFM 60R/61R has no polarity



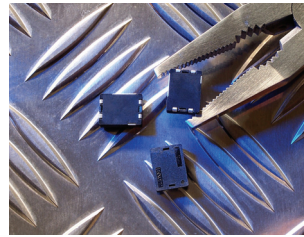
- 3 terminal surface mount capacitor with ferrite bead on input and output leads
- High current rating and low DC resistance make them suitable for suppression of DC power rails
- Flow or reflow solder except 869-909 which can only be reflow soldered

NFE31 Series			
Voltage rating	25V dc	Current rating	6A dc
Insulation resistance	1000Mohm	DC resistance	0.01Ω
Operating temperature	-40°C to +85°C	Reel quantity	2000 pcs
Capacitance pF	Tolerance %	Mfrs. List No.	Order Code
47	±50%	NFE31PT470C1E9L	869-867
100	+80 -20%	NFE31PT101C1E9L	952-8148
220	+50 -20%	NFE31PT221D1E9L	952-8164
470	+50 -20%	NFE31PT471F1E9L	952-8180
1500	+50 -20%	NFE31PT152Z1E9L	952-8156
2200	±50%	NFE31PT222Z1E9L	952-8172

NFE61 Series			
Voltage rating	50V dc	Current rating	2A
Insulation resistance	1000Mohm	Quantity	2500 pcs
Operating temperature	-25°C to +85°C		
Capacitance pF	Tolerance %	Mfrs. List No.	Order Code
100	±30%	NFE61PT101Z1H9L	952-8199
360	±20%	NFE61PT361B1H9L	952-8210
1000	±80%	NFE61PT102E1H9L	952-8202
4700	+80 -20%	NFE61PT472C1H9L	952-8229

Order Multiple=5	Price Each					
Order Code	5+	50+	100+	500+	1K+	2K+
NFE31 Series All Values	0.54	0.40	0.35	0.30	0.25	0.22
NFE61 Series All Values	1.53	1.18	1.01	0.76	0.60	0.45

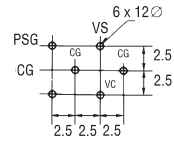
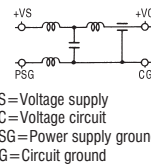
Surface Mount - BNX Series



- Large rated current (10A) and Low DC Resistance
- High insertion loss characteristic over a wide frequency range of 1MHz to 1GHz
- Mounting area and volume is reduced
- Application includes Amusement equipment, PC and peripherals

Insulation Resistance	500MΩ				
Ratings (dc)					
Current (A)	10	50	Mfrs. List No.	BNX022-01L	
15	100	Mfrs. List No.	BNX023-01L		Order Code
					111-4996
					176-9693

Standard BNX Series

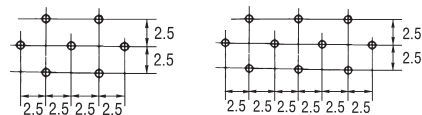
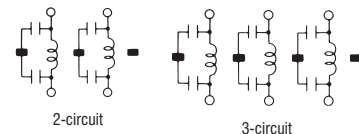


H=13.0, W=12.0, D=11.0

- Compact PCB mounting dc power filters incorporating a large value four terminal capacitor, a feed-through capacitor and ferrite bead inductors
- Provides excellent attenuation over a very wide frequency band.
- Typical applications include the suppression of noise in digital equipment, engine control units, computer terminals and the output lines of switching power supplies.

Ratings (dc)	Dielectric Strength (V)	Insertion Loss	Mfrs. List No.	Order Code	
Current (A)	Voltage (V)	1GHz - 1MHz	BNX002-01	952-6943	
10	50	5MHz - 1GHz	BNX003-01	952-6951	
10	150	1MHz - 1GHz	BNX005-01	952-6960	
15	50				
Insulation Resistance	100MΩ	Insertion Loss	40dB min		
Price Each					
Order Code	1+	10+	25+	50+	100+
952-6943	3.69	3.14	2.89	2.83	2.77
952-6951	5.51	4.99	4.18	4.09	4.00
952-6960	6.12	5.19	4.58	4.04	3.46

Pi-Style BNP Series



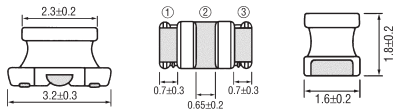
- Compact PCB mounting dc power filters incorporating ferrite bead inductors and feed-through capacitors
- Available in two and three circuit styles suitable for multiple supply lines
- They provide excellent attenuation over a wide frequency range of 15MHz to 1GHz and are suitable for use in high impedance circuits.
- Typical applications include the suppression of noise in signal lines and dc power sources in engine control units, digital equipment, computer terminals and car electronics.

Rating	10A @ 50V	Operating temperature	-40°C to +100°C				
Insulation resistance	100MΩ	Attenuation dB (50Ω System)					
No. of Circuits	H	W	D	1MHz	10MHz	100MHz	1GHz
2	12	12	11	5	35	70	55
3	12	17	11	5	35	70	55
Price Each							
Circuits	Order Code	1+	10+	25+	50+	100+	
2	952-6927	4.41	3.99	3.34	3.27	3.20	
3	952-6935	4.15	3.75	3.14	3.07	3.02	

Over half a million products available online



NFW31xxx Series



- Chip suppression filter, suitable for high speed digital circuits where signal harmonics are prone to becoming sources of noise
- Effective in applications where signal and noise frequencies are close to each other
- Applications include noise suppression in high speed processing circuits, high frequency clock and RGB circuits.

Rating 200mA @ 25V dc
Operating temperature -40°C to +85°C
Reel quantity 2000 pcs

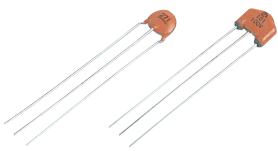
Frequency MHz	10MHz	20MHz	50MHz	100MHz	200MHz	500MHz	1GHz	Mfrs. List No.	Order Code
10	*	5	25	25	25	30	30	NFW31SP106X1E4L	952-8369
20	*	*	5	25	25	30	30	NFW31SP206X1E4L	952-8385
50	-	-	*	10	30	30	30	NFW31SP506X1E4L	952-8407

* 6dB Max.

204097

Order Multiple=5	Order Code	Price Each					
		5+	50+	100+	500+	1K+	2K+
NFM51R	All Values	0.80	0.59	0.52	0.43	0.37	0.32

Standard



H=8, W=8, D=2.54, Lead Length=25, Lead pitch=2.5, Lead dia.=0.6



- Three terminal T-networks offer a lower residual inductance than that of standard two terminal capacitors
- Bypass capacitor provides a path for high frequency noise to earth and ensures excellent high frequency attenuation
- Typical applications include noise suppression in office equipment, computers, TV, VCR and automotive electronics
- Note: DSS types have ferrite beads on in-put and output leads

Rating	6A	Operating Temperature	-25°C to +85°C			
Capacitance pF	Tolerance	Effective Frequency range (50Ω Series 20dB min) MHz	Voltage Rating dc	Ferrite Beads	Mfrs. List No.	Order Code
1000	±20%	90 to 1000	50	No	DSN6NC51H102Q55B	952-7362
2200	±20%	50 to 1000	50	No	DSN6NC51H22Q55B	952-7370
10000	+80% to -20%	8 to 1000	50	No	DSN6NZ81H103Q55B	952-7389
22000	±50%	40 to 900	50	No	DSN9NC51H23Q55B	952-7400
22	±20%	800 to 1100	100	Yes	DSS6NC52A220Q55B	952-7435
47	±20%	400 to 1100	100	Yes	DSS6NC52A470Q55B	952-7460
100	±20%	200 to 1050	100	Yes	DSS6NC52A101Q55B	952-7419
220	±20%	110 to 1000	100	Yes	DSS6NC52A221Q55B	952-7443
270	±20%	90 to 1000	100	Yes	DSS6NC52A271Q55B	952-7451
470	±20%	70 to 1000	100	Yes	DSS6NC52A471Q55B	952-7478
1000	±20%	20 to 1000	100	Yes	DSS6NC52A102Q55B	952-7427
2200	+80% to -20%	10 to 1000	100	Yes	DSS6NE52A222Q55B	952-7486
10000	±30%	7 to 1000	100	Yes	DSS6NZ82A103Q55B	952-7508
22000	+80% to -20%	2 to 1000	16	Yes	DSS6NF31C223Q55B	952-7494

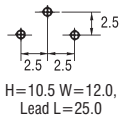
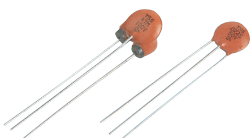
204046

Order Multiple=5	Order Code	Price Each				
		5+	50+	100+	250+	1K+
1000	952-7362	0.270	0.240	0.200	0.198	0.194
2200	952-7370	0.280	0.250	0.230	0.210	0.200
10000	952-7389	0.210	0.156	0.132	0.123	0.119

100 Volt dc						
22	952-7435	0.240	0.198	0.165	0.161	0.158
47	952-7460	0.280	0.220	0.176	0.142	0.139
100	952-7419	0.260	0.196	0.156	0.130	0.127
220	952-7443	0.280	0.220	0.176	0.142	0.139
270	952-7451	0.280	0.220	0.176	0.142	0.139
470	952-7478	0.280	0.220	0.176	0.159	0.156
1000	952-7427	0.260	0.196	0.156	0.130	0.127
2200	952-7486	0.270	0.200	0.162	0.153	0.150
10000	952-7508	0.250	0.198	0.165	0.161	0.158

16 Volt dc						
22000	952-7494	0.270	0.200	0.162	0.135	0.133

310 Series



Wide band noise suppression filter made with high performance ferrite material. High attenuation over a wide band. Available with and without ferrite beads.

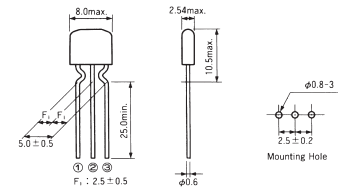
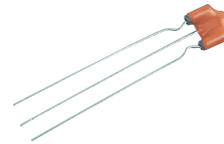
Rating 7A Operating Temperature -25°C to +85°C

Capacitance pF	Tolerance	Effective Frequency range (50Ω Series 20 dB min) MHz	Voltage Rating dc	Ferrite Beads	Mfrs. List No.	Order Code
22000	+50% to -20%	40 to 900	50	No	DSN9NC51H223Q55B	952-7400
100000	±20%	0.8 to 1000	16	No	DSN9NC51C104Q55B	952-7397
2200	±20%	20 to 1100	250	Yes	DSS9HB3E222Q55B	952-7516

204045

Order Multiple=5	pF	Volts dc	Order Code	Price Each			
				5+	50+	100+	1K+
22000	50		952-7400	0.270	0.197	0.164	0.148
100000	16		952-7397	0.350	0.310	0.260	0.210
2200	250		952-7516	0.430	0.360	0.330	0.310

Varistor



- Three terminal T-network consisting of a capacitor which provides a varistor function combined with two internal ferrite bead inductors
- Designed to eliminate noise and protect semiconductors.

Voltage rating 25V dc Peak pulse current 100A
Varistor voltage 50V dc Capacitance 220pF ±20%
Current rating 6A Operating temperature -40°C to +105°C

Mfrs. List No. VF56VD8E221T51B

204041

Order Multiple=5	Order Code	Price Each			
		5+	50+	100+	1K+
	581-069	0.45	0.32	0.27	0.24

Varistor 3 Terminal



H=5, W=8, D=2.3, Lead pitch=2.5, Lead dia.=0.45



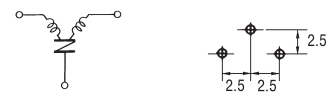
- 3 terminal varistor designed to protect CMOS and TTL IC's from electro-static discharge
- Small size and 2.5mm pitch for densely populated circuit boards.

Voltage rating 25V dc
Varistor voltage 50V dc
Current rating 20mA dc
Capacitance 130pF ±20%
Operating temperature -25°C to +85°C
Mfrs. List No. VFR3VD31E131T51B

204042

Order Code	Price Each			
	5+	50+	100+	1K+
581-197	0.66	0.47	0.40	0.35

Varistor



H=10.5, W=12.0, Lead L=25.0



- Three terminal T-networks consisting of a capacitor which provides a varistor function combined with two internal ferrite bead inductors
- The varistor capacitor not only acts as a bypass capacitor but also provides a path for high voltage surges to flow to earth
- Efficiently removes fast surges and high frequency noise above 60MHz
- Self-healing properties ensure effective operation in circuits having 600V surges

Rating 7A @ 12V Insulation resistance 1MΩ
Maximum varistor voltage 22V ±20% (1mA) Operating temperature -40°C to +100°C
Capacitance 2200pF +50%, -20% Mfrs. List No. VFS9VD31B223Q55B
Inductance 0.8μH x 2 (1kHz)

204236

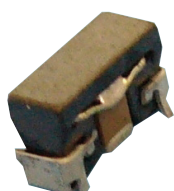
Order Code	Price Each			
	1+	50+	100+	1K+
108-266	0.71	0.51	0.43	0.37



Filters - Circuit Filters - Panasonic

EXCCET Series

Chip EMI Filters



- Eight capacitance values in a wide range, related to the noise frequency
- Suitable for narrow pitch insertion
- Suitable for applications requiring thin design

Tolerance	20%
Voltage rating d.c.	50V
Current rating	2A
Resistance	50ohm
Operating temperature	-25°C to +80°C

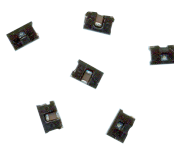


452172

pF	Order Code	Price Each				
		1+	50+	250+	500+	1K+
470	SMD 129-2719	0.63	0.44	0.37	0.34	0.33
1000	SMD 129-2712	0.47	0.35	0.34	0.33	0.32
2200	SMD 129-2715	0.63	0.39	0.38	0.37	0.36
10000	SMD 129-2713	0.63	0.39	0.32	0.30	0.28

ELKE Series

EMI Filters



- No variation in attenuation characteristics as current changes
- Stable P/N marking using laser technology on the top face of product
- Recommended for data lines, secondary power supply lines (DC lines) for game, digital AV and communications equipment



452182

Case size	3218	Operating temperature		-20°C to +85°C		
Capacitance pF	Frequency max. (MHz)	Rated Current Max. (A)	Voltage (V d.c.)	Mfrs. List No.	Order Code	
47	100	2	50	ELKE470FA	130-5080	
220	25	2	50	ELKE221FA	130-5082	
2200	2	2	50	ELKE222FA	130-5085	
10000	0.5	2	50	ELKE103FA	130-5087	
33000	0.2	2	25	ELKE333FA	130-5088	

Order Code	Price Each				
	5+	100+	250+	500+	1K+
All Values	0.44	0.42	0.40	0.38	0.36

Filters - Circuit Filters - TDK

MEM Series 3 Terminal Filters

Wide-Band



Features:

- **MEM2012P Type**
- Multilayer chip EMC filter that is small and low-profile due to the use of a π -type circuit.
- **MEM2012TC Type**
- Multilayer chip EMC filter utilizing a T-type circuit.
- MEM2012TC combines a bead inductor with a through-type capacitor.
- Steep attenuation characteristic plot. Highly effective noise suppression.
- **MEM2012W Type**
- Steeper and wider bandwidth attenuation characteristics than earlier type.
- Used for high cutoff frequency applications.
- Small size (2.0 × 1.25 × 2.0mm).
- Taped-type packaging, so can be used for automatic mounting.

Applications:

MEM2012P, MEM2012TC Type
Computers, computer peripherals, VCRs, TVs, car audio equipment, printers, game machines, etc.

MEM2012W Type
Signal line noise elimination for PCs, liquid crystal panels, printers, game machines, mobile phones, DVCs, etc.

Mfrs. List No.	Cutoff frequency (MHz)	Attenuation (dB)min.	Rated voltage Edc(V)max.	Rated current Idc(mA)max.	Order Code
MEM2012P10R0	10	20[0.2 to 2GHz]	12	200	166-9507
MEM2012P50R0	50	20[0.4 to 2GHz]	12	200	166-9509
MEM2012P75R0	75	20[0.7 to 2GHz]	12	200	166-9510
MEM2012P101R	100	20[1.5 to 2GHz]	12	200	166-9506

MEM2012TC

Mfrs. List No.	Capacitance* (pF)	Tolerance (%)	Rated voltage Edc(V)max.	Rated current Idc(A)max.	Order Code
MEM2012TC100	10	±30	12	1	166-9517
MEM2012TC220	22	±30	12	1	166-9520
MEM2012TC470	47	±30	12	1	166-9521
MEM2012TC101	100	±30	12	1	166-9518
MEM2012TC151	150	±30	12	1	166-9519

*Measuring frequency: 1(MHz), measuring voltage: 1(V)

MEM2012W

Mfrs. List No.	Cutoff frequency (MHz)	Rated voltage Edc(V)max.	Rated current Idc(mA)max.	Order Code
MEM2012W121R	120	10	100	166-9522
MEM2012W151R	150	10	100	166-9523
MEM2012W181R	180	10	100	166-9524
MEM2012W211R	210	10	100	166-9525
MEM2012W241R	240	10	100	166-9526

531644

Order Code	Price Each				
	5+	50+	100+	500+	1K+

MEM2012P	Order Code	5+	50+	100+	500+	1K+
SMD 166-9506		0.260	0.210	0.179	0.161	0.148
SMD 166-9507		0.260	0.210	0.179	0.161	0.148
SMD 166-9509		0.260	0.210	0.179	0.161	0.148
SMD 166-9510		0.260	0.210	0.179	0.161	0.148

MEM2012T	Order Code	5+	50+	100+	500+	1K+
SMD 166-9517		0.260	0.210	0.179	0.161	0.148
SMD 166-9518		0.260	0.210	0.179	0.161	0.148
SMD 166-9519		0.260	0.210	0.179	0.161	0.148
SMD 166-9520		0.260	0.210	0.179	0.161	0.148
SMD 166-9521		0.260	0.210	0.179	0.161	0.148

MEM2012W	Order Code	5+	50+	100+	500+	1K+
SMD 166-9522		0.260	0.210	0.179	0.161	0.148
SMD 166-9523		0.340	0.270	0.210	0.184	0.163
SMD 166-9524		0.260	0.210	0.179	0.161	0.148
SMD 166-9525		0.240	0.192	0.165	0.149	0.140
SMD 166-9526		0.260	0.210	0.179	0.161	0.148

ACH32 Series

SMD 3-terminal Filters for Power Lines



- EMC filters comprising ferrite beads and chip capacitors and are engineered to handle high current levels
- Provide highly effective EMC suppression
- Due to almost entirely ferrite, they exhibit excellent attenuation characteristics
- Suitable for reflow soldering
- 1206 case size



Frequency MHz	DC Res. Max. (mΩ)	Current rating (A)	Mfrs. List No.	Order Code
3.5 - 200	2	6	ACH32C-104-T	166-9279
30 - 200	2	6	ACH32C-103-T	166-9277
55 - 300	2	6	ACH32C-222-T	166-9282
100 - 350	2	6	ACH32C-102-T	166-9276
200 - 800	2	6	ACH32C-331-T	166-9283
650 - 2500	2	6	ACH32C-470-T	166-9285
1300 - 2500	2	6	ACH32C-220-T	166-9281
2000 - 6000	2	6	ACH32C-100-T	166-9275

528713

Order Code	Price Each				
	1+	50+	100+	500+	1K+
All Values	1.05	0.95	0.83	0.73	0.66

ACH Series

SMD 3-terminal Filters for Power Lines



- Superior attenuation characteristics, in which the T-type filter circuit is magnetically shielded with ferrite
- Even greater attenuation characteristics when used in a stable circuit on the ground
- Ideal for high-density circuit design
- Suitable for reflow soldering



Frequency MHz	DC Res. Max. (Ω)	Current rating (A)	Mfrs. List No.	Order Code
11 - 55	0.06	1.5	ACH3218-223-TD01	166-9264
17 - 60	0.06	1.5	ACH3218-103-TD01	166-9258
22 - 75	0.06	1.5	ACH3218-682-TD01	166-9274
30 - 85	0.06	1.5	ACH3218-472-TD01	166-9271
37 - 90	0.06	1.5	ACH3218-332-TD01	166-9268
60 - 115	0.06	1.5	ACH3218-152-TD01	166-9260
80 - 140	0.06	1.5	ACH3218-102-TD01	166-9257
95 - 150	0.06	1.5	ACH3218-681-TD01	166-9273
120 - 180	0.06	1.5	ACH3218-471-TD01	166-9270
170 - 250	0.06	1.5	ACH3218-221-TD01	166-9262
205 - 280	0.06	1.5	ACH3218-151-TD01	166-9259
265 - 340	0.06	1.5	ACH3218-101-TD01	166-9256
340 - 420	0.06	1.5	ACH3218-680-TD01	166-9272
420 - 500	0.06	1.5	ACH3218-470-TD01	166-9269
500 - 600	0.06	1.5	ACH3218-330-TD01	166-9265

Frequency	DC Res.			
1210 Case				
600 - 700	0.06	1.5	ACH3218-220-TD01	166-9261
1812 Case				
6 - 60	0.04	2	ACH4518-333-TD01	166-9290
15 - 75	0.04	2	ACH4518-103-TD01	166-9288
35 - 100	0.04	2	ACH4518-332-TD01	166-9289
65 - 150	0.04	2	ACH4518-102-TD01	166-9287
235 - 335	0.04	2	ACH4518-101-TD01	166-9286

		Price Each				
Order Code		1+	50+	100+	500+	1K+
1210 Case	All Values ●	0.43	0.30	0.25	0.20	0.18
1812 Case						
6 - 60MHz	166-9290 ●	0.39	0.30	0.26	0.24	0.22
15 - 75MHz	166-9288 ●	0.52	0.44	0.40	0.34	0.29
35 - 100MHz	166-9289 ●	0.37	0.29	0.26	0.23	0.21
65 - 150MHz	166-9287 ●	0.48	0.41	0.36	0.32	0.27
235 - 335MHz	166-9286 ●	0.48	0.41	0.36	0.32	0.27

ACF Series

SMD 3-terminal Filters for Signal Lines



- Superior attenuation characteristics, in which the T-type filter circuit is magnetically shielded with ferrite
- Even greater attenuation characteristics when used in a stable circuit on the ground
- Ideal for high-density circuit design
- Suitable for reflow soldering



Frequency MHz	DC Res. Max. (Ω)	Current rating (mA)	Mfrs. List No.	Order Code
1210 Case				
11 - 55	0.15	300	ACF321825-223-TD01	166-9222
17 - 60	0.15	300	ACF321825-103-TD01	166-9215
22 - 75	0.15	300	ACF321825-682-TD01	166-9233
30 - 85	0.15	300	ACF321825-472-TD01	166-9228
37 - 90	0.15	300	ACF321825-332-TD01	166-9225
45 - 105	0.15	300	ACF321825-222-TD01	166-9221
60 - 115	0.15	300	ACF321825-152-TD01	166-9218
95 - 150	0.15	300	ACF321825-681-TD01	166-9232
120 - 180	0.15	300	ACF321825-471-TD01	166-9227
130 - 210	0.15	300	ACF321825-331-TD01	166-9224
205 - 280	0.15	300	ACF321825-151-TD01	166-9216
265 - 340	0.15	300	ACF321825-101-TD01	166-8890
340 - 420	0.15	300	ACF321825-680-TD01	166-9231
420 - 500	0.15	300	ACF321825-470-TD01	166-9226
500 - 600	0.15	300	ACF321825-330-TD01	166-9223
600 - 700	0.15	300	ACF321825-220-TD01	166-9219
1812 Case				
7 - 60	0.15	300	ACF451832-333-TD01	166-9248
11 - 70	0.15	300	ACF451832-153-TD01	166-9239
15 - 75	0.15	300	ACF451832-103-TD01	166-9236
20 - 85	0.15	300	ACF451832-682-TD01	166-9255
25 - 90	0.15	300	ACF451832-472-TD01	166-9251
35 - 100	0.15	300	ACF451832-332-TD01	166-9247
40 - 110	0.15	300	ACF451832-222-TD01	166-9243
50 - 130	0.15	300	ACF451832-152-TD01	166-9238
95 - 180	0.15	300	ACF451832-471-TD01	166-9250
115 - 205	0.15	300	ACF451832-331-TD01	166-9246
150 - 250	0.15	300	ACF451832-221-TD01	166-9241
190 - 290	0.15	300	ACF451832-151-TD01	166-9237
235 - 335	0.15	300	ACF451832-101-TD01	166-9234
295 - 395	0.15	300	ACF451832-680-TD01	166-9252
360 - 460	0.15	300	ACF451832-470-TD01	166-9249
450 - 550	0.15	300	ACF451832-330-TD01	166-9245
550 - 650	0.15	300	ACF451832-220-TD01	166-9240

		Price Each				
Order Code		1+	50+	100+	500+	1K+
1210 Case	All Values ●	0.430	0.300	0.250	0.200	0.180
1812 Case	All Values ●	0.340	0.260	0.230	0.200	0.184

FREE technical support
Our trained engineers are here to help!

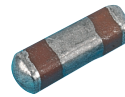
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techsales@farnell.co.uk

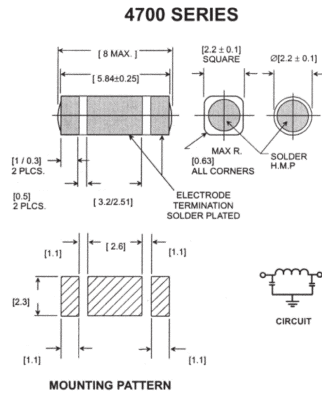
Live technical chat at www.farnell.co.uk

Filters - Circuit Filters - Tusonix

Surface Mount Pi-Section Filters



Supplied on 16mm blister tape

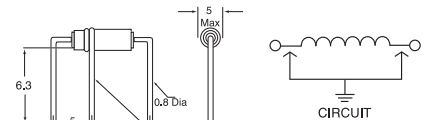


- Pi-section filters in compact surface mount package
- High current rating 10A
- Designed for use near to noise generating components to suppress interference at source
- Applications include radio and telecommunications, signal processing, disc drives, TV set-top equipment, sensors and instrumentation

Operating Temperature	-55°C to +125°C				Current Rating	10A
Capacitance (pF)	Voltage Rating @ 125°C (V)	Attenuation dB (50Ω system)			Mfrs. List No.	Order Code
		10MHz	100MHz	1GHz	10GHz	
1000	100	7	40	65	70	4700-005LF 118-6429
2000	100	10	45	70	70	4700-003LF 118-6430
4000	100	13	52	70	70	4700-008LF 118-6431
8200	100*	20	65	70	70	4701-001LF 118-6432

pF	Order Code	1+	10+	50+	100+
1000	SMD 118-6429 ●	2.54	1.79	1.44	1.12
2000	SMD 118-6430 ●	2.54	1.79	1.44	1.12
4000	SMD 118-6431 ●	2.54	1.79	1.44	1.12
8200	SMD 118-6432 ●	2.71	1.92	1.53	1.20

Pi-Section - Axial Filter



- Pi-section suppression filters in an axial design
- For use on printed circuit boards near to noise generating components to suppress conducted noise or interference at source
- High insertion loss and compact size.

Operating Temperature	125°C to +55°C			Current Rating	10A	
Capacitance (pF)	Working Voltage	Insertion Loss(50Ω system)			Mfrs. List No.	Order Codes
	min. max.	10MHz	100MHz	1GHz		
5000	85°C 250Vac	125°C 200Vdc	18	60	70	4100-053LF 118-6436

Capacitance pF (min)	Order Code	1+	10+	50+	100+
5000	118-6436 ●	7.86	5.95	4.85	3.99

Sub-miniature Capacitive - 4400 Series



- Sub-miniature ceramic lead-through capacitors for low pass filtering applications
- M3 mounting thread

Operating Temperature -55°C to +125°C
Current Rating 10A
Mounting hole dia.=3.0, Body length=7.0,
Body dia.=4.0 (Hex),
Lead dia.=0.79, Thread=M3 x 0.5

Capacitance (pF)	Voltage Rating @ 125°C (V)	Attenuation dB (50Ω system)				Mfrs. List No.	Order Codes
		1MHz	10MHz	100MHz	1GHz	10GHz	
1000	200	-	5	20	35	45	4400-095LF 118-6433
4700	100	-	15	30	45	55	4400-094LF 118-6434
10000	50	4	21	35	50	55	4400-093LF 118-6435

pF	Order Code	1+	10+	50+	100+
1000	118-6433 ●	4.51	3.86	3.71	3.32
4700	118-6434 ●	4.53	3.86	3.71	3.31
10000	118-6435 ●	5.30	4.52	4.35	3.91



Filters - Circuit Filters - Tusonix - continued

Shoulder Feed-Thru Capacitors



2461 Series



- Solder mount feed-thru capacitors
- Silver finish on leads

L = 4.19, Dia = 4.19, Lead length = 6.35, Lead dia. = 1.3

Operating temperature -55°C to +125°C Dielectric characteristic X7R
 Insulation resistance 10GΩ Voltage rating 100V dc
 Capacitance 1000pF Mfrs. List No. 2461-001-X7V0-102AA LF

451995

pF	Order Code	Price Each				
		1+	5+	25+	100+	250+
1000	130-5442	1.62	1.25	1.17	1.08	1.03

Shoulder Feed-Thru Capacitors



2463 Series



- Solder mount feed-thru capacitors
- Silver finish on leads

L = 3.93, Dia = 2.51, Lead length = 6.35, Lead dia. = 0.81

Operating temperature -55°C to +125°C Dielectric characteristic X5U
 Tolerance -0%/+100% Voltage rating 200V dc
 Capacitance 1500pF Mfrs. List No. 2463-002-X5U0-152P LF

452000

pF	Order Code	Price Each				
		1+	5+	25+	100+	250+
1500	130-5443	1.07	0.84	0.78	0.72	0.69

Capacitive - 2499 Series



- Ceramic lead-through capacitors for low pass filtering applications, where chassis mounting is required and where space is at a premium.

Mounting hole dia.=5.4, Body length=11.9, Body dia.=6.35 (Hex), Lead thickness=1.29, Thread=1/8"-NF-2A

Voltage rating	Operating Temperature	Power Factor	0.03 (106-772=0.001)		Mfrs. List No.	Order Code
			Current Rating	10A		
500V	-55°C to +125°C	10A	10MHz	100MHz	2499-003-U2M0-101KLF	118-6421
1000V	-55°C to +85°C	28	10MHz	100MHz	2499-003-X5U0-102PLF	118-6422
10000V	-55°C to +85°C	50	10MHz	100MHz	2499-003-X5W0-103ZLF	118-6423

204233

pF	Order Code	Price Each			
		1+	10+	50+	100+
100	118-6421	5.49	4.85	3.31	2.95
1000	118-6422	3.60	3.04	2.05	1.82
10000	118-6423	3.60	3.04	2.05	1.82

Pi-Section - 4101 & 4209 Series



Solder mount 106-775 106-776 Body length=10.3, Body diameter=4.95, Max height above panel=7.9, Max height below panel= 10.3 (106-775) 18.0 (106-776), Mounting hole dia.=4.0
 Bush mount 106-777 106-778 Body length=12.3, Body diameter=6.35, Thread=M5 x 0.8, Max height above panel=9.5, Max height below panel=23.4, Mounting hole dia.=5.1

- Pi-section suppression filters in both chassis and solder mount styles
- Combines a ceramic capacitor with a ferrite inductor
- Can be used to suppress unwanted EMI/RFI in a wide range of applications where a high insertion loss is required from 10MHz to 10GHz

Current Rating 10A Operating Temperature -55°C to +125°C °C°C

Capacitance	Voltage Rating	Attenuation dB (50Ω System)				Mfrs. List No.	Order Code
		10MHz	100MHz	1GHz	10GHz		
1500	350	200	5	45	70	4101-001LF	118-6424
5500	140	70	15	55	70	4101-008LF	118-6426

Chassis Mount		Attenuation dB (50Ω System)				Mfrs. List No.	
Capacitance	Voltage Rating	10MHz	100MHz	1GHz	10GHz	List No.	Order Code
1500	350	200	5	45	70	4209-003LF	118-6427
5500	200	100	20	65	70	4209-053LF	118-6428

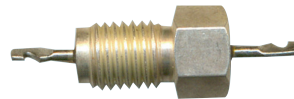
204235

pF	Order Code	Price Each			
		1+	10+	50+	100+
Solder Mount					
1500	118-6424	3.98	3.60	3.15	2.86
5500	118-6426	3.64	3.31	2.89	2.61
Chassis Mount					
1500	118-6427	4.39	3.94	3.46	3.15
5500	118-6428	4.60	4.16	3.56	3.04

Bush Mount Pi Filters



4206 Series



- EMI low pass filter

L = 35.32, W = 9.52, D = 9.52, Lead length = 7.93

Current rating 25A Attenuation @ 10MHz 10dB
 Capacitance 3000pF Attenuation @ 100MHz 55dB
 Voltage rating 1000V dc Attenuation @ 1GHz/10GHz 70dB
 Thread size 24 UNF-2A Mfrs. List No. 4206-001 LF
 Insulation resistance 10Gohm

452009

pF	Order Code	Price Each				
		1+	5+	100+	250+	
3000	130-5444	8.29	6.47	6.05	5.59	5.28

4600 Series



Coaxial Broadband "C"



- Coaxial broadband filters
- 4600-000 LF has a C circuit containing a capacitor
- 4600-050 LF has an L circuit containing a capacitor and an inductor

L = 17.6, Dia = 9.78

Current rating 15A Attenuation @ 1MHz 44dB
 Capacitance 1.4μF Attenuation @ 10MHz 60dB
 Voltage rating 100V dc Attenuation @ 1GHz 70dB
 Insulation resistance 10Gohm

452017

Mfrs. List No.	Order Code	Price Each				
		1+	5+	25+	100+	250+
4600-000 LF	130-5447	12.84	12.03	11.11	10.49	9.63
4600-050 LF	130-5446	12.98	12.17	11.24	10.62	9.73

Surge Protection - GDT's - Bourns

Precision Gas Discharge Tube Surge Protector



2035 Series



- High surge current rating
- Stable breakdown throughout life

L = 4.4, Dia. = 4.8mm

DC Sparkover Voltage (V)	Impulse Discharge Current	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
90	10KA	525	2035-09-SM-RPLF	168-9825
150	10KA	550	2035-15-SM-RPLF	168-9826

537646

Mfrs. List No.	Order Code	Price Each				
		1+	10+	100+	250+	500+
2035-09-SM-RPLF	168-9825	1.25	1.05	0.93	0.80	0.72
2035-15-SM-RPLF	168-9826	1.27	1.06	0.95	0.82	0.74

Precision Gas Discharge Tube Surge Protector



2036 Series



- Ideal for board level protection of broadband circuits
- Leadless, surface mount for economical assembly
- High surge current rating, low insertion loss

L = 7.3, Dia. = 5mm

DC Sparkover Voltage (V)	Impulse Discharge Current	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
90	20kA	550	2036-09-SM-RPLF	168-9827
150	20kA	500	2036-15-SM-RPLF	168-9828

537647

Price Each						
Mfrs. List No.	Order Code	1+	10+	100+	250+	500+
2036-09-SM-RPLF	168-9827	2.67	2.23	1.97	1.70	1.55
2036-15-SM-RPLF	168-9828	2.67	2.23	1.97	1.70	1.55

Surge Protection - GDT's - Epcos

Mini Gas Discharge Tubes 2.5kA - 2 Electrode



L = 6, Dia. = 5.5, Lead length = 27, Lead dia. = 0.8

- Axial mini gas discharge tubes
- 2 electrodes

DC Sparkover Voltage (V)	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
90	<350	B88069X190S102	129-9953

452143

Price Each						
Mfrs. List No.	Order Code	1+	25+	50+	100+	250+
B88069X190S102	129-9953	2.01	1.67	1.48	1.28	1.09

Mini Gas Discharge Tubes 2.5kA - 3 Electrode



- Radial mini gas discharge tubes
 - 3 electrodes
- | DC Sparkover Voltage (V) | Impulse Sparkover Voltage (V) | Mfrs. List No. | Order Code |
|--------------------------|-------------------------------|-----------------|------------|
| 230 | <600 | B88069X2591B502 | 129-9960 |
- 452146

Price Each						
Mfrs. List No.	Order Code	1+	25+	50+	100+	250+
B88069X2591B502	129-9960	2.03	1.69	1.48	1.29	1.10

Gas Discharge Tubes - 5kA Ceramic

- Ceramic insulator surge arresters for overvoltage protection in telecom and control systems
- Button cell, radial and axial lead types available up to 600V

DC Sparkover Voltage	Impulse Sparkover Voltage	Type	Mfrs. List No.	Order Code
90	<600	Axial	EC90X	304-3174
150	<700	Axial	B88069X880S102	121-8962
230	<700	Axial	EC230X	304-3216
350	<900	Axial	EC350X	304-3228
600	<1300	Axial	EC600X	304-3230
260	<600	Radial	ES260XP	521-2467
300	<600	Radial	ES300XP	521-2479

204179

Price Each					
Style	Order Code	1+	25+	50+	100+
Axial					
EC90X	304-3174	1.70	1.63	1.55	1.34
B88069X880S102	121-8962	1.55	1.32	0.80	0.75
EC230X	304-3216	1.63	1.24	0.96	0.80
EC350X	304-3228	1.63	1.24	0.96	0.80
EC600X	304-3230	2.07	1.72	1.66	1.43
Radial					
ES260XP	521-2467	1.35	1.17	1.06	0.96
ES300XP	521-2479	1.89	1.62	1.48	1.34

Coming soon

Register your interest for items that are 'Coming Soon' at www.farnell.co.uk and we'll email you to let you know that they're in stock.

Gas Discharge Tubes - 90V



- Gas discharge tubes
- 2 and 3 electrodes

Order Code	H	W	D
151-1743	6.6mm	5.4mm	5mm
151-1744	9.3mm	8.3mm	6.05mm
151-1745	8mm	5mm	5.6mm

2 Electrodes

Impulse discharge current	Insulation resistance	DC Sparkover Voltage	Impulse Voltage	Mfrs. List No.	Order Code
5kA	1Gohm	90V	600V	B88069X1640T902	151-1743
20kA	10Gohm	90V	600V	B88069X1630T602	151-1744

452148

Price Each						
Mfrs. List No.	Order Code	1+	25+	50+	100+	250+
B88069X1640T902	151-1743	2.03	1.74	1.57	1.36	1.21
B88069X1630T602	151-1744	2.58	--	--	--	--

3 Electrodes

Impulse discharge current	Insulation resistance	DC Sparkover Voltage	Impulse Voltage	Mfrs. List No.	Order Code
5kA	1Gohm	90V	700V	B88069X4051T902	151-1745

452148

Price Each						
Mfrs. List No.	Order Code	1+	25+	50+	100+	250+
B88069X4051T902	151-1745	3.14	2.68	2.41	2.09	1.89

Gas Discharge Tubes - 10kA Medium Duty Types

- Metal ceramic gas discharge tubes

DC Sparkover Voltage (V)	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
90	<600	N81-A90X	564-023
350	<950	N81-A350X	564-047
600	<1100	N81-A600X	129-9957

220479

Price Each					
Mfrs. List No.	Order Code	1+	25+	50+	100+
N81-A90X	564-023	2.23	1.77	1.51	1.28
N81-A350X	564-047	2.02	1.54	1.18	0.98
N81-A600X	129-9957	1.65	1.36	1.21	1.05

Gas Discharge Tubes 10kA - 3 Electrode

- Radial gas discharge tubes
- 3 electrodes

DC Sparkover Voltage (V)	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
90	<400	B88069X8300B502	129-9961
230	<450	B88069X8910B502	129-9962

452147

Price Each						
Mfrs. List No.	Order Code	1+	25+	50+	100+	250+
B88069X8300B502	129-9961	2.84	2.22	1.70	1.49	1.22
B88069X8910B502	129-9962	2.09	1.78	1.57	1.36	1.18

Short Circuit Gas Discharge Tubes 10kA

- Short circuit gas discharge tubes
- 3 electrodes

DC Sparkover Voltage (V)	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
230	<450	B88069X9420B502	129-9963

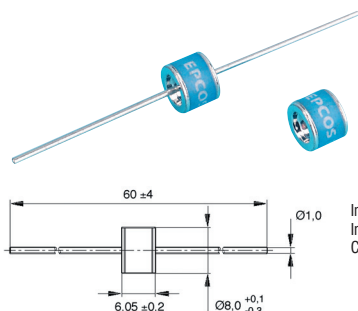
452148

Price Each						
Mfrs. List No.	Order Code	1+	25+	50+	100+	250+
B88069X9420B502	129-9963	2.67	2.23	1.96	1.71	1.47

Over half a million products available online

Surge Protection - GDT's - Epcos - continued

Gas Discharge Tube - 20kA Heavy Duty Types



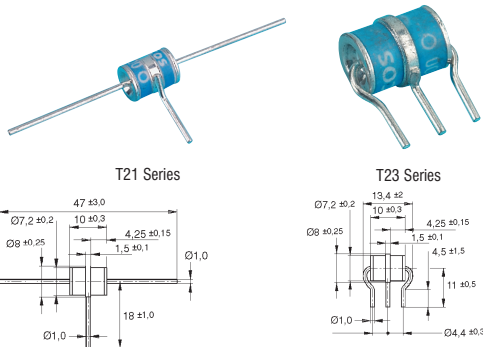
- 20kA metal ceramic gas discharge tubes

Impulse discharge current 20kA
Insulation resistance >10GΩ
Capacitance <1.5pF

DC Sparkover Voltage (V)	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
90	<500	B88069X1380S102	564-060
230	<600	B88069X2250S102	434-292
350	<700	B88069X2380S102	564-084
600	<1100	B88069X2880S102	129-9959

Mfrs. List No.	Order Code	1+	25+	50+	100+
B88069X1380S102	564-060	2.37	1.80	1.39	1.15
B88069X2250S102	434-292	2.10	1.72	1.64	1.41
B88069X2380S102	564-084	2.71	2.49	2.14	2.00
B88069X2880S102	129-9959	2.71	2.27	1.98	1.72

Gas Discharge Tubes 3 Electrode - 20kA



● 3 electrode ceramic insulator gas discharge tubes

Impulse discharge current 20kA
Insulation resistance >10GΩ
Capacitance <1.5pF

DC Sparkover Voltage (V)	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
230	<350	T21-A230X	976-260
230	<300	T23-A230X	564-199
350	<700	T23-A350X	564-205

Mfrs. List No.	Order Code	1+	25+	50+	100+
T21-A230X	976-260	3.64	3.31	3.14	2.86
T23-A230X	564-199	3.89	2.97	2.28	1.90
T23-A350X	564-205	3.30	2.73	2.48	2.09

SMD Surge Arrestors



- 2 electrodes
- Fast response time
- Extremely small size

Impulse discharge current 2kA
Insulation resistance 1GΩ

DC Sparkover Voltage (V)	Impulse Sparkover Voltage (V)	Mfrs. List No.	Order Code
150	<600	B88069X6071T203	168-8766
400	<950	B88069X5211T203	168-8767

Mfrs. List No.	Order Code	1+	25+	50+	100+	250+
B88069X6071T203	168-8766	0.82	--	--	--	--
B88069X5211T203	168-8767	0.82	0.73	0.66	0.55	0.50

Surge Protection - GDT's - Littelfuse

CG Series Gas Discharge Tubes



New

L = 6.07, Dia. = 8.1, Lead dia. = 0.6mm

Littelfuse highly reliable CG Series GDTs provide a high degree of surge protection in a small size ideal for board level circuit protection. The CG Series is ideal for protection of test and communication equipment and other devices in which low voltage limits and extremely low arc voltages are required.

Impulse discharge current	DC Breakdown			4kA Impulse Breakdown @ 100v/μs (V)	Insulation resistance @ 1Kv/μs (V)	Mfrs. List No.	Order Code
	Min.	Typ.	Max.				
60	75	90	400	650	CG75L	175-7280	
72	90	108	400	600	CG90L	175-7281	
116	145	174	500	600	CG2145L	175-7282	
184	230	276	600	700	CG2230L	175-7284	
400	470	540	850	1200	CG2470L	175-7285	
510	600	690	1000	1400	CG2600L	175-7286	
850	1000	1150	1500	1600	CG21000L	175-7287	

Mfrs. List No.	Order Code	1+	25+	50+	100+	350+
CG75L	175-7280	2.64	2.32	2.16	1.92	1.60
CG90L	175-7281	2.64	2.32	2.16	1.92	1.60
CG2145L	175-7282	2.64	2.32	2.16	1.92	1.60
CG2230L	175-7284	2.64	2.32	2.16	1.92	1.60
CG2250L	161-2065	3.62	--	--	--	--
CG2470L	175-7285	2.64	2.32	2.16	1.92	1.60
CG2600L	175-7286	2.90	2.56	2.38	2.11	1.76
CG21000L	175-7287	2.90	2.56	2.38	2.11	1.76

Gas Discharge Tubes

SL0902A / SL1002A & SL1003A Series



New



The series has been especially developed for Broadband equipment. These devices have ultra low capacitance and present insignificant signal losses.

- Low insertion loss
- Surface mountable
- Excellent response to fast rising transients
- 'C' Type Core Devices
- 'SM' Type Surface Mount Devices

DC Breakdown	Impulse Breakdown @ 100v/μs (V)			Impulse Breakdown @ 1Kv/μs (V)	Mfrs. List No.	Order Code
	Min.	Typ.	Max.			
72	90	108	550	700	SL0902A090SM	181-5485
72	90	108	400	650	SL1002A090SM	181-5486
72	90	108	600	600	SL1003A090C	181-5487
72	90	108	600	600	SL1003A090SM	181-5488
180	230	276	550	650	SL0902A230SM	181-5491
184	230	276	600	700	SL1002A230SM	181-5492
184	230	276	600	700	SL1003A230C	181-5493
184	230	276	600	700	SL1003A230SM	181-5494
280	350	420	800	900	SL0902A350SM	181-5495
480	600	720	1100	1200	SL1002A600SM	181-5496

Mfrs. List No.	Order Code	1+	25+	100+	250+
SL0902A090SM	181-5485	0.95	0.74	0.57	0.49
SL1002A090SM	181-5486	0.79	0.62	0.48	0.41
SL1003A090C	181-5487	3.03	2.39	1.83	1.56
SL1003A090SM	181-5488	2.96	2.33	1.79	1.52
SL0902A230SM	181-5491	0.95	0.74	0.57	0.49
SL1002A230SM	181-5492	0.79	0.62	0.48	0.41
SL1003A230C	181-5493	3.03	2.39	1.83	1.56
SL1003A230SM	181-5494	2.96	2.33	1.79	1.52
SL0902A350SM	181-5495	1.27	1.00	0.77	0.65
SL1002A600SM	181-5496	0.79	0.62	0.48	0.41

AC Series Gas Discharge Tubes



New

L = 6, Dia. = 8, Lead dia. = 0.8mm

Littelfuse AC series two-electrode line protectors provide a high degree of surge protection in AC line applications. The two models, AC120 and AC240 are designed for use with 120VAC and 240VAC lines respectively. They are able to extinguish AC follow-on currents of at least 200A.

AC Line Voltage (V)	DC Breakdown			5kA Impulse Breakdown @ 100v/μs (V)	Insulation resistance @ 1Kv/μs (V)	Mfrs. List No.	Order Code
	Min.	Typ.	Max.				
120	230	285	340	500	550	AC120L	175-7278
240	480	600	720	1100	1200	AC240L	175-7279

547656

Mfrs. List No.	Order Code	1+	25+	50+	100+	350+
AC120L	175-7278	2.64	2.32	2.16	1.92	1.60
AC240L	175-7279	2.64	2.32	2.16	1.92	1.60

Greentube
5A, 14A, and 21A Styles



Style 14A, 21A (Double line)
L=13.0 max,
Dia=8.25 max
Lead pitches=4.4,
Lead dia=1.0

- Used for the suppression of high transient voltages e.g. lightning induced spikes, thyristor control units and contactor changeover induced spikes
- The 21A style has the advantage of a thermally operated short circuiting bar to dissipate extreme transients
- All units use a totally non-radioactive construction.

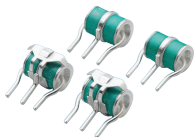
Note: When used in conjunction with BT equipment, all appropriate regulations must be adhered to.

Reference	120-0440	121-9727	120-0441
Insulation resistance (min)	D2559A 100MΩ	GDT14A 100MΩ	GDT21A 100MΩ
dc sparkover voltage	195 to 265V	210 to 310V	150 to 250V
Impulse sparkover voltage (max)	650V	800V	450V
Alternating discharge current	5A	5A	5A
Impulse discharge current	5kA	5kA	5kA
Capacitance (max)	5pF	5pF	5pF
Holdover voltage (max)	100V	100V	100V
Mfrs. List No.	SL1011A230A	SL1021A260R	SL1021A200RF

204214

	Order Code	1+	25+	100+	250+
Double, style 5A	120-0440	2.18	2.04	1.88	1.56
Double, style 14A	121-9727	3.02	2.88	2.51	2.19
Double, style 21A	120-0441	3.18	2.93	2.64	2.39

Gas Discharge Tube
PMT3(310) Series



Littelfuse three electrode PMT3(310) series GDTs are designed primarily to protect telecommunications equipment requiring simultaneous crowbar action of two signal lines. GDTs function as switches; dissipating a minimum amount of energy and can handle much higher currents than other types of transient voltage protection.

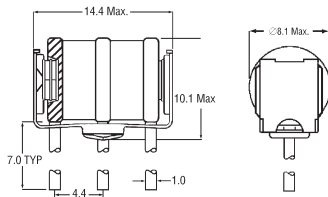
- Rugged ceramic-metal construction
- Low capacitance (<1.5 pF)

DC Breakdown			DC Voltage @ 100v/μs (V)	Impulse Breakdown @ 1kV/μs (V)	Mfrs. List No.	Order Code
Min.	Typ.	Max.				
120	150	180	500	650	PMT3(310)15004	181-5500
200	250	300	600	700	PMT3(310)25004	181-5501
280	350	420	900	1000	PMT3(310)35004	181-5502

610271

Voltage	Order Code	1+	25+	100+	250+
150	181-5500	4.19	3.31	2.51	2.09
250	181-5501	4.19	3.31	2.51	2.09
350	181-5502	4.19	3.31	2.51	2.09

Hybrid Arrestor



- Incorporates gas discharge tube technology and transient voltage suppressor diodes
- No extra component cost
- Combines high current handling with fast response
- Compatible with most GDT connection systems
- Suitable for most telecom and electronic applications

Alternating discharge current		5A	Impulse discharge current	5A		
Insulation resistance		1 x 10 ⁸ Ω	Capacitance	200pF max		
Nominal Voltage (V)	DC Sparkover Voltage (V)	Max Impulse Sparkover (V)	Holdover (V)	Mfrs List No.	Order Code	
200V	140-250	250	120	SL1122A200	120-0442	

Nominal		Price Each					
Voltage	Order Code	1+	25+	100+	250+	500+	1K+
200V	120-0442	5.44	5.11	4.92	4.16	3.94	3.47

204122

Gas Discharge Tube
SL1026 Series



- 55 kA surge capability (single shot) tested with 8/20μs pulse as defined by IEC 61000-4-5
- 40 kA surge capability (repetitive)

The SL1026 Series is a heavy-duty transient suppressor using Gas Plasma technology. In response to transients that exceed the device's breakover voltage, the device changes from a very high impedance state to a low impedance state to conduct harmful current away from the protected system. The SL1026 is designed to protect electrical and electronic equipment such as communications, control and railway systems.

Insulation resistance	>10GΩ at 100 Volts	Capacitance	<=2.5pf, 1MHz 0 Volts Bias
Surge current 8/20μsec x10	20 kA	Operating Temp	-40°C to +90°C

610270

Voltage	Order Code	1+	25+	100+	250+
275	181-5497	13.33	11.73	10.66	8.53
400	181-5498	13.33	11.73	10.66	8.53
700	181-5499	13.33	11.73	10.66	8.53

Surge Protection - ESD Suppressors - Bourns

Surge Protector
P500/P850-G



- Extremely high speed performance
- Blocks high voltages and currents
- Simple, superior circuit protection



Applications

- POTS linecards
- VoIP equipment
- Voice and data combo linecards
- Gateways
- Cable and DSL modems

Operating temperature range	-40°C to +85°C
V _{imp} (Maximum protection voltage) - P500-Gxxx-WH	500 V
V _{imp} (Maximum protection voltage) - P850-Gxxx-WH	850 V
V _{rms} - P500-Gxxx-WH	300 V
V _{rms} - P850-Gxxx-WH	450 V
I _{op} - Pxxx-G120-WH	100 mA
I _{op} - Pxxx-G200-WH	200 mA

533973

Mfrs. List No.	Order Code	1+	10+	100+	250+	500+
P500-G120-WH	170-2016	1.29	1.06	0.94	0.83	0.73
P500-G200-WH	170-2017	1.29	1.06	0.94	0.83	0.73
P850-G120-WH	170-2018	1.59	1.32	1.15	1.02	0.91
P850-G200-WH	170-2019	1.59	1.32	1.15	1.02	0.91

Surge Protector
C650/C850



- Extremely high speed performance
- Blocks high voltages and currents
- Simple, superior circuit protection



Applications

- Combo voice / xDSL linecards
- Voice linecards
- MDF, primary protection modules
- Process control equipment
- Test and measurement equipment
- General electronics

Operating temperature range	-40°C to +85°C
V _{imp} (Maximum protection voltage) - C650-xxx-WH	650 V
V _{imp} (Maximum protection voltage) - C850-xxx-WH	850 V
V _{rms} - C650-xxx-WH	300 V
V _{rms} - C850-xxx-WH	425 V
I _{op} - Cx50-100-WH	100 mA
I _{op} - Cx50-180-WH	180 mA
I _{op} - Cx50-260-WH	260 mA

534008

Mfrs. List No.	Order Code	1+	10+	100+	250+	500+
C650-100-WH	170-2020	2.09	1.72	1.52	1.33	1.18
C650-180-WH	170-2021	2.09	1.72	1.52	1.33	1.18
C650-260-WH	170-2022	2.09	1.72	1.52	1.33	1.18
C850-180-WH	170-2023	2.16	1.78	1.57	1.38	1.22
C850-260-WH	170-2024	2.16	1.78	1.57	1.38	1.22



Surge Protection - ESD Suppressors - Bourns - continued

Surge Protector P650/P850-U



- Features**
- Extremely high speed performance
 - Blocks high voltages and currents
 - Very high bandwidth; GHz compatible



Applications

- Mb Ethernet port protection
- Gb Ethernet port protection
- Isolated and floating interfaces

Operating temperature range	-40°C to +85°C
V _{imp} (Maximum protection voltage) - P650-Uxxx-WH	650 V
V _{imp} (Maximum protection voltage) - P850-Uxxx-WH	850 V
V _{rms} - P650-Uxxx-WH	300 V
V _{rms} - P850-Uxxx-WH	425 V
I _{op} - Pxxx-U180-WH	180 mA
I _{op} - Pxxx-U260-WH	260 mA

534010

Mftrs. List No.	Order Code	1+	10+	100+	250+	500+
P650-U180-WH	170-2025	2.24	1.85	1.62	1.44	1.26
P650-U260-WH	170-2027	2.24	1.85	1.62	1.44	1.26
P850-U180-WH	170-2028	2.31	1.91	1.69	1.48	1.31

Surge Protector P40-G



- Features**
- Extremely high speed performance
 - Low impedance
 - Very high bandwidth; GHz compatible



Applications

- xDSL (ADSL, VDSL, VDSL2)
- High Data Rate Interface IC protection (LVDS, HDMI, etc.)
- Industrial sensors and controls
- General electronics

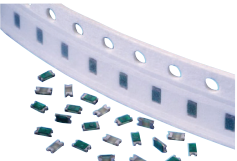
Operating temperature range	-40°C to +85°C
V _{imp} (Maximum protection voltage)	40 V
V _{rms}	28 V
I _{op}	240 mA

534011

Mftrs. List No.	Order Code	1+	10+	100+	250+	500+
P40-G240-WH	170-2030	1.49	1.22	1.07	0.95	0.84

Surge Protection - ESD Suppressors - Littelfuse

ESD Suppressor 0603



- Features**
- Ultra-low capacitance
 - Low leakage current
 - Fast response time
 - Single line of protection
 - Bi-directional
 - Withstands multiple ESD strikes
 - Compatible with pick-and-place processes

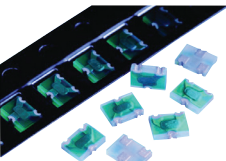


Operating temperature	Voltage rating d.c.	Clamping voltage	Case Size	Leakage Current	Capacitance (pF)	Mftrs. List No.	Order Code
-65°C to +125°C	24V Max.	150V	0603	< 1 nA	0.055	PGB1010603MR	175-7240

546289

Order Multiple=5	Order Code	5+	25+	100+	500+	1K+
	175-7240	0.68	0.60	0.54	0.49	0.43

ESD Suppressor SOT23



- Features**
- Ultra-low capacitance
 - Low leakage current
 - Fast response time
 - 2-lines of protection
 - Bi-directional
 - Withstands multiple ESD strikes
 - Compatible with pick-and-place processes



Operating temperature	Voltage rating d.c.	Clamping voltage	Case Size	Leakage Current	Capacitance (pF)	Mftrs. List No.	Order Code
-65°C to +125°C	24V Max.	150V	SOT-23	< 1 nA	0.055	PGB102ST23WR	175-7241

547642

Order Multiple=5

Price Each

Order Code	5+	25+	100+	500+	3K+
175-7241	1.31	1.19	1.07	0.95	0.79

Surge Protection - ESD Suppressors - Murata

Noise Suppression



- ESD protection of high-speed data lines
- Low capacitance
- Operating Temp Range: -40 to +85°C

No. of Channels	Voltage Rating (V)	Capacitance (pF)	Mftrs. List No.	Order Code
1	15	0.05	LXES15AAA1-017	179-7020
2	6	0.55	LXES1TBAA2-013	179-7021
4	6	0.5	LXES2TBBB4-028	179-7022
4	6	0.55	LXES2SBAA4-016	179-7023
4	6	1	LXES2SBAA4-026	179-7024
4	6	1.3	LXES1TBAA4-005	179-7026
6	6	0.25	LXES4XBAAB-027	179-7027

605387

Order Multiple=10

Price Each

Channels	Order Code	10+	50+	250+	1K+	10K+
1	179-7020	0.250	0.212	0.181	0.159	0.126
2	179-7021	0.510	0.430	0.370	0.320	0.260
4	179-7022	0.980	0.830	0.710	0.620	0.490
4	179-7023	0.640	0.540	0.460	0.410	0.320
4	179-7024	0.440	0.370	0.320	0.280	0.223
4	179-7026	0.790	0.670	0.580	0.500	0.400
6	179-7027	0.960	0.820	0.700	0.610	0.490

Surge Protection - ESD Suppressors - Panasonic

ESD Suppressors



- ESD protection of high-speed data lines
- Low capacitance
- Good ESD suppression characteristics
- Good ESD withstanding

Operating temperature	-55°C to +125°C
Voltage rating a.c.	15V
Clamping voltage	100V
Peak voltage	500V

Case Size	Rated Current Max. (mA)	Capacitance (pF)	Mftrs. List No.	Order Code
0402	1	0.05	EZAEG2A50AX	129-2691
0603	2	0.1	EZAEG3A50AV	129-2692

452168

Case size	Order Code	10+	50+	250+	500+	1K+
0402	SMD 129-2691 RL	0.290	0.181	0.118	0.094	0.092
0603	SMD 129-2692 RL	0.320	0.210	0.137	0.120	0.116

Surge Protection - Varistors - AVX

'Transguard' MLV - Surface Mount



- 0201 case size L=0.6 ± 0.03, W=0.3 ± 0.3, H=0.15 max.
- 0402 case size L=1 ± 0.1, W=0.5 ± 0.1, H=0.6 max.
- 0603 case size L=1.6 ± 0.15, W=0.8 ± 0.15, H=0.9 max.
- 0805 case size L=2.0 ± 0.2, W=1.25 ± 0.2, H=1.02 max.
- 1206 case size L=3.2 ± 0.2, W=1.6 ± 0.2, H=1.02 max.
- 1210 case size L=3.2 ± 0.2, W=2.49 ± 0.2, H=1.7 max.

Supplied on 8mm embossed tape

- Ultra compact high energy multilayer transient suppressors in four popular SMD case sizes
- Provides an ultra fast clamping time of less than 1ns for all low voltage DC applications.

Working Voltage, V_{WM} (V)	Break-down Voltage, V_B (V)	Clamping Voltage Max. V_C (V)	Peak Current Max. I_P (A)	Transient Energy Max. E_{TRAN} (J)	Capacitance nF	Mfrs. List No.	Order Code
0201 Case Size							
5.6	10 - 15.6	35	2	0.01	15	VC020105T150WP	177-1422
5.6	10 - 15.6	35	4	0.01	33	VC020105T330WP	177-1423
5.6	10 - 15.6	35	5	0.01	50	VC020105T500WP	177-1424
5.6	10 - 15.6	35	5	0.01	100	VC020105T101WP	177-1426

0402 Case Size							
5.6	7.6 - 9.3	15.5	20	0.05	0.175	VC040205X150WP	130-1916
18	22.9 - 28	40	20	0.05	0.065	VC040218X400WP	130-1918

0603 Case Size							
3.6	4.0 - 5.5	10	30	0.1	1.5	VC060303A100RP	118-9308
5.6	7.6 - 9.3	15.5	30	0.1	1	VC060305A150RP	118-9309
9	11 - 14	20	30	0.1	0.55	VC060309A200DP	130-1919
14	16.5 - 20.3	30	30	0.1	0.5	VC060314A300RP	118-9310
18	22.9 - 28.0	40	30	0.1	0.275	VC060318A400RP	118-9312
26	31 - 37.9	58	30	0.1	0.155	VC060326A580DP	130-1920
30	37 - 46	65	30	0.1	0.125	VC060330A650DP	130-1921

0805 Case Size							
3.6	4.0 - 5.5	10	40	0.1	1.775	VC080503A100DP	118-9313
5.6	7.6 - 9.3	15.5	40	0.1	1.1	VC080505A150DP	118-9314
5.6	7.1 - 8.7	15.5	120	0.3	2.75	VC080505C150DP	118-9315
14	16.5 - 20.3	30	40	0.1	0.43	VC080514A300DP	118-9316
14	15.9 - 19.4	30	120	0.3	0.9	VC080514C300DP	130-1927
18	5	50	30	0.1	80	VC08L18A500DP	165-8893
26	30.5 - 37.3	58	100	0.3	0.25	VC080526C580DP	130-1931
30	37 - 46	65	30	0.1	0.09	VC080530A650DP	130-1932

1206 Case Size							
5.6	7.1 - 8.7	15.5	150	0.4	3	VC120605D150DP	118-9317
14	16.5 - 20.3	30	40	0.1	0.6	VC120614A300DP	118-9318
14	15.9 - 19.4	30	150	0.4	1.4	VC120614D300DP	118-9319
18	22.9 - 28	40	30	0.1	0.15	VC120618A400DP	130-1938
26	22.5 - 27.5	40	150	0.4	1	VC120618D400DP	118-9320
18	30.5 - 37.3	58	120	0.4	0.55	VC120626D580DP	118-9321
30	36.0 - 45.0	65	120	0.4	0.5	VC120630D650DP	118-9322
38	42.3 - 51.7	77	200	1.1	0.35	VC120638N770DP	138-0919
48	56 - 68	100	100	0.4	0.225	VC120648D101DP	130-1942
56	61.2 - 74.8	110	100	0.7	0.18	VC120656F111DP	138-0920

1210 Case Size							
18*	21.5 - 26.5	39	500	1.5	3.1	VC121018J390DP	118-9324
30	36.9 - 45.1	67	280	1.2	1850	VC121030H620DP	165-8894
60	68.4 - 83.6	120	250	1.5	400	VC121060J121DP	165-8895

*Withstands 24.5V dc for 5 minutes (automotive applications)

204019

Order Multiple=5							
Working Voltage (V)	Order Code	5+	50+	100+	500+	1K+	Price Each
0201 Case Size							
5.6	NEW SMD 177-1422	0.094	0.079	0.063	0.048	0.034	
5.6	NEW SMD 177-1423	0.094	0.079	0.063	0.048	0.034	
5.6	NEW SMD 177-1424	0.094	0.079	0.063	0.048	0.034	
5.6	NEW SMD 177-1426	0.094	0.079	0.063	0.048	0.034	

0402 Case Size							
5.6	SMD 130-1916	0.320	0.250	0.181	0.148	0.113	
18	130-1918	0.159	0.125	0.101	0.077	0.061	

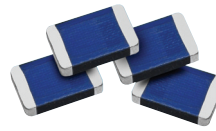
0603 Case Size							
3.6	SMD 118-9308 RL	0.460	0.360	0.260	0.210	0.200	
5.6	SMD 118-9309 RL	0.400	0.310	0.230	0.184	0.174	
9	130-1919	0.330	0.260	0.188	0.154	0.145	
14	SMD 118-9310 RL	0.420	0.330	0.240	0.194	0.183	
18	SMD 118-9312 RL	0.440	0.350	0.250	0.210	0.192	
26	SMD 130-1920	0.390	0.310	0.220	0.181	0.173	
30	SMD 130-1921	0.390	0.310	0.220	0.181	0.173	

0805 Case Size							
3.6	SMD 118-9313 RL	0.420	0.340	0.240	0.197	0.186	
5.6	SMD 118-9314 RL	0.390	0.310	0.220	0.181	0.173	
5.6	SMD 118-9315 RL	0.460	0.360	0.260	0.210	0.200	
9	SMD 130-1924	0.350	0.280	0.200	0.159	0.152	
14	SMD 118-9316 RL	0.390	0.310	0.220	0.181	0.172	
14	SMD 130-1927	0.460	0.360	0.260	0.210	0.200	
18	SMD 130-1928	0.390	0.310	0.220	0.181	0.173	
18	SMD 130-1929	0.460	0.360	0.260	0.210	0.200	
26	SMD 130-1930	0.410	0.320	0.230	0.189	0.180	
26	SMD 130-1931	0.460	0.360	0.260	0.210	0.200	
30	SMD 130-1932	0.490	0.390	0.280	0.230	0.220	

1206 Case Size							
5.6	SMD 130-1933	0.540	0.420	0.300	0.250	0.240	
5.6	SMD 118-9317 RL	0.700	0.560	0.400	0.330	0.320	
14	SMD 118-9318 RL	0.540	0.420	0.300	0.250	0.240	
14	SMD 118-9319 RL	0.700	0.560	0.400	0.330	0.320	
18	130-1938	0.540	0.420	0.300	0.250	0.240	
18	SMD 118-9320 RL	0.700	0.560	0.400	0.330	0.320	
26	SMD 118-9321 RL	0.700	0.560	0.400	0.330	0.320	
30	SMD 118-9322 RL	0.700	0.560	0.400	0.330	0.320	

Order Multiple=5						
Working Voltage (V)	Order Code	5+	50+	100+	500+	1K+
1206 Case Size						
38	SMD 138-0919	0.790	0.620	0.450	0.360	0.340
48	SMD 130-1942	0.700	0.560	0.400	0.330	0.320
56	SMD 138-0920 NEW	0.670	0.570	0.440	0.370	0.360
1210 Case Size						
18	SMD 118-9324 RL	1.110	0.870	0.630	0.510	0.470
	SMD 165-8894 RL	1.770	1.350	1.030	0.840	0.790
	SMD 165-8895 RL	1.720	1.360	0.980	0.800	0.750

VC32 Series



- Surface mount single layer varistors
- Higher voltage ratings and transient energy ratings than typical MLVs
- Replacement for radial MOVs
- Applications include electric meters, industrial equipment, mains PSUs, telecommunications and consumer electronics

Operating temperature		-55 to 125°C		Dimensions (LxWxH)		8.51 x 5.26 x 2.03mm	
V_{RMS}	V_{DC}	V_D (A)	$V_{(1ma)}$ (A)	Transient Energy (J)	Peak Current (A)	Capacitance (pF)	Order Code
175	225	455	270	15	200	135	VC32M01750KBG 125-1563
230	300	595	360	20	200	100	VC32M00231KBG 125-1564
250	330	650	390	21	200	90	VC32M00251KBG 125-1565
275	368	710	430	23	200	80	VC32M02750KBG 125-1566

Price Each					
Order Code	5+	25+	500+	1K+	3K+
All Values	0.85	0.65	0.53	0.52	0.51

Multiguard MLV Arrays 2 & 4 Elements



AVXs Transient Voltage Suppression (TVS) Arrays address six trends in today's electronic circuits:

- Mandatory ESD protection
- Mandatory EMI control
- Signal integrity improvement
- PCB downsizing
- Reduced component placement costs
- Protection from induced slow speed transient voltages and currents

AVXs MultiGuard products offer numerous advantages, which include a faster turn-on-time (<1ns), repetitive strike capability, and space savings. In some cases, MultiGuard consumes less than 75% of the PCB real estate required for the equivalent number of discrete chips. This size advantage coupled with the savings associated with placing only one chip, makes MultiGuard the TVS component of choice for ESD protection of I/O lines in portable equipment and programming ports in cellular phones. Other applications include differential data line protection, ASIC protection and LCD driver protection for portable computing devices.

Element	Working Voltage (V)	Breakdown voltage (V)	Clamping voltage (V)	Peak current (A)	Transient energy (J)	Mfrs. List No.	Order Code
2	5.6	6.8 to 10.3	17.5	20	50	MG042S05X150DP	756-8690
2	18	20.4 to 28	42	20	50	MG042L18V500RP	756-8703
4	5.6	7.6 to 9.3	15.5	20	0.05	MG064S05A150DP	474-2072

Case		Price Each				
Elements	Size	Order Code	5+	50+	250+	1K+
2	0405	SMD 756-8690	0.76	0.59	0.43	0.35
2	0405	SMD 756-8703	0.80	0.65	0.49	0.40
4	0612	SMD 474-2072	1.70	1.34	0.97	0.79

'Transguard'



- Ultra compact high energy multilayer transient suppressors providing an ultra fast clamping time of less than 1ns for all low voltage DC applications.
- Operating temperature: -55°C to +125°C



Surge Protection - Varistors - AVX - continued

'Transguard' - continued

Working Voltage, V _{WM} (V)	Break-down Voltage, V _B (V)	Clamping Voltage Max. 8/20µs, V _C (V)	Peak Current Max. 8/20µs, I _p (A)	Transient Energy Max. 10/1000µs, E _{TRAN} (J)	Capacitance nF	Inductance nH	Mfrs. List No.	Order Code
5.6	7.6 - 9.3	15.5	40	0.1	1.1	1.5	VA100005A150D	131-6523
5.6	7.1 - 8.7	15.5	150	0.4	2.8	3.5	VA100005D150D	131-6524
14	16.5 - 20.3	30	40	0.1	0.5	3.5	VA100014A300D	131-6525
14	15.9 - 19.4	30	150	0.4	1.4	3.5	VA100014D300D	131-6526
18	22.9 - 28	40	40	0.1	0.35	3.5	VA100018A400D	131-6528
18	22.5 - 27.5	40	150	0.4	1	3.5	VA100018D400D	131-6529
26	30.5 - 37.3	58	120	0.4	0.55	3.5	VA100026D580D	131-6530
60	67 - 83	120	300	2	0.4	3.5	VA200060K121D	131-6531

204271

Working Voltage (V)	Order Code	Price Each				
		1+	50+	100+	500+	1K+
5.6	131-6523	0.81	0.65	0.47	0.37	0.35
5.6	131-6524	1.02	0.80	0.57	0.47	0.45
14	131-6525	0.73	0.57	0.42	0.33	0.31
14	131-6526	0.87	0.69	0.50	0.41	0.39
18	131-6528	0.58	0.46	0.33	0.27	0.25
18	131-6529	0.92	0.72	0.52	0.43	0.40
26	131-6530	0.99	0.78	0.56	0.46	0.44
60	131-6531	1.27	1.00	0.72	0.59	0.55

Surge Protection - Varistors - Epcos

Varistor Safety Precautions

Should the varistor be subjected to surge currents and energy levels in excess of maximum ratings it may physically fail by package rupture or expulsion of material.

If not fused the varistor should be located away from other components or be physically shielded from them.

213829

SMD Varistors- MLV Standard Series



- Suitable for ESD protection
- Surge currents up to 1200 A
- Bidirectional clamping
- Case sizes ranging from 0603 to 1210

Max. AC Op. Volt. (V)	Trans Energy (2ms) (J)	Peak Surge Current 8/20us A	Varistor Volt W 1mA (V)	Max Clamp. Voltage V A	Toler.Vv (1mA) %	Mfrs List No.	Order Code	
0402 Case Size								
4	5.5	7.5mJ	20	10	24 @ 1A	±20%	B72590T0040M060	168-8759
11	14	7.5mJ	20	18.4	35 @ 1A	±10%	B72590T0110S160	168-8760
14	16	10mJ	20	23.5	46 @ 1A	±15%	B72590T0140L060	168-8761
17	19	10mJ	20	32	59 @ 1A	±25%	B72590T0170S160	168-8762
0603 Case Size								
4	5.5	0.1	30	9.6	19 @ 1A	±20%	B72500T40M60	883-2374
6	8	0.1	30	13.2	27 @ 1A	±20%	B72500T60M60	883-2382
7	9	0.1	30	15	30 @ 1A	±20%	B72500T70M60	883-2390
11	14	0.2	30	19.8	35 @ 1A	±10%	B72500T110K60	883-2412
14	18	0.2	30	24.2	40 @ 1A	±10%	B72500T140K60	883-2420
17	22	0.2	30	29.7	46 @ 1A	±10%	B72500T170K60	883-2439
20	26	0.2	30	36.3	56 @ 1A	±10%	B72500T200K60	883-2447
25	31	0.3	30	42.9	67 @ 1A	±10%	B72500T250K60	883-2455
0805 Case Size								
4	5.5	0.1	100	9.6	19 @ 1A	±20%	B72510T40M62	883-2463
6	8	0.2	120	13.2	27 @ 1A	±20%	B72510T60M62	883-2471
8	11	0.2	120	17.25	33 @ 1A	±15%	B72510T80L62	883-2480
11	14	0.2	120	19.8	35 @ 1A	±10%	B72510T110K62	883-2498
14	18	0.3	120	24.2	40 @ 1A	±10%	B72510T140K62	883-2501
17	22	0.3	120	29.7	46 @ 1A	±10%	B72510T170K62	883-2510
20	26	0.3	80	36.3	56 @ 1A	±10%	B72510T200K62	883-2528
25	31	0.3	80	42.9	67 @ 1A	±10%	B72510T250K62	883-2536
30	38	0.3	80	51.7	77 @ 1A	±10%	B72510T300K62	883-2544
1206 Case Size								
4	5.5	0.3	150	9.6	17 @ 1A	±20%	B72520T40M62	883-2552
6	8	0.4	200	13.2	25 @ 1A	±20%	B72520T60M62	883-2560
8	11	0.5	200	17.25	30 @ 1A	±15%	B72520T80L62	883-2579
11	14	0.5	200	19.8	33 @ 1A	±10%	B72520T110K62	883-2587
14	18	0.5	200	24.2	38 @ 1A	±10%	B72520T140K62	883-2595
17	22	0.6	200	29.7	44 @ 1A	±10%	B72520T170K62	883-2609
20	26	0.7	200	36.3	54 @ 1A	±10%	B72520T200K62	883-2617
25	31	1	200	42.9	65 @ 1A	±10%	B72520T250K62	883-2625
30	38	1.1	200	51.7	77 @ 1A	±10%	B72520T300K62	883-2633
35	45	0.4	100	61.6	90 @ 1A	±10%	B72520T350K62	883-2641
40	56	0.5	100	74.8	110 @ 1A	±10%	B72520T400K62	883-2650
50	65	0.6	100	90.2	135 @ 1A	±10%	B72520T500K62	883-2668
60	85	0.7	100	110	165 @ 1A	±10%	B72520T600K62	883-2676
1210 Case Size								
4	5.5	0.4	250	9.6	17 @ 2.5A	±20%	B72530T40M62	883-2684

Max. AC Op. Volt. (V)	Trans Energy (2ms) (J)	Peak Surge Current 8/20us A	Varistor Volt W 1mA (V)	Max Clamp. Voltage V A	Toler.Vv (1mA) %	Mfrs List No.	Order Code	
1210 Case Size								
6	8	0.7	300	13.2	25 @ 2.5A	±20%	B72530T60M62	883-2692
11	14	1.2	400	19.8	33 @ 2.5A	±10%	B72530T110K62	883-2714
20	26	1.9	400	36.3	54 @ 2.5A	±10%	B72530T200K62	883-2749
25	31	1.7	300	42.9	65 @ 2.5A	±10%	B72530T250K62	883-2757
30	38	2	300	51.7	77 @ 2.5A	±10%	B72530T300K62	883-2765
35	45	2	250	61.6	90 @ 2.5A	±10%	B72530T350K62	883-2773
60	85	2	200	110	165 @ 2.5A	±10%	B72530T600K062	883-2803
1812 Case Size								
4	5.5	0.8	500	8	17 @ 1A	±20%	B72580V0040M062	168-8742
6	8	1	500	11	25 @ 1A	±20%	B72580V0060M062	168-8744
14	18	2.3	800	22	38 @ 1A	±10%	B72580V0140K062	168-8748
17	22	2.7	800	27	44 @ 1A	±10%	B72580V0170K062	168-8750
20	26	3	800	33	54 @ 1A	±10%	B72580V0200K062	168-8752
25	31	3.7	800	39	65 @ 1A	±10%	B72580V0250K062	168-8755
30	38	4.2	800	47	77 @ 1A	±10%	B72580V0300K062	168-8757
2220 Case Size								
6	8	3.6	1200	11	25 @ 1A	±20%	B72540V0060M062	168-8745
11	14	5.4	1200	18	33 @ 1A	±10%	B72540V0110K062	168-8747
14	18	5.8	1200	22	38 @ 1A	±10%	B72540V0140K062	168-8749
17	22	7.2	1200	27	44 @ 1A	±10%	B72540V0170K062	168-8751
20	26	7.8	1200	33	54 @ 1A	±10%	B72540V0200K062	168-8754
25	31	9.6	1200	39	65 @ 1A	±10%	B72540V0250K062	168-8756
30	38	12	1200	47	77 @ 1A	±10%	B72540V0300K062	168-8758

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Order Multiple=5

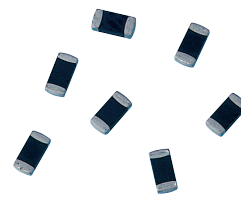
Case Size	Order Code	5+	20+	50+	100+	250+	500+
0402	All Values	0.156	0.146	0.125	0.106	0.104	0.083
0603	All Values	0.350	0.330	0.320	0.290	0.250	0.194
0805	All Values	0.410	0.390	0.360	0.330	0.310	0.270
1206	All Values	0.470	0.430	0.400	0.360	0.330	0.280
1210	All Values	0.580	0.560	0.520	0.470	0.440	0.330
1812	All Values	1.130	1.020	0.890	0.770	0.720	0.610

RL FREE Re-reeling service. Only buy what you need and improve assembly efficiency. For more information visit www.farnell.com

SIOV Metal Oxide Varistors - Surface Mount



- Surface mount Metal Oxide Varistors
- Popular surface mount case sizes
- Silver palladium terminations up to 1210 case size, tinned copper above



Case Size	A	B	C	D
3225	3.5	2.8	4.5	10.1
4032	3.5	2.8	6.5	12.1

Max. AC Op. Volt. (V)	Trans Energy (2ms) (J)	Peak Surge Current 8/20us A	Varistor Volt W 1mA (V)	Max Clamp. Voltage V A	Toler.Vv (1mA) %	Mfrs List No.	Order Code	
3225 Case Size								
130	170	4.2	400	205	340 @ 5A	±10%	B72650M131K72	995-8509
175	225	5.6	400	270	455 @ 5A	±10%	B72650M171K72	995-8517
275	350	8.6	400	430	710 @ 5A	±10%	B72650M271K72	995-8533
4032 Case Size								
175	225	13	1200	270	455 @ 10A	±10%	B72660M171K72	995-8550
230	300	17	1200	360	595 @ 10A	±10%	B72660M231K93	995-8568
275	350	21	1200	430	710 @ 10A	±10%	B72660M271K72	995-8584

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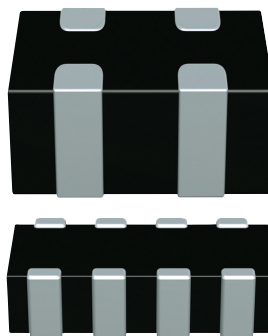
Order Multiple=5

Case Size	Order Code	5+	20+	50+	100+	250+	500+
3225	All Values	1.21	1.19	1.15	1.13	1.10	0.82
4032	All Values	0.68	0.66	0.62	0.61	0.59	0.47

SMD Varistors Arrays



- Bidirectional protection
- Low capacitance
- No signal distortion
- Suitable for lead-free soldering



Max. AC Op. Volt. (V)	Trans Energy (2ms) (mJ)	Peak Surge Current (8/20µs A)	Varistor Volt W 1mA (V)	Max Clamp. Voltage V A	Mfrs List No.	Order Code
2-Fold Array - 0405 Case Size						
17	22	10	40	50 @ 1A	B72762A2170S160	168-8764
4-Fold Array - 0612 Case Size						
17	22	30	40	50 @ 1A	B72724A2170S162	168-8763

Case Size	Order Code	Price Each					
		1+	20+	50+	100+	500+	
0405	SMD 168-8764	0.250	0.230	0.198	0.177	0.156	0.135
0612	SMD 168-8763	0.350	0.330	0.290	0.240	0.230	0.192

Metal Oxide Varistors



- The voltage dependent characteristics enable varistors to protect against high transient voltage spikes
- The varistor impedance changes to a low value clamping the transient to a safe level
- UL recognised, CSA approved



Tolerance: ±10%

Operating Temperature: -40° C to +85° C

7mm Disc (Nominal Diameter)

Mfrs. List No.	Lead Pitch (offset)	Disc Dia.	Disc W	Disc H	Lead L	Lead D
SIOV-B72205S011K101-40	5	7	3.5-4.1	9.5	30	0.6

V _{RMS}	V _{DC}	V _{V(1mA)}	Transient Energy (J)	Peak Transient Current (A)	Mfrs. List No.	Order Code
11	14	18	0.3	100	B72205S110K101	100-4348
14	18	22	0.4	100	B72205S0140K101	100-4303
17	22	27	0.5	100	B72205S0170K101	100-4334
20	26	33	0.6	100	B72205S0200K101	100-4308
25	31	39	0.7	100	B72205S0250K101	100-4277
30	38	47	0.9	100	B72205S0300K101	100-4279
35	45	56	1.1	100	B72205S0350K101	100-4295
40	56	68	1.3	100	B72205S0400K101	100-4330
50	65	82	1.8	400	B72205S0500K101	100-4313
75	100	120	2.5	400	B72205S0750K101	100-4343
95	125	150	3.4	400	B72205S0950K101	100-4341
115	150	180	3.4	400	B72205S011K101	100-4345
130	170	205	4.2	400	B72205S013K101	100-4315
150	200	240	4.9	400	B72205S015K101	100-4329
175	225	270	5.6	400	B72205S017K101	100-4344
230	300	360	7.2	400	B72205S023K101	100-4353
250	320	390	8.2	400	B72205S025K101	100-4290
275	350	430	8.6	400	B72205S027K101	100-4358
300	385	470	9.6	400	B72205S030K101	100-4399
385	505	620	13.5	400	B72205S038K101	100-4366
420	560	680	14	400	B72205S042K101	100-4317
460	615	750	18	400	B72205S046K101	100-4346

Voltage	Order Code	Price Each					
		1+	10+	25+	250+	500+	1K+
11	100-4348	0.430	0.370	0.350	0.210	0.185	0.166
14	100-4303	0.390	0.350	0.320	0.210	0.185	0.166
17	100-4334	0.320	0.280	0.270	0.230	0.210	0.173
20	100-4308	0.300	0.250	0.198	0.183	0.166	0.148
25	100-4277	0.300	0.250	0.198	0.183	0.166	0.148
30	100-4279	0.380	0.310	0.300	0.199	0.177	0.158
35	100-4295	0.390	0.350	0.320	0.199	0.177	0.158
40	100-4330	0.320	0.280	0.270	0.230	0.210	0.173
50	100-4313	0.320	0.280	0.270	0.230	0.210	0.173
75	100-4343	0.320	0.280	0.270	0.230	0.210	0.173
95	100-4341	0.220	0.180	0.176	0.141	0.137	0.116
115	100-4345	0.320	0.280	0.270	0.230	0.210	0.173
130	100-4315	0.320	0.280	0.270	0.230	0.210	0.173
150	100-4329	0.150	0.128	0.126	0.104	0.100	0.086
175	100-4344	0.320	0.280	0.270	0.230	0.210	0.173
230	100-4353	0.350	0.300	0.280	0.230	0.210	0.173
250	100-4290	0.390	0.330	0.290	0.199	0.177	0.158
275	100-4358	0.420	0.350	0.270	0.240	0.220	0.181
300	100-4399	0.320	0.280	0.270	0.230	0.210	0.173
385	100-4366	0.350	0.300	0.280	0.230	0.210	0.173
420	100-4317	0.320	0.280	0.260	0.210	0.200	0.172
460	100-4346	0.320	0.280	0.270	0.230	0.210	0.173

9mm Disc (Nominal Diameter)

Mfrs. List No.	Lead Pitch (offset)	Disc Dia.	Disc W	Disc H	Lead L	Lead D
B72207S0110K101-40	5	9	3.5-4.1	11.5	30	0.6

V _{RMS}	V _{DC}	V _{V(1mA)}	Transient Energy (J)	Peak Transient Current (A)	Mfrs. List No.	Order Code
11	14	18	0.8	250	B72207S0110K101	100-4338
14	18	22	0.9	250	B72207S0140K101	100-4369
17	22	27	1.1	250	B72207S0170K101	100-4339
25	31	39	1.6	250	B72207S0250K101	100-4370
30	38	47	2.0	250	B72207S0300K101	100-4350
35	45	56	2.5	250	B72207S0350K101	100-4373
40	56	68	3.0	250	B72207S0400K101	100-4291
50	65	82	4.2	1200	B72207S0500K101	100-4312
60	85	100	4.8	1200	B72207S0600K101	100-4285
75	100	120	5.9	1200	B72207S0750K101	100-4310
115	150	180	8.4	1200	B72207S011K101	100-4380
130	170	205	9.5	1200	B72207S013K101	100-4292
175	225	270	13.0	1200	B72207S017K101	100-4388

Transient	Peak Transient	Mfrs. List No.	Order Code			
230	360	17.0	1200	B72207S023K101	100-4307	
250	320	390	19.0	1200	B72207S025K101	100-4276
275	350	430	21	1200	B72207S027K101	100-4361
300	385	470	23	1200	B72207S030K101	100-4364
420	560	680	32.0	1200	B72207S042K101	100-4332
460	615	750	32.0	1200	B72207S046K101	100-4340

Voltage	Order Code	Price Each					
		1+	10+	100+	250+	500+	1K+
11	100-4338	0.320	0.280	0.270	0.230	0.210	0.173
14	100-4369	0.290	0.230	0.191	0.168	0.150	0.131
17	100-4339	0.310	0.270	0.260	0.210	0.200	0.167
25	100-4370	0.320	0.280	0.260	0.210	0.200	0.173
30	100-4350	0.320	0.260	0.210	0.177	0.160	0.142
35	100-4373	0.390	0.320	0.300	0.270	0.230	0.210
40	100-4291	0.320	0.280	0.270	0.230	0.210	0.173
50	100-4312	0.390	0.320	0.300	0.270	0.230	0.210
60	100-4285	0.290	0.230	0.191	0.168	0.150	0.132
75	100-4310	0.290	0.240	0.194	0.162	0.146	0.130
115	100-4380	0.320	0.280	0.260	0.210	0.200	0.173
130	100-4292	0.230	0.187	0.183	0.147	0.142	0.121
175	100-4388	0.320	0.280	0.260	0.210	0.200	0.173
230	100-4307	0.390	0.330	0.290	0.250	0.240	0.210
250	100-4276	0.300	0.250	0.198	0.166	0.150	0.133
275	100-4361	0.300	0.250	0.198	0.166	0.150	0.133
300	100-4364	0.290	0.240	0.194	0.162	0.142	0.126
420	100-4332	0.260	0.230	0.187	0.168	0.152	0.134
460	100-4340	0.320	0.280	0.270	0.230	0.210	0.173

10mm Disc (Nominal Diameter)

Mfrs. List No.	Lead Pitch (offset)	Disc Dia.	Disc W	Disc H	Lead L	Lead Dia
B72210P2271K101-40	7.5	12	5.9-8.4	16-16.5	25	0.8

V _{RMS}	V _{DC}	V _{V(1mA)}	Transient Energy (J)	Peak Transient Current (A)	Mfrs. List No.	Order Code
275	350	430	60	3500	B72210P2271K101	178-1925
300	385	470	65	3500	B72210P2301K101	178-1926
320	420	510	72	3500	B72210P2321K101	178-1927
385	505	620	82	3500	B72210P2381K101	178-1928
420	560	680	87	3500	B72210P2421K101	178-1929
460	615	750	92	3500	B72210P2461K101	178-1930

Voltage	Order Code	Price Each				
		1+	10+	50+	100+	500+
275	NEW 178-1925	0.44	0.37	0.29	0.26	0.22
300	NEW 178-1926	0.44	0.37	0.29	0.26	0.22
320	NEW 178-1927	0.44	0.37	0.29	0.26	0.22
385	NEW 178-1928	0.44	0.37	0.29	0.26	0.22
420	NEW 178-1929	0.44	0.37	0.29	0.26	0.22
460	NEW 178-1930	0.60	0.51	0.41	0.36	0.30

12mm Disc (Nominal Diameter)

Mfrs. List No.	Lead Pitch (offset)	Disc Dia.	Disc W	Disc H	Lead L	Lead D
B72210S0110K101-40	7.5	12.5	4.1-4.8	15	30	0.8

V _{RMS}	V _{DC}	V _{V(1mA)}	Transient Energy (J)	Peak Transient Current (A)	Mfrs. List No.	Order Code
11	14	18	1.7	500	B72210S0110K101	100-4328
14	18	22	2	500	B72210S0140K101	100-4296
17	22	27	2.5	500	B72210S0170K101	100-4309
20	26	33	3.1	500	B72210S0200K101	100-4320
25	31	39	3.7	500	B72210S0250K101	100-4274
30	38	47	4.4	500	B72210S0300K101	100-4351
35	45	56	5.4	500	B72210S0350K101	100-4286
40	56	68	6.4	500	B72210S0400K101	100-4298
50	65	82	8.4	2500	B72210S0500K101	100-4278
75	100	120	12	2500	B72210S0750K101	100-4326
95	125	150	15	2500	B72210S0950K101	100-4322
115	150	180	18	2500	B72210S011K101	100-4381
130	170	205	19	2500	B72210S013K101	100-4288
140	180	220	22	2500	B72210S014K101	100-4386
150	200	240	24	2500	B72210S015K101	100-4297
175	225	270	28	2500	B72210S017K101	100-4342
230	300	360	36	2500	B72210S023K101	100-4354
250	320	390	38	2500	B72210S025K101	100-4355
275	350	430	43	2500	B72210S027K101	100-4390
300	385	470	47	2500	B72210S030K101	100-4



Surge Protection - Varistors - Epcos - continued

Metal Oxide Varistors - continued

10mm Disc (Nominal Diameter) - continued

AC Voltage	Order Code	1+	10+	25+	250+	500+	1K+
95	100-4322	0.540	0.510	0.480	0.390	0.350	0.270
115	100-4381	0.600	0.560	0.490	0.370	0.340	0.270
130	100-4288	0.510	0.440	0.330	0.290	0.260	0.240
140	100-4386	0.500	0.400	0.350	0.310	0.280	0.260
150	100-4297	0.500	0.400	0.350	0.310	0.280	0.260
175	100-4342	0.520	0.440	0.370	0.330	0.300	0.270
230	100-4354	0.600	0.560	0.490	0.370	0.340	0.270
250	100-4355	0.550	0.470	0.350	0.230	0.210	0.187
275	100-4390	0.600	0.570	0.510	0.390	0.350	0.270
300	100-4365	0.500	0.400	0.350	0.310	0.280	0.250
320	100-4337	0.500	0.430	0.320	0.280	0.250	0.230
385	100-4398	0.490	0.400	0.350	0.310	0.280	0.260
420	100-4295	0.330	0.280	0.240	0.210	0.183	0.155
460	100-4283	0.560	0.500	0.490	0.470	0.460	0.390

14mm Disc (Nominal Diameter)

Mfrs. List No.	Lead Pitch (offset)	Disc Dia.	Disc D	Disc H	Lead L	Disc Dia
B72214P2271K101-40	7.5	16	5.9-8.5	20-20.5	25	0.8

V _{RMS}	V _{DC}	V _{V(1mA)}	Transient Energy (J)	Peak Transient Current (A)	Mfrs. List No.	Order Code
275	350	430	130	6000	B72214P2271K101	178-1931
300	385	470	140	6000	B72214P2301K101	178-1932
320	420	510	150	6000	B72214P2321K101	178-1933
385	505	620	180	6000	B72214P2381K101	178-1934
420	560	680	190	6000	B72214P2421K101	178-1936
460	615	750	200	6000	B72214P2461K101	178-1937

Vrms (V)	Order Code	1+	10+	50+	100+	500+
275	NEW 178-1931	0.58	0.49	0.40	0.35	0.29
300	NEW 178-1932	0.58	0.49	0.40	0.35	0.29
320	NEW 178-1933	0.58	0.49	0.40	0.35	0.29
385	NEW 178-1934	0.58	0.49	0.40	0.35	0.29
420	NEW 178-1936	0.98	0.82	0.66	0.59	0.49
460	NEW 178-1937	0.98	0.82	0.66	0.59	0.49

15.5mm Disc (Nominal Diameter)

Mfrs. List No.	Lead Pitch (offset)	Disc Dia.	Disc W	Disc H	Lead L	Disc Dia
B72214S0110K101-40	7.5	16.5	4.1-4.9	19	30	0.8

V _{RMS}	V _{DC}	V _{V(1mA)}	Transient Energy (J)	Peak Transient Current (A)	Mfrs. List No.	Order Code
11	14	18	3.2	1000	B72214S0110K101	100-4324
14	18	22	4	1000	B72214S0140K101	100-4294
20	26	33	6	1000	B72214S0200K101	100-4306
25	31	39	7	1000	B72214S0250K101	100-4349
30	38	47	9	1000	B72214S0300K101	100-4371
35	45	56	10	1000	B72214S0350K101	100-4374
40	56	68	13	1000	B72214S0400K101	100-4375
50	65	82	15	4500	B72214S0500K101	100-4376
60	85	100	17	4500	B72214S0600K101	100-4377
75	100	120	20	4500	B72214S0750K101	100-4378
95	125	150	25	4500	B72214S0950K101	100-4379
115	150	180	30	4500	B72214S0111K101	100-4382
130	170	205	34	4500	B72214S0131K101	100-4385
140	180	220	36	4500	B72214S0141K101	100-4333
175	225	270	46	4500	B72214S0171K101	100-4327
230	300	360	60	4500	B72214S0231K101	100-4389
250	320	390	65	4500	B72214S0251K101	100-4356
275	350	430	71	4500	B72214S0271K101	100-4362
300	385	470	76	4500	B72214S0301K101	100-4391
320	420	510	84	4500	B72214S0321K101	100-4318
385	505	620	80	4500	B72214S0381K101	100-4367
420	560	680	90	4500	B72214S0421K101	100-4368
460	615	750	100	4500	B72214S0461K101	100-4273

AC Voltage	Order Code	1+	10+	25+	250+	500+	1K+
11	100-4324	0.590	0.510	0.470	0.420	0.380	0.340
14	100-4294	0.300	0.260	0.230	0.196	0.176	0.149
20	100-4306	0.320	0.270	0.240	0.210	0.189	0.168
25	100-4349	0.330	0.280	0.250	0.230	0.196	0.176
30	100-4371	0.550	0.470	0.350	0.310	0.280	0.260
35	100-4374	0.460	0.400	0.300	0.270	0.240	0.220
40	100-4375	0.460	0.400	0.300	0.270	0.240	0.220
50	100-4376	0.500	0.400	0.350	0.310	0.280	0.260
60	100-4377	0.350	0.300	0.270	0.240	0.210	0.189
75	100-4378	0.520	0.430	0.390	0.340	0.310	0.280
95	100-4379	0.530	0.460	0.400	0.330	0.320	0.280
115	100-4382	0.540	0.470	0.410	0.340	0.330	0.290
130	100-4385	0.330	0.280	0.240	0.220	0.183	0.155
140	100-4333	0.320	0.300	0.280	0.250	0.240	0.200
175	100-4327	0.480	0.440	0.400	0.340	0.330	0.280
230	100-4389	0.510	0.450	0.390	0.320	0.310	0.270

AC Voltage	Order Code	1+	10+	25+	250+	500+	1K+
250	100-4356	0.720	0.610	0.470	0.300	0.240	0.198
275	100-4362	0.710	0.600	0.460	0.300	0.250	0.210
300	100-4391	0.730	0.660	0.610	0.450	0.350	0.300
320	100-4318	0.660	0.620	0.610	0.460	0.360	0.300
385	100-4367	0.420	0.390	0.350	0.280	0.250	0.181
420	100-4368	1.070	0.920	0.700	0.530	0.480	0.430
460	100-4273	0.570	0.470	0.390	0.320	0.300	0.260

20mm Disc (Nominal Diameter)

Mfrs. List No.	Lead Pitch (offset)	Disc Dia.	Disc D	Disc H	Lead L	Disc Dia
B72220P3271K101-40	10	22.5	6.5-8.9	27	25	1

V _{RMS}	V _{DC}	V _{V(1mA)}	Transient Energy (J)	Peak Transient Current (A)	Mfrs. List No.	Order Code
275	350	430	260	12000	B72220P3271K101	178-1938
300	385	470	290	12000	B72220P3301K101	178-1939
320	420	510	320	12000	B72220P3321K101	178-1940
385	505	620	320	12000	B72220P3381K101	178-1941
420	560	680	320	12000	B72220P3421K101	178-1942
460	615	750	370	12000	B72220P3461K101	178-1943

Vrms (V)	Order Code	1+	10+	50+	100+	500+
275	NEW 178-1938	1.51	1.28	1.02	0.92	0.76
300	NEW 178-1939	1.51	1.28	1.02	0.92	0.76
320	NEW 178-1940	1.51	1.28	1.02	0.92	0.76
385	NEW 178-1941	1.51	1.28	1.02	0.92	0.76
420	NEW 178-1942	1.80	1.53	1.22	1.09	0.89
460	NEW 178-1943	1.80	1.53	1.22	1.09	0.89

21.5mm Disc (Nominal Diameter)

Mfrs. List No.	Lead Pitch (offset)	Disc Dia.	Disc W	Disc H	Lead L	Disc Dia
B72220S0110K101-40	10	22.5	4.5-5.4	26	30	1

V _{RMS}	V _{DC}	V _{V(1mA)}	Transient Energy (J)	Peak Transient Current (A)	Mfrs. List No.	Order Code
11	14	18	10	2000	B72220S0110K101	100-4331
14	18	22	12	2000	B72220S0140K101	100-4336
17	22	27	14	2000	B72220S0170K101	100-4319
20	26	33	18	2000	B72220S0200K101	100-4325
25	31	39	26	2000	B72220S0250K101	100-4284
30	38	47	26	2000	B72220S0300K101	100-4275
35	45	56	33	2000	B72220S0350K101	100-4321
40	56	68	37	2000	B72220S0400K101	100-4316
50	65	82	27	6500	B72220S0500K101	100-4301
60	85	100	33	6500	B72220S0600K101	100-4280
75	100	120	40	6500	B72220S0750K101	100-4302
95	125	150	50	6500	B72220S0950K101	100-4304
115	150	180	60	6500	B72220S0111K101	100-4383
130	170	205	74	8000	B72220S0131K101	100-4282
140	180	220	78	8000	B72220S0141K101	100-4387
150	200	240	85	8000	B72220S0151K101	100-4289
175	225	270	98	8000	B72220S0171K101	100-4352
230	300	360	130	8000	B72220S0231K101	100-4287
250	320	360	140	8000	B72220S0251K101	100-4357
275	350	430	151	8000	B72220S0271K101	100-4363
300	385	470	173	8000	B72220S0301K101	100-4392
320	420	510	184	8000	B72220S0321K101	100-4305
385	505	220	150	8000	B72220S0381K101	100-4393
420	560	680	175	8000	B72220S0421K101	100-4394
460	615	750	195	8000	B72220S0461K101	100-4272
510	670	820	190	6500	B72220S0511K101	100-4395
625	825	1000	230	6500	B72220S0621K101	100-4397

AC Voltage	Order Code	1+	10+	25+	250+	500+	1K+
11	100-4331	0.77	0.62	0.56	0.50	0.44	0.39
14	100-4336	0.77	0.62	0.58	0.51	0.46	0.40
17	100-4319	0.77	0.62	0.57	0.51	0.46	0.40
20	100-4325	0.48	0.41	0.35	0.32	0.28	0.27
25	100-4284	0.77	0.62	0.55	0.51	0.46	0.40
30	100-4275	0.77	0.62	0.58	0.51	0.46	0.40
35	100-4321	0.77	0.62	0.57	0.51	0.46	0.40
40	100-4316	0.85	0.72	0.59	0.52	0.47	0.41
50	100-4301	0.85	0.72	0.59	0.52	0.47	0.41
60	100-4280	0.55	0.45	0.39	0.34	0.31	0.27
75	100-4302	0.48	0.41	0.35	0.32	0.30	0.29
95	100-4304	0.55	0.45	0.39	0.34	0.31	0.29
115	100-4383	0.89	0.62	0.43	0.37	0.33	0.30

AC Voltage	Order Code	1+	10+	25+	250+	500+	1K+
385	100-4393	0.86	0.74	0.67	0.65	0.63	0.56
420	100-4394	0.56	0.54	0.53	0.51	0.50	0.49
460	100-4272	0.72	0.55	0.50	0.49	0.48	0.46
510	100-4395	2.17	2.05	1.76	1.36	1.07	0.98
625	100-4397	1.23	1.03	0.98	0.87	0.76	0.68

Square Metal Oxide Varistors EnergetiQ Q14, Q20 Series



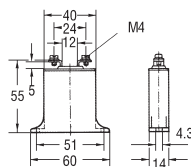
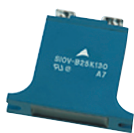
- High performance EnergetiQ Series square varistors
- Designed to offer maximum protection in a minimum component height
- High transient current handling capability
- Leaded varistors in 14 and 20mm plate sizes
- Tinned copper leads, body epoxy resin coated to **UL94V-0**
- **CSA** and **CECC** approved
- **UL** recognised

Type	Body Dimensions			Height above PCB	Lead Dimensions		
	H	W	D		L	Dia	Pitch
Q14 Series	16.5	16.5	5.8 - 6.3	19.5	30	1.0	10
Q20 Series	22.5	16.5	5.8 - 6.3	27	30	1.0	10

V _{RMS}	V _{DC}	V _{V(1ma)}	Transient Energy (J)	Peak Transient Current (A)	Mftrs. List No.	Order Code
Q14 Series						
275	350	430	150	8000	B72214Q0271K101	100-4265
320	420	510	185	8000	B72214Q0321K101	100-4266
Q20 Series						
275	350	430	215	15000	B72220Q0271K101	100-4267
300	385	470	235	15000	B72220Q0301K101	100-4269
320	420	510	255	15000	B72220Q0321K101	100-4271

AC(rms) Voltage	Order Code	1+	10+	25+	100+	250+	500+
Q14 Series							
275	100-4265	0.78	0.73	0.68	0.61	0.50	0.40
320	100-4266	0.47	0.44	0.41	0.36	0.30	0.28
Q20 Series							
275	100-4267	0.89	0.85	0.82	0.73	0.60	0.47
300	100-4269	0.88	0.84	0.81	0.71	0.58	0.46
320	100-4271	0.76	0.73	0.71	0.64	0.54	0.43

Metal Oxide Block Varistors – SIOV Series



B32/B40 Style

Block encapsulated, symmetrical characteristic, metal oxide varistors for high power transient suppression. Their resistance value decreases with increased voltage, thus 'short-circuiting' a further rise in overvoltage, safeguarding sensitive electronic equipment. **UL** recognised and **CSA** approved.

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/2000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Nominal Varistor Voltage (V)	Maximum Clamping Voltage (V)	Mftrs List No.	Order Code
130	170	210	25000	205	340	B72232B131K001	120-0450
230	300	300	25000	360	595	B72232B231K001	120-0451
250	320	330	25000	390	650	B72232B251K001	120-0453
275	350	550	40000	430	710	B72240B271K001	120-0454

AC Voltage	Energy (Joules)	Order Code	1+	5+	10+
130	210	120-0450	36.45	26.25	18.24
230	300	120-0451	22.10	18.11	16.67
250	330	120-0453	22.10	18.11	16.67
275	550	120-0454	65.66	47.25	32.89

Troubleshooting tips



Chat live online to one of our technical engineers at www.farnell.co.uk

Surge Protection - Varistors - Littelfuse

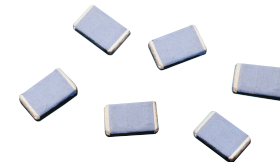
Littelfuse Varistors



These varistors are voltage dependent, symmetrical, metal oxide semiconductor devices. Their characteristics enable them to protect against high transient voltage spikes (when properly selected) to meet anticipated loads. When the protected equipment or circuit encounters high voltage spikes, the varistor impedance changes from a very high standby value to a very low conducting value, thus clamping the transient voltage to a protective level. The excess energy of the incoming high voltage pulse is absorbed by the varistor, protecting voltage sensitive components against damage.

204216

CH Series – Metal Oxide Varistors



CH Series transient surge suppressors are small, metal-oxide varistors (MOVs) manufactured in leadless chip form. They are intended for use in a variety of applications from low voltage DC to off-line board-level protection. These devices, which have significantly lower profiles than traditional radial lead



varistors, permit designers to reduce the size and weight and increase the reliability of their equipment designs.

Operating temperature -55° C to +125° C

Maximum Continuous Working Voltage Vdc	Maximum Non-repet. Surge Current (A) (8/20µs)	Maximum Non-repeti-tive Surge Energy (J) (10/1000µs)	Maximum Clamping Voltage at 10A (or as noted) (8/20µs)	Typical Cap @ 1MHz pF	Mftrs. List No.	Order Code
22	17	100	57	1300	V27CH8	175-7242
26	20	100	68	1100	V33CH8	175-7243
31	25	100	79	900	V39CH8	175-7244
38	30	100	92	800	V47CH8	175-7245
45	35	100	107	700	V56CH8	175-7247
56	40	100	127	600	V68CH8	175-7248
102	75	250	200	300	V120CH8	175-7249
127	95	250	250	250	V150CH8	175-7250
153	115	250	295	200	V180CH8	175-7251
175	130	250	340	180	V200CH8	175-7252
180	140	250	360	160	V220CH8	175-7253
200	150	250	395	150	V240CH8	175-7254
300	230	250	595	100	V360CH8	175-7255
330	250	250	650	90	V390CH8	175-7256
369	275	250	710	80	V430CH8	175-7257

Order Code	1+	25+	100+	500+
SMD All Values	1.14	0.97	0.88	0.79

ML Series – Surface Mount



- Transient surge suppressors to protect electronic devices from high voltage transients
- Manufactured from ceramic which offers rugged protection, excellent energy absorption and high internal heat dissipation

- Chip form eliminates lead conductance which ensures a fast response
- Low capacitance types do not reduce bandwidth of high speed signal lines
- Designed to fail short circuit when over stressed to protect associated equipment

Operating temperature -55° C to +125° C

Maximum Continuous Working Voltage Vdc	Maximum Non-repet. Surge Current (A) (8/20µs)	Maximum Non-repeti-tive Surge Energy (J) (10/1000µs)	Nominal DC Test Curr. 1mA Min (V)	Maximum Clamping Voltage at 10A (or as noted) (8/20µs)	Typical Cap @ 1MHz nF	Mftrs. List No.	Order Code
0402 Case Size							
5.5	4	20	0.05	7.1	10.8	21	220
9	6.5	20	0.05	11	16	30	120
14	10	20	0.05	15.9	21.5	39	70
18	14	20	0.05	22	28	50	40
0603 Case Size							
3.5	2.5	30	0.1	3.7	7	13	1270
3.5	2.5	30	0.1	3.7	7	13	1270
5.5	4	30	0.1	7.1	9.3	17.5	760
14	10	30	0.1	10	14	34.5	180
18	14	30	0.1	22	28	50	120
26	20	30	0.1	31	38	60	110
0805 Case Size							
3.5	2.5	120	0.3	3.7	5.5	10 at 5A	2.75
3.5	2.5	40	0.1	3.7	5.5	10 at 2A	1.2
5.5	4	120	0.3	7.1	9.3	15.5 at 5A	2.5
5.5	4	40	0.1	7.1	9.3	15.5 at 2A	1.1
14	10	120	0.3	15.9	20.3	30 at 5A	1.2
14	10	40	0.1	15.9	20.3	30 at 2A	0.45
18	14	120	0.3	22.5	28	40 at 5A	0.65
18	14	40	0.1	22.5	28	40 at 2A	0.35
1206 Case Size							
5.5	4	150	0.4	7.1	8.7	15.5	4.5
14	10	150	0.4	16.4	20	30	2.1
18	14	150	0.4	22	27	40	1.7
26	20	150	0.6	29.5	38.5	56	0.8



Surge Protection - Varistors - Littelfuse - continued

ML Series – Surface Mount - continued

Maximum Continuous Working Voltage Vdc	Maximum Non-repetitive Surge Current (A) (8/20µs)	Maximum Non-repetitive Surge Energy (J) (10/1000µs)	Nominal Voltage at DC Test Curr. Min (V)	Nominal Voltage at 1mA (V)	Maximum Clamping Voltage at 10A (or as noted) (8/20µs)	Typical Cap @ 1MHz nF	Mfrs. List No.	Order Code
33	26	180	0.8	38	45	72	0.5	V33MLA1206H 105-7229
42	30	180	0.8	46	56	86	0.45	V42MLA1206H 105-7230
56	40	180	1	61	76	110	0.35	V56MLA1206H 105-7231
68	50	180	1	76	90	130	0.15	V68MLA1206H 105-7232
18	14	250	0.8	22	27	40	1.9	V18MLA1210H 105-7233
26	20	250	1.2	29.5	38.5	54	1	V26MLA1210H 105-7234
48	40	250	1.2	54.5	66.5	105	520	V48MLA1210H 175-7277

Working Voltage (V)	Order Code	5+	25+	100+	1K+
0402 Case Size					
5.5	NEW SMD 175-7267	0.47	0.40	0.32	0.27
9	NEW SMD 175-7268	0.47	0.40	0.32	0.27
14	NEW SMD 175-7269	0.47	0.40	0.32	0.27
18	NEW SMD 175-7270	0.47	0.40	0.32	0.27

0603 Case Size					
3.5	SMD 161-1979	0.43	--	--	--
3.5	NEW SMD 175-7272	0.43	0.36	0.29	0.24
5.5	NEW SMD 175-7273	0.43	0.36	0.29	0.24
14	NEW SMD 175-7274	0.43	0.36	0.29	0.24
18	NEW SMD 175-7275	0.43	0.36	0.29	0.24
26	NEW SMD 175-7276	0.43	0.36	0.29	0.24

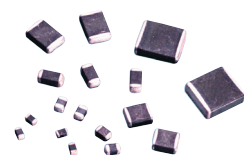
0805 Case Size					
3.5	SMD 105-7215	0.54	0.43	0.35	0.27
3.5	SMD 105-7216	0.54	0.43	0.35	0.27
5.5	SMD 105-7217	0.73	0.59	0.48	0.38
5.5	SMD 105-7218	0.54	0.43	0.35	0.27
14	SMD 105-7220	0.54	0.43	0.35	0.27
14	SMD 105-7221	0.54	0.43	0.35	0.27
18	SMD 105-7222	0.54	0.43	0.35	0.27
18	SMD 105-7223	0.54	0.43	0.35	0.27

1206 Case Size					
5.5	SMD 105-7225	1.45	1.13	0.91	0.70
14	SMD 105-7226	1.07	0.83	0.67	0.52
18	SMD 105-7227	0.97	0.81	0.59	0.49
26	SMD 105-7228	1.07	0.83	0.67	0.52
33	SMD 105-7229	1.07	0.83	0.67	0.52
42	SMD 105-7230	1.07	0.83	0.67	0.52
56	SMD 105-7231	1.07	0.83	0.67	0.52
68	SMD 105-7232	1.07	0.83	0.67	0.52

1210 Case Size					
18	SMD 105-7233	2.11	1.64	1.33	1.04
26	SMD 105-7234	1.46	1.15	1.01	0.83
48	NEW SMD 175-7277	1.46	1.26	1.01	0.84

Multilayer Varistors

MLE Series



- AEC-2000 compliant
- Rated for ESD (IEC-61000-4-2)
- Characterised for impedance and capacitance
- 0603, 0805 & 1206 case sizes
- Nickel Barrier Termination (V18MLE0603NH)
- -55°C to +125°C Operating temp range



The MLE Series family of transient voltage suppression devices are based on the Littelfuse multilayer fabrication technology. These components are designed to suppress ESD events, including those specified in IEC 61000-4-2 or other standards used for Electromagnetic Compliance testing.

Max Cont. Working Voltage Vdc	Max ESD Clamp Voltage @ 8kV Contact (V)	Clamp Voltage @ 15kV Air (V)	Typical Cap @ 1MHz pF	Mfrs. List No.	Order Code
0603 Case Size					
18	< 75	< 110	<125	V18MLE0603H	181-6996
18	< 75	< 110	<125	V18MLE0603NH	181-6997
0805 Case Size					
18	< 70	< 75	<500	V18MLE0805H	181-6999
1206 Case Size					
18	< 65	< 65	<1700	V18MLE1206H	181-7001

Order Multiple=5	Order Code	5+	25+	100+	500+
0603 Case Size					
V18MLE0603H	181-6996	0.32	0.21	0.18	0.14
V18MLE0603NH	181-6997	0.32	0.21	0.18	0.14
0805 Case Size					
V18MLE0805H	181-6999	0.36	0.24	0.20	0.16
1206 Case Size					
V18MLE1206H	181-7001	0.69	0.46	0.38	0.31

MHS Series



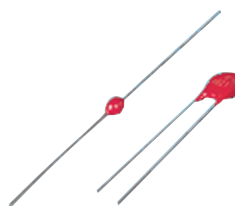
The Multilayer High-Speed MHS Series is a very-low capacitance extension to the Littelfuse ML family of transient voltage surge suppression devices available in an 0603-size surface mount chip.

- AEC-2000 compliant
- Low Leakage current
- Operating temperature: -55°C to +125°C

Typical Leakage Current at 3.5V (µA)	Maximum Non-repetitive Surge Energy (J)	Maximum Clamping Voltage	Typical Cap @ 1MHz pF	Mfrs. List No.	Order Code
0.5	0.02	30	29	V0603MHS22NH	175-7265
0.5	0.025	55	16	V0603MHS12NH	175-7266

Clamping Voltage (V)	Order Code	10+	50+	250+	2K5+
0603 Case Size					
30	SMD 175-7265	0.29	0.25	0.22	0.18
55	SMD 175-7266	0.29	0.25	0.22	0.18

Metal Oxide Varistors – MA/LA/ZASERIES



Operating ambient temperature	MA Series	LA/ZA Series
Test withstand voltage	1000V dc	2500V dc
Insulation resistance	>1000MΩ	>1000MΩ
Voltage temp. coefficient	-0.03%/°C	-0.05%/°C

MA Series (Axial Lead Package)

Maximum Ratings (25°C)

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Varistor Voltage @ 1mA dc V min	V nom	V max	Device Marking	Order Code
18	23	0.13	40	26.0	33	40	33A	318-231

AC Voltage	Energy (Joules)	Package	Order Code	1+	25+	100+	1K+
18	0.13	a	318-231	0.46	0.41	0.35	0.29

LA Series (Radial Lead Package)

Maximum Ratings (25°C)

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Varistor Voltage @ 1mA dc V min	V nom	V max	Device Marking	Mfrs. List No.	Order Code
130	175	11	1200	184	200	228	1302	V130LA2P	105-7180
130	175	20	2500	184	200	228	1305	V130LA5P	105-7181
130	175	38	4500	184	200	228	130L10	V130LA10AP	105-7183
130	175	70	6500	184	200	228	130L20	V130LA20AP	105-7184
130	175	70	6500	184	200	220	130L20B	V130LA20BP	105-7185
150	200	13	1200	212	240	268	1502	V150LA2P	105-7186
150	200	25	2500	212	240	268	1505	V150LA5P	105-7187
150	200	45	4500	212	240	268	150L10	V150LA10AP	105-7188
150	200	80	6500	212	240	268	150L20	V150LA20AP	105-7189
150	200	80	6500	212	240	243	150L20B	V150LA20BP	105-7190
175	225	55	4500	247	270	303	175L10	V175LA10AP	105-7146
230	300	20	1200	324	360	396	2304	V230LA4P	105-7147
230	300	70	4500	324	360	396	230L20	V230LA20AP	105-7148
250	330	21	1200	354	390	429	2502	V250LA2P	105-7191
250	330	21	1200	354	390	429	2504	V250LA4P	105-7192
250	330	40	2500	354	390	429	250L	V250LA10P	105-7193
250	330	72	4500	354	390	429	250L20	V250LA20AP	105-7195
250	330	130	6500	354	390	429	250L40	V250LA40AP	105-7197



AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Varistor Voltage @ 1mA dc			Device Marking	Mfrs. List No.	Order Code
V	V	(Joules)	(A)	V min	V nom	V max			
250	330	130	6500	354	390	413	250L40B	V250LA40BP	105-7198
275	369	23	1200	389	430	515	275L	V275LA2P	105-7149
275	369	23	1200	389	430	473	275L	V275LA4P	105-7199
275	369	45	2500	389	430	473	275L	V275LA10P	105-7201
275	369	75	4500	389	430	473	275L20	V275LA20AP	105-7202
275	369	140	6500	389	430	473	275L40	V275LA40AP	105-7203
275	369	140	6500	389	430	453	275L40B	V275LA40BP	105-7204
320	420	90	4500	462	510	565	320L20	V320LA20AP	105-7205
320	420	160	6500	462	510	540	320L40	V320LA40BP	105-7150
420	560	45	2500	610	680	748	420L	V420LA10P	105-7206
420	560	90	4500	610	680	748	420L20	V420LA20AP	105-7151
420	560	160	6500	610	680	720	420L40	V420LA40BP	105-7152
480	640	105	4500	670	750	825	480L40	V480LA40AP	105-7207
480	640	180	6500	670	750	790	480L80	V480LA80BP	105-7208
510	675	110	4500	735	820	910	510L40	V510LA40AP	105-7209
575	730	120	4500	805	910	1000	575L40	V575LA40AP	105-7210
575	730	220	6500	805	910	960	575L80	V575LA80BP	105-7213
660	850	140	4500	940	1050	1210	660L50	V660LA50AP	105-7214
1000	1200	360	6500	1425	1600	1600	1000L160	V1000LA160BP	105-7153

Order Multiple=5

AC Voltage	Energy (Joules)	Disc Dia. (mm)	Order Code	Price Each			
V	J	mm		5+	25+	100+	1K+
130	11	7	105-7180	0.260	0.220	0.191	0.148
130	20	10	105-7181	0.162	0.146	0.104	0.089
130	38	14	105-7183	1.080	0.860	0.710	0.550
130	70	20	105-7184	1.300	1.050	0.850	0.670
130	70	20	105-7185	1.470	1.190	0.960	0.750
150	13	7	105-7186	0.240	0.200	0.166	0.131
150	25	10	105-7187	0.800	0.650	0.520	0.410
150	45	14	105-7188	0.600	0.490	0.400	0.310
150	80	20	105-7189	0.910	0.810	0.680	0.620
150	80	20	105-7190	1.460	1.170	0.950	0.750
175	55	14	105-7146	0.750	0.600	0.490	0.390
230	20	7	105-7147	0.270	0.220	0.175	0.137
230	70	14	105-7148	1.080	0.860	0.710	0.550
250	21	7	105-7191	0.420	0.330	0.270	0.210
250	21	7	105-7192	0.320	0.260	0.220	0.168
250	40	10	105-7193	0.600	0.480	0.290	0.250
250	72	14	105-7195	0.600	0.520	0.400	0.340
250	130	20	105-7197	1.040	0.880	0.770	0.690
250	130	20	105-7198	1.090	0.870	0.710	0.560
275	23	7	105-7149	0.270	0.240	0.193	0.156
275	23	7	105-7199	0.270	0.220	0.175	0.137
275	45	10	105-7201	0.400	0.320	0.260	0.200
275	75	14	105-7202	0.630	0.530	0.450	0.350
275	140	20	105-7203	0.970	0.830	0.710	0.590
275	140	20	105-7204	1.010	0.870	0.770	0.590
320	90	14	105-7205	0.530	0.450	0.360	0.290
320	160	20	105-7150	1.330	1.080	0.960	0.770
420	45	10	105-7206	0.530	0.400	0.350	0.290
420	90	14	105-7151	0.570	0.450	0.390	0.310
420	160	20	105-7152	1.250	1.040	0.930	0.750
480	105	14	105-7207	0.660	0.570	0.490	0.430
480	180	20	105-7208	1.410	1.130	0.920	0.720
510	110	14	105-7209	1.130	0.920	0.740	0.580
575	120	14	105-7210	0.490	0.440	0.390	0.350
575	220	20	105-7213	1.640	1.410	1.150	0.940
660	140	14	105-7214	2.120	1.770	1.560	1.210
1000	360	20	105-7153	3.780	3.140	2.760	2.410

ZA Series (Radial Lead Package)

Maximum Ratings (25° C)

Mfrs. List No

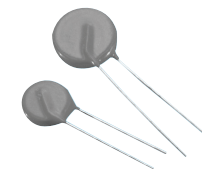
AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Varistor Voltage @ 1mA dc			Device Marking	Mfrs. List No.	Order Code
V	V	(Joules)	(A)	V min	V nom	V max			
4	5.5	0.4	100	6	8.2	11	0821	V82A1P	105-7154
4	5.5	0.8	250	6	8.2	11	0822	V82A2P	105-7155
6	8	1.2	250	9	12	16	1222	V122A2P	105-7156
10	14	0.8	250	14.4	18	21.6	1821	V182A1P	105-7158
10	14	3.5	1000	14.4	18	21.6	1823	V182A3P	105-7159
14	18	0.9	250	18.7	22	26	2221	V222A1P	105-7160
14	18	2	500	18.7	22	26	P2222	V222A2P	175-7259
14	18	4	1000	18.7	22	26	2223	V222A3P	105-7161
14	18	100	2000	19.2	24	26	24250	V242A50P	105-7162
17	22	1	250	23	27	31.1	2721	V272A1P	105-7137
17	22	5	1000	23	27	31.1	2724	V272A4P	105-7163
20	26	1.2	250	29.5	33	36.5	3321	V332A1P	105-7164
20	26	6	1000	29.5	33	36.5	3325	V332A5P	105-7166
21	27	150	2000	29.5	33	36.5	P33270	V332A70P	105-7167
23	31	160	2000	32	40	43	P36280	V362A80P	175-7261
25	31	1.5	250	35	39	43	3921	V392A1P	105-7168
25	31	3	500	35	39	43	P3923	V392A3P	175-7262
25	31	7.2	1000	35	39	43	3926	V392A6P	105-7171
30	38	1.8	250	42	47	52	4721	V472A1P	105-7172
30	38	4.5	500	42	47	52	P4723	V472A3P	175-7263
30	38	8.8	1000	42	47	52	4727	V472A7P	105-7173

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Peak Transient Current (8/20µs) (A)	Varistor Voltage @ 1mA dc			Device Marking	Mfrs. List No.	Order Code
V	V	(Joules)	(A)	V min	V nom	V max			
35	45	2.3	250	50	56	62	5622	V562A2P	105-7174
35	45	10	1000	50	56	62	5628	V562A8P	105-7175
40	56	3	250	61	68	75	6822	V682A2P	105-7178
40	56	13	1000	61	68	75	68210	V682A10P	105-7176
50	66	4	250	74	82	91	8222	V822A2P	105-7177
50	66	15	4500	73	82	91	82212	V822A12P	105-7139
60	81	20	4500	90	100	110	100215	V1002A15P	105-7140
60	81	5	1200	90	100	110	1002	V1002A3P	105-7178
75	102	6	1200	108	120	132	1202	V1202A1P	105-7179
75	102	22	4500	108	120	132	12026	V1202A6P	105-7141
95	127	30	4500	135	150	165	15028	V1502A8P	105-7142
115	153	10	1200	162	180	198	1802	V1802A1P	105-7143
115	153	35	4500	162	180	198	180210	V1802A10P	105-7144
250	330	10	400	351	449	449	PZ390	V390ZA05P	175-7264

Order Multiple=5

AC Voltage	Energy (Joules)	Disc Dia. (mm)	Order Code	Price Each			
V	J	mm		5+	25+	100+	1K+
4	0.4	7	105-7154	0.360	0.290	0.240	0.187
4	0.8	10	105-7155	0.560	0.460	0.400	0.320
6	1.2	10	105-7156	0.600	0.480	0.400	0.320
10	0.8	7	105-7158	0.290	0.260	0.220	0.173
10	3.5	14	105-7159	0.920	0.740	0.590	0.470
14	0.9	7	105-7160	0.149	0.131	0.123	0.112
14	2	10	NEW 175-7259	0.440	0.370	0.310	0.250
14	4	14	105-7161	0.920	0.740	0.590	0.470
14	100	20	105-7162	1.040	0.920	0.810	0.650
17	1	7	105-7137	0.210	0.176	0.143	0.114
17	5	14	105-7163	0.970	0.780	0.630	0.500
20	1.2	7	105-7164	0.270	0.230	0.197	0.152
20	6	14	105-7166	0.490	0.440	0.370	0.340
21	150	20	105-7167	1.040	0.920	0.810	0.650
23	160	20	NEW 175-7261	1.000	0.860	0.710	0.570
25	1.5	7	105-7168	0.290	0.250	0.220	0.185
25	3	10	NEW 175-7262	0.440	0.370	0.310	0.250
25	7.2	14	105-7171	0.630	0.530	0.450	0.390
30	1.8	7	105-7172	0.280	0.230	0.210	0.173
30	4.5	10	NEW 175-7263	0.440	0.370	0.310	0.250
30	8.8	14	105-7173	0.600	0.520	0.430	0.330
35	2.3	7	105-7174	0.280	0.230	0.210	0.173
35	10	14	105-7175	0.830	0.670	0.540	0.430
40	3	7	105-7138	0.280	0.270	0.210	0.173
40	13	14	105-7176	0.720	0.600	0.550	0.400
50	4	7	105-7177	0.250	0.210	0.175	0.137
50	15	14	105-7139	0.790	0.630	0.510	0.410
60	20	14	105-7140	0.530	0.390	0.350	0.290
60	5	7	105-7178	0.300	0.250	0.198	0.156
75	6	7	105-7179	0.270	0.250	0.200	0.181
75	22	14	105-7141	0.820	0.670	0.540	0.420
95	30	14	105-7142	0.650	0.550	0.470	0.360
115	10	7	105-7143	0.290	0.240	0.191	0.150
115	35	14	105-7144	0.720	0.580	0.470	0.370
250	10	5	NEW 175-7264	0.270	0.240	0.198	0.156

UltraMOV Series Metal Oxide Varistor



- High peak surge current rating
- Standard operating voltage range compatible with common AC line voltages
- Characterised for maximum standby current (Leakage)

Surge Protection - Varistors - Littelfuse - continued

TMOV Series

Thermally Protected Varistors



- Low Leakage
- High peak surge current rating up to 10kA
- -55°C to +85°C Operating Temp

Body	Dia	Lead Spacing	Lead Length
TMOV14x	14	7.5	25.4
TMOV20x	20	7.5	25.4

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy 2ms (Joules)	Varistor Voltage @ 1mA (V) min max	Max Clamping Voltage 8 x 20µs (V)	Typ Capacitance f= 1MHz (pF)	Mfrs. List No.	Order Code
275	387	110	387 473	710	450	TMOV14RP275E	181-7007
275	387	190	387 473	710	900	TMOV20RP275E	181-7008

Order Multiple=5

AC Voltage	Energy (Joules)	Order Code	5+	25+	100+	500+
275	110	181-7007	1.49	1.32	1.13	0.94
275	190	181-7008	1.74	1.54	1.31	1.09

Surge Protection - Varistors - Panasonic

Multilayer Varistors

EZJP & EZJZ Series



- Excellent ESD suppression due to advanced material technology
- Ultra low capacitance for signal lines of high speed busses



Operating temperature -40°C to +85°C

Case Size	Capacitance (pF)	Clamping Voltage (V)	Peak Current Max. (A)	Mfrs. List No.	Order Code
0201	100	6.8	5	EZJPZV6R8GA	178-0492
0201	220	6.8	5	EZJPZV6R8JA	178-0493
0201	27	12	1	EZJPZV120DA	178-0494
0201	100	12	5	EZJPZV120GA	178-0495
0201	200	27	1	EZJPZV270RA	178-0496
0402	100	6.8	—	EZJPOV6R8GA	178-0497
0402	27	8	1	EZJPOV080DA	178-0498
0402	100	8	3	EZJPOV080GA	178-0500
0402	330	8	15	EZJPOV080KA	178-0501
0402	680	8	20	EZJPOV080MA	178-0502
0402	220	12	10	EZJZOV120JA	178-0503
0402	20	27	—	EZJPOV270RA	178-0504
0402	47	27	—	EZJPOV270EA	178-0506
0402	56	42	10	EZJZOV420WA	178-0507
0402	27	65	5	EZJZOV650DA	178-0508
0603	330	12	20	EZJZ1V120KA	178-0509
0603	20	27	3	EZJZ1V270RA	178-0510
0603	47	27	20	EZJZ1V270EA	178-0511
0603	68	42	15	EZJZ1V420FA	178-0512
0603	27	65	5	EZJZ1V650DA	178-0513

Price Each

Case Size	Order Code	10+	200+	500+	1K+	15K+
0201	All Values	0.166	0.146	0.126	0.110	0.083
0402	178-0497	0.153	0.133	0.115	0.101	0.077
0402	178-0498	0.153	0.133	0.115	0.101	0.077
0402	178-0500	0.153	0.133	0.115	0.101	0.077
0402	178-0501	0.153	0.133	0.115	0.101	0.077
0402	178-0502	0.153	0.133	0.115	0.101	0.077
0402	178-0503	0.085	0.074	0.063	0.056	0.042
0402	178-0504	0.153	0.133	0.115	0.101	0.077
0402	178-0506	0.153	0.133	0.115	0.101	0.077
0402	178-0507	0.085	0.074	0.063	0.056	0.042
0402	178-0508	0.097	0.084	0.072	0.063	0.048
0603	All Values	0.105	0.090	0.079	0.070	0.052

Multilayer Varistors

EZJZS Series



- 0504 Case Size
- Multilayer varistor of Zinc oxide ceramic, suppresses the pulse noise (ESD, burst-noise) and protects the equipment from the transient surge.
- Suitable for high-speed signal line due to small capacitance.



Operating temperature -40°C to +85°C

Capacitance (pF)	Clamping Voltage (V)	Peak Current Max. (A)	Mfrs. List No.	Order Code
220	12	10	EZJZSV120JA	178-0514
20	27	3	EZJZSV270RA	178-0515
27	27	5	EZJZSV270DAK	178-0516
33	27	5	EZJZSV270PAK	178-0518
39	27	5	EZJZSV270SAK	178-0519
43	27	5	EZJZSV270TAK	178-0520
47	27	10	EZJZSV270EA	178-0521

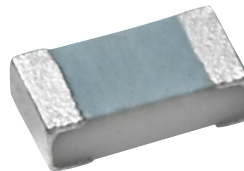
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Price Each

Order Code	5+	25+	100+	500+	4K+
All Values	0.250	0.220	0.187	0.164	0.125

Surge Protection - Varistors - Vishay

Multilayer Varistors



- Surface mount multilayer surge suppressor
- Inherent bidirectional clamping
- Excellent energy/volume ratio
- Suitable for reflow soldering

max Operating Voltage Peak Current Transient Clamp. Voltage Capacitance Mfrs.

AC	DC	8/20 µs (A)	energy (J)	max. (V)	(pF)	List No.	Order Code
0402							
4	5.6	20	0.05	15.5	360	MLV0402E30403T	176-1084
7	9	20	0.05	20	230	MLV0402E30703T	176-1085
11	14	20	0.05	30	120	MLV0402E31103T	176-1086
14	18	20	0.05	40	90	MLV0402E31403T	176-1087
0603							
4	5.6	30	0.1	15.5	825	MLV0603E30403T	176-1088
7	9	30	0.1	20	550	MLV0603E30703T	176-1089
11	14	30	0.1	30	425	MLV0603E31103T	176-1090
14	18	30	0.1	40	225	MLV0603E31403T	176-1091
20	26	30	0.1	58	160	MLV0603E32003T	176-1093
25	30	30	0.1	65	150	MLV0603E32503T	176-1094
0805							
4	5.6	40	0.1	15.5	860	MLV0805E30403T	176-1095
7	9	40	0.1	20	585	MLV0805E30703T	176-1096
11	14	40	0.1	30	280	MLV0805E31103T	176-1097
25	30	30	0.1	65	80	MLV0805E32503T	176-1098

547468

Clamp. Voltage Price Each

max. (V)	Order Code	10+	100+	500+	1K+	10K+
0402						
15.5	SMD 176-1084	0.067	0.057	0.052	0.047	0.031
20	SMD 176-1085	0.067	0.057	0.052	0.047	0.031
30	SMD 176-1086	0.067	0.057	0.052	0.047	0.031
40	SMD 176-1087	0.067	0.057	0.052	0.047	0.031
0603						
15.5	SMD 176-1088	0.088	0.085	0.080	0.071	0.047
20	SMD 176-1089	0.088	0.085	0.080	0.071	0.047
30	SMD 176-1090	0.088	0.085	0.080	0.071	0.047
40	SMD 176-1091	0.088	0.085	0.080	0.071	0.047
58	SMD 176-1093	0.088	0.085	0.080	0.071	0.047
65	SMD 176-1094	0.088	0.085	0.080	0.071	0.047
0805						
15.5	SMD 176-1095	0.165	0.152	0.141	0.127	0.086
20	SMD 176-1096	0.165	0.152	0.141	0.127	0.086
30	SMD 176-1097	0.165	0.152	0.141	0.127	0.086
65	SMD 176-1098	0.165	0.152	0.141	0.127	0.086

2381 59 Series

Voltage Dependent Resistors



- Voltage dependent resistors offering protection against high voltage surges and transients
- Zinc oxide ceramic epoxy coating providing insulation up to 2500V
- UL recognised and VDE approved

Body	H	W	D	595 Series	19	16	7
592 Series	11	7	6	Leads	L	Dia.	Spacing
593 Series	13	9	6	592/593 Series	20	0.6	5
594 Series	14	12.5	7	594/595 Series	16	0.8	7.5

AC Working Voltage (V)	DC Working Voltage (V)	Transient Energy (10/1000µs) (Joules)	Varistor Voltage @ 1mA min max	Max Clamping V @ 100A (*50A) 8/20ms	Mfrs. List No.	Order Code
60	85	2.9	90 110	165	VDRS05C060BSE	118-7044
275	350	12	387 473	710	VDRS05C275BSE	118-7045
130	170	17	185 225	340	VDRS07H130BSE	118-7046
150	200	20	216 264	400	VDRS07H150BSE	118-7047
250	320	33	351 429	650	VDRS07H250BSE	118-7048
275	350	36	387 473	710	VDRS07H275BSE	118-7050
300	385	40	423 517	800	VDRS07H300BSE	118-7051

AC Working Voltage	DC Working Voltage	Transient Energy (10/1000µs)	Varistor Voltage @ 1mA	Max Clamping V @ 100A	Mfrs.	
460	615	63	675 825	1240	VDRS07H460BSE	118-7052
60	85	8.3	90 110	165	VDRS07H060BSE	118-7054
275	350	63	387 473	710	VDRS10P275BSE	118-7055
275	350	104	387 473	710	VDRS14T275BSE	118-7056
460	615	135	675 825	1240	VDRS14T460BSE	118-7057

204226

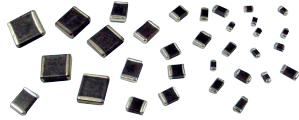
Order Multiple=5

AC Voltage	Energy (Joules)	Order Code	5+	100+	1K+	3K+
60	2.9	118-7044	0.210	0.164	0.134	0.109
275	12	118-7045	0.260	0.198	0.157	0.123
130	17	118-7046	0.270	0.210	0.166	0.131
150	20	118-7047	0.270	0.192	0.155	0.131
250	33	118-7048	0.280	0.210	0.170	0.131
275	36	118-7050	0.320	0.240	0.188	0.118
300	40	118-7051	0.260	0.190	0.151	0.127
460	63	118-7052	0.310	0.240	0.192	0.129
60	8.3	118-7054	0.440	0.310	0.250	0.210
275	63	118-7055	0.430	0.310	0.250	0.199
275	104	118-7056	0.410	0.330	0.260	0.220
460	135	118-7057	0.700	0.530	0.430	0.340

Surge Protection - Varistors - Würth Elektronik

WESURGE Power Varistors

WE-VS Series



- Fast response time
- Low leakage current and clamping voltage
- Wide range of voltages available
- Almost no energy consumption in stand-by mode
- After a surge impulse the varistor works immediately in
- Normal mode so there is no slip current
- Excellent absorption at surge impulses
- Protection of DC distribution, power supplies, bus systems and communication lines
- Limiting of over-voltages, protection of semi-conductors

max Operating Voltage AC	DC	Peak Current 8/20 µs	Transient energy (J)	Clamp.Voltage max. (V)	Capacity (pF)	Mfrs. List No.	Order Code
0402							
7	9	20	0.05	30	120	82537070	163-6430
11	14	20	0.02	30	70	82537110	163-6432
0603							
2.5	3.3	30	0.1	10	180	82536259	163-6433
4	5.5	30	0.1	16	200	82536040	163-6434
7	9	30	0.1	30	200	82536070	163-6435
11	14	30	0.1	30	100	82536110	163-6436
14	18	30	0.1	45	100	82536140	163-6437
0805							
4	5.5	80	0.1	16	1600	82550040	163-6439
6	9	80	0.1	20	1180	82550060	163-6440
25	30	100	0.3	65	310	82550250	163-6445
1206							
4	5.5	100	0.4	16	3600	82531040	163-6446
14	18	100	0.3	40	900	82551140	163-6448
25	30	200	1	72	620	82541250	163-6451
30	38	200	1.1	85	550	82541300	163-6452
1812							
14	18	500	1.7	40	3930	82555140	163-6460
25	30	800	3.7	72	2950	82545250	163-6461
30	38	800	4.2	85	2550	82545300	163-6462
2220							
25	30	1200	9.6	72	8900	82542250	163-6464
30	38	1200	12	85	5700	82542300	163-6465
35	45	1200	12	100	4800	82542350	163-6466

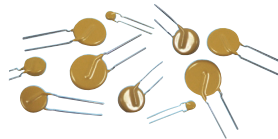
523266

Clamp.Voltage max. (V)	Order Code	1+	10+	50+	100+	250+
0402						
30	SMD 163-6430	0.34	0.31	0.29	0.27	0.26
30	SMD 163-6432	0.34	0.31	0.29	0.27	0.26
0603						
10	SMD 163-6433	0.45	0.43	0.40	0.37	0.35
16	SMD 163-6434	0.45	0.43	0.40	0.37	0.35
30	SMD 163-6435	0.42	0.40	0.37	0.34	0.32
30	SMD 163-6436	0.45	0.43	0.40	0.37	0.35
45	SMD 163-6437	0.45	0.43	0.40	0.37	0.35
0805						
16	SMD 163-6439	0.45	0.43	0.40	0.37	0.35
20	SMD 163-6440	0.45	0.43	0.40	0.37	0.35
65	SMD 163-6445	0.45	0.43	0.40	0.37	0.35

Clamp.Voltage max. (V)	Order Code	1+	10+	50+	100+	250+
1206						
16	SMD 163-6446	0.54	0.51	0.48	0.45	0.42
40	SMD 163-6448	0.51	0.48	0.46	0.43	0.40
72	SMD 163-6451	0.54	0.51	0.48	0.45	0.42
85	SMD 163-6452	0.54	0.51	0.48	0.45	0.42
1812						
40	SMD 163-6460	0.77	0.73	0.69	0.66	0.63
72	SMD 163-6461	0.99	0.91	0.83	0.78	0.73
85	SMD 163-6462	0.99	0.91	0.83	0.78	0.73
2220						
72	SMD 163-6464	1.24	1.16	1.07	1.01	0.95
85	SMD 163-6465	1.24	1.16	1.07	1.01	0.95
100	SMD 163-6466	1.24	1.16	1.07	1.01	0.95

WESURGE Disk Varistors

WE-VD Series



- Fast response time
- Low leakage current
- Low clamping voltage
- Wide range of voltages available
- Almost no energy consumption in stand-by mode
- After a surge impulse the varistor works immediately in
- Normal mode so there is no slip current
- Excellent absorption at surge impulses
- For 12-48 VDC distribution or 110-400 V power supply

Disk (mm)	Operating Voltage max. VTRMS	V _{DC}	R _{DC} max. Clamp.voltage max. (V)	Transient energy (J)	I _{MAX} (A)	Capacity (pF)	Mfrs. List No.	Order Code
5	130	170	355	7.1	400	135	820551311	163-6403
7	25	31	77	2.4	250	1820	820572501	163-6405
7	115	150	300	13	1200	220	820571111	163-6410
10	20	26	65	4.8	1000	4250	820412001	163-6413
10	25	31	77	4.7	500	3660	820512501	163-6414
10	30	38	93	6	500	3140	820513001	163-6415
10	130	170	340	28	2500	410	820511311	163-6416
14	14	18	43	5.4	1000	11960	820541406	163-6417
14	25	31	77	9.4	1000	7620	820542501	163-6419
14	130	170	340	57	4500	840	820541311	163-6422
20	130	170	340	114	6500	1830	820521311	163-6424
20	275	350	710	303	10000	860	820422711	163-6425
20	320	418	842	382	10000	760	820423211	163-6426

523259

Disk (mm)	Order Code	1+	10+	50+	100+	250+
5	163-6403	0.32	0.30	0.28	0.26	0.25
7	163-6405	0.37	0.35	0.32	0.31	0.28
7	163-6410	0.37	0.35	0.32	0.31	0.28
10	163-6413	0.40	0.37	0.35	0.32	0.31
10	163-6414	0.40	0.37	0.35	0.32	0.31
10	163-6415	0.40	0.37	0.35	0.32	0.31
10	163-6416	0.37	0.34	0.32	0.30	0.29
14	163-6417	0.45	0.43	0.41	0.38	0.36
14	163-6419	0.45	0.43	0.41	0.38	0.36
14	163-6422	0.42	0.40	0.38	0.35	0.33
20	163-6424	0.56	0.54	0.51	0.48	0.45
20	163-6425	0.60	0.58	0.55	0.52	0.49
20	163-6426	0.60	0.58	0.55	0.52	0.49

Surge Protection - Modules

Voltage Suppression Units



552-884

Mfrs. List No.	Order Code	1+	5+	10+	25+	50+
VSU2W	118-7709	16.38	15.54	13.18	12.54	11.15
VSU4W	118-7711	23.41	22.07	18.73	17.95	16.16

220471

Over half a million products available online



Surge Protection - Modules - continued

High Performance Modules



- These devices can be incorporated, or mounted close to, individual items of electrical equipment, providing immediate local protection against surges and electrical noise
- Can be used in conjunction with the MA3100 Series to provide IEC Class III protection levels
- Combines high quality filtering with ring suspension
- Added thermal protection

DIN Rail Mounting H=93, W=79, D=25
Filter Can H=40, W=75, D=40
Plastic Enclosure H=28, W=75, D=110

Voltage rating	240V	Operating temp.	-25°C to +65°C
Earth Leakage	<0.3mA	Clamping voltage	<700V
Peak surge current	6,500A	Stop baud attenuation	Exceeds (8/20µs Waveform) 60dB in the range 100kHz to 50MHz

452209

Mfrs	Rating	Order Code	1+	5+	10+	25+	50+
DIN Rail Mounting							
MA10/D/2	10A	772-513	150.57	140.53	131.72	124.03	117.13
MA10/D/2	10A	772-513	150.57	140.53	131.72	124.03	117.13
Metal Filter Can							
MA05/SC/2	5A	453-640	83.52	78.23	73.41	71.11	64.68
MA10/SC/2	10A	772-525	91.87	87.26	82.68	78.07	73.45
Plastic Enclosure							
MA05/V/2	5A	158-082	92.14	86.59	81.06	76.22	71.16

Mains Distribution Protectors



- Use on mains distribution systems to protect equipment from lightning and transient overvoltage
- Simple parallel connection makes protectors suitable for all supply currents
- Very low 'let-through' voltage between all conductors
- 3-way visual indication of protector status
- Remote status indication
- Sovtrip™ multiple thermal disconnect system
- Flashing warning of neutral to earth supply faults

furse



- Maintenance free and long lifetime
- Optional **IP66** (WBX 4) and **IP67** (WBX3) enclosures available
- Fully tested to **BS 6651, IEEE C62.41, AS1768**

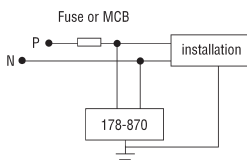
Mfrs. List No.	Working Voltage (rms)	Frequency	Max. Operating Current	Peak 'let-through' Voltage	Peak Discharge Current	Dimensions (mm)	Order Code
ESP240M1.	200-280V	40-60Hz	5A	600V	30kA	180 x 60 x 60	188-621
ESP415M1.	90150V	4060Hz	5A	390V	10kA	180 x 110 x 60	188-633

204055

Mfrs List No.	Order Code	1+	5+	10+
Protectors				
ESP240M1. Single phase	188-621	269.53	264.15	239.60
ESP415M1. Three phase	188-633	539.07	528.30	479.16

Suppression Module

DIN Rail Mounting



H=90, W=35, D=54.5

- Provides over-voltage protection for electronic equipment
- Rapid response time and clear indication of failure (short circuit to earth)
- Rated at 16A when used with suitable MCB
- An amber neon indicates normal supply
- Flame retardant ABS housing conforms to **UL94V-0** and the dimensional requirements of **DIN43880**
- Can either be mounted on symmetric 35mm DIN rail or screw mounted using 2 x M4 screws

Supply Voltage	240V ac @ 50/60 Hz	Operating temperature	-15°C to +55°C
Current rating	16A when used with suitable MCB	Response time	≤25ns
Electrical life	100A for 2ms, 5000A for 8µs		

204243

Mfrs	Order Code	1+	5+	10+
List No.				
M3SPD	960-9946	55.98	47.15	41.41

MOV Suppression Modules

DIN Rail Mounting



- Slimline DIN rail surge suppressors comprising two isolated high energy metal oxide varistors
- Reduces high transient voltage spikes by connecting across the load or the supply

Line frequency Operating temperature DC to 440Hz -25°C to +85°C

H=55, W=78, D=12.5
Terminals=2.5mm

Operating Voltage (Vac)	Maximum Voltage Ratings (Vdc)	Transient Energy (10/100µs) (Joules)	Peak Transient Current (8/20µs) (A)	Mfrs. List No.	Order Code
240	275	369	6500	DVS240	118-7677

220486

Operating Voltage (Vac)	Order Code	1+	10+	25+	50+	100+
DVS240	118-7677	23.68	22.51	21.58	20.83	18.80

SDX Series

DIN Rail Mounting - 7mm Wide



H=102, W=7, D=99

Peak surge current	10kA	Leakage current	5µA
Max line current	400mA	Operating temperature	-30°C to +75°C
In-line resistance	4.2		

452210

Mfrs. List No.	Clamping Voltage	Order Code	1+	5+	10+	25+	50+
SD32X	32V	772-471	94.38	86.41	82.95	80.89	79.52

Surge Protection - Data Line

DP200/BT

Telecom Lightning Protector



- Protects fax, modems, telemetry and other telecoms equipment from lightning surges
- **BABT** certified **OFTEL** approved
- Maintenance free operation
- Resets automatically after surge
- Full 4 wire protection

H=75, W=110, D=28
Fixing centres=90 x 55, 4mm dia
Cable length=0.37m

Surge protection 10000A
In-line resistance 5Ω per line

452213

Mfrs. List No.	Order Code	1+	5+	10+
DP200/BT	304-7714	157.00	144.43	137.23

Telephone Line Protectors



- Use to protect telecom systems and equipment from lightning and transient overvoltage damage
- High performance long lifetime protection
- **ESP TN** for use on single pair telemetry or network lines (Order code: 188-566)
- **ESP TN/JP** offers all the protection of **ESP TN** boxed to **IP66**

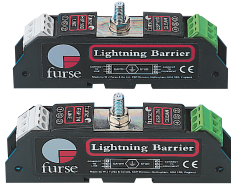
- **ESP TN/JP** is ideal for protecting modems and other equipment with BT jack plug to socket connections (protects all 6 wires)
- Fully tested to **BS 6651** and **OfTel approval NS/G/1235/W/100025**

Max. working voltage	296V	Max. line current	300mA
Peak 'let-through' voltage	200V	Max. surge current	10kA
In-line resistance	4-4Ω	Bandwidth	15MHz

204172

Mfrs. List No.	Dimensions			Order Code	Price Each	
	H	W	D		1+	5+
ESPTN/BX.	58	110	75	188-578	81.56	77.63
ESPTN/JP.	31	132	62	188-580	99.52	94.72
ESPTN.	55	120	19	188-566	51.25	43.57

Data and Signal Line Protectors



- Use on data and signal lines to protect connected equipment from lightning and transient overvoltage damage
- Ultra low in-line resistance and extra high running current with **ESP 06E, ESP 15E, ESP 30E** and **ESP 50E** versions
- DIN rail or flat base/side mounting
- Simultaneous mounting and earthing kits for up to 4 or 8 protectors

H=55, W=120, D=19

- Colour coded terminals for quick and easy installation check
- **IP66** enclosure available for up to 4 protectors (plus mounting kit)
- Fully tested to **BS 6651** and Ofel approval **NS/G/1235/W/100025**

Mfrs. List No.	Max Voltage	In-line Resistance	Max Line Current	Peak let-through voltage	Max Surge Current	Bandwidth	Order Code
ESP06DFN.	7.79V	9.4Ω	300mA	10.5V	10kA	800kHz	188-487
ESP15DFN.	19V	9.4Ω	300mA	23.8V	10kA	2.5MHz	188-499
ESP30DFN.	37.1V	9.4Ω	300mA	43.4V	10kA	4MHz	188-505
ESP30EFN.	36.7V	1Ω	1.25A	44.3V	10kA	>10MHz	188-542

Mfrs. List No.	Protectors	Order Code	Price Each	
			1+	5+
ESP06DFN.	188-487		64.98	61.85
ESP15DFN.	188-499		64.98	61.85
ESP30DFN.	188-505		64.98	61.85
ESP30EFN.	188-542		62.88	59.88

SAPN Line Transient Barriers



- Protects electronic equipment and systems against surges on signal and I/O cabling
- Multistage hybrid protection circuitry - 10 kA peak current capability
- Easily installed
- Where the barrier is to protect a telephone line, the SAPN should be used
- DIN rail mounting kits are available for 2 barriers

175-016 mounted on 175-017
Barrier: L = 140, W = 24, H = 25, excluding M5 x 10 stud
175-017: L = 125, W = 32, H = 19, excl. earth stud

Peak surge current 10kA
In-line resistance SA - 43Ω
Maximum line current PC - 1Ω
SA - 500mA

Clamping		Price Each				
Type	Voltage	Order Code	1+	5+	10+	25+
SAPN	200V	175-016	104.77	99.55	92.25	83.23
Din Rail Kit	2 way	175-017	24.75	24.39	23.81	21.23

MSAPN Weatherproof Line Transient Barriers



- The MSAPN barrier uses the proven circuitry of the standard SAPN barrier within an **IP65** sealed enclosure to provide an economical weatherproof PSTN protector complete with external M5 earth bolt and cable glands.
- Fully auto resetting - maintenance free

L = 120 (165 incl. glands), W = 80, H = 55

Clamping		Price Each			
Type	Voltage	Order Code	1+	5+	10+
MSAPN	200V	262-638	133.48	119.77	102.29

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CCTV Systems Protector



H=54, W=19, D=120

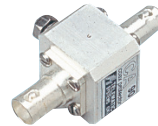
Max. working voltage 6.45V
Peak 'let-through' voltage 17V
In-line resistance 1Ω
Max. line current 300mA
Max. surge current 10kA

- Use to protect CCTV cameras and systems from lightning and transient overvoltage on coaxial CCTV cables
- Provides repeated and impairment free protection and suitable for both earthed/isolated screen systems (188-621) or ESP 415 M1 (188-633)
- Protect external cameras in conjunction with a protector for twisted pair lines (e.g. ESP 15D) for telemetry input and low current protector (e.g. ESP 240-5A) for the mains input
- DIN rail or flat base/side mounting
- Fully tested to **BS 6651**

Mfrs. List No.	Order Code	Price Each	
		1+	5+
ESP CCTV/B.	188-591	80.17	76.36

Surge Protection - Antennae Protection

CA90/B/50 Antennae Protection



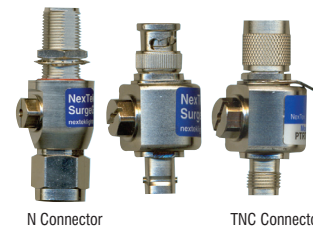
L=60, W=25, H=25 (excluding mounting bracket)

Clamping voltage 90V
Characteristic impedance 50Ω
Surge rating 10kA (8/20μs)
Max. transmitter power 60W
Bandwidth 1GHz
VSWR <1.2
Insertion loss <0.3dB
Mfrs. List No. CA90/B

- High current devices for the protection of radio transmitters and receivers connected to coaxial feeders
- High energy coax arrester with a very high bandwidth and low voltage standing wave ratio (VSWR)
- Protects vulnerable equipment without effecting normal operation
- The unit with BNC connectors is easily mounted and precision engineered from nickel plated aluminium to resist corrosion even in severe conditions
- It will protect receivers or transmitters from lightning, NEMP (Nuclear Electro-Magnetic Pulse) and other surges picked up by aerial installations
- Built to satisfy both **JIS** and **MIL standards**

Order Code	Price Each				
	1+	5+	10+	25+	50+
178-738	90.48	85.71	81.42	76.98	72.95

PTR Series Gas Discharge Tube Lightning Arrestors 0 (DC) - 2.5GHz



- Choice of N or TNC connections
- VSWR: 1.2 Typical
- Insertion Loss: 0.2 Typical
- IP68 Protection

Operating temperature 40 to 90°C
Protection voltage 90V
Let through voltage 600V
RF Power 37W
Impedance 50ohm

Connector Type	Through Current (A)	Surge Protection (kA)	Length	Dia.	Mfrs. List No.	Order Code
N	10	50	71.3	26	PTRONMONF09S	130-5448
TNC	7.5	40	56	25.9	PTRTNTMTNF09S	130-5450

Order Code		Price Each			
		1+	3+	5+	10+
130-5448		92.09	85.01	80.37	73.69
130-5450		94.61	87.34	82.58	75.71

PTC-F01 - 75Ω CATV F Connector Lightning Arrestor



- 0 (DC) - 1 GHz
- VSWR: 1.2 Typical
- Insertion Loss: 0.15 Typical
- Surge Protection: 20kA
- IP67 Sealed

Order Code		Price Each			
		1+	3+	5+	10+
130-5452		26.79	24.73	23.39	21.45



Ferrite Transformers - Epcos

Material Selection Guide

Ferrite Material	Material Characteristics
3H3	<ul style="list-style-type: none"> Low Losses Defined temperature factor to compensate drift of capacitor Very stable with time
3S4/4C65	<ul style="list-style-type: none"> High impedance in covered frequency range
3E25/3E5/3E6	<ul style="list-style-type: none"> High permeability
3C90	<ul style="list-style-type: none"> High saturation level
3C90/3F3/3F4	<ul style="list-style-type: none"> Low power losses High saturation

Ferrite Material	Main Application Areas
3H3/3E5/3E6	Telecom filters, signal transformers, pulse transformers,
3E25	delay lines
3C90/3F3/3F4	Power conversion, general purpose transformers
3S4/4C65	Suppression
3R1	Magnetic regulators

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RM Cores and Accessories

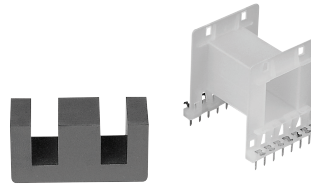


Transformer Half Core	Material Grade	AL (nH) +30% -20%	Mftrs. List No.	Order Code
RM6	N87	2400	B65807JR87	142-2717
RM8	N87	3300	B65811JR87	142-2720
RM10	N87	4200	B65813JR87	142-2723
RM12	N87	5300	B65815E0000R087	178-1855
RM12	N97	5300	B65815E0000R097	178-1857
Gapped RM12	N87	± 3%	B65815E0160A087	178-1858
RM12	N87	160	B65815E0250A087	178-1859
RM12	N87	250	B65815E0250A087	178-1859
RM12	N87	± 5%	B65887E0400A087	178-1860
RM12	N87	1000	B65887E1000J087	178-1861
Half Core RM14	N87	+30% -20%	B65887E0000R087	178-1864
Half Core RM14	N97	+30% -20%	B65887E0000R097	178-1865
Gapped RM14	N87	± 3%	B65887E0160A087	178-1866
RM14	N87	160	B65887E0250A087	178-1867
RM14	N87	250	B65887E0250A087	178-1867
RM14	N87	630	B65887E0630A087	178-1869

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RM6	Order Code	1+	250+	500+	1K+
Half core	N87 142-2717	1.090	1.020	0.990	0.800
Price Each					
Coilformer One section 6 pin	142-2718	1.130	1.080	1.050	1.010
Steel clip	142-2719	0.135	0.123	0.111	0.101
Price Per Pair					
Half core	N87 142-2720	1.790	1.640	1.560	1.550
Price Each					
Coilformer One section 12 pin	142-2721	1.120	1.090	1.050	1.020
Steel clip	142-2722	0.168	0.157	0.145	0.134
Price Per Pair					
Half core	N87 142-2723	3.510	3.180	2.950	2.770
Price Each					
Coilformer One section 12 pin	142-2724	1.450	1.400	1.350	1.310
Steel clip	142-2725	0.190	0.179	0.167	0.156
Price Per Pair					
Half core	N87 NEW 178-1855	2.590	2.330	2.070	1.660
Half core	N97 NEW 178-1857	3.300	2.970	2.640	2.110
Gapped	N87 NEW 178-1858	2.730	2.450	2.170	1.740
Gapped	N87 NEW 178-1859	2.730	2.450	2.170	1.740
Gapped	N87 NEW 178-1860	2.730	2.450	2.170	1.740
Gapped	N87 NEW 178-1861	2.730	2.450	2.170	1.740
Price Each					
Coilformer One section 12 pin	NEW 178-1862	1.130	1.020	0.910	0.730
Steel clip	NEW 178-1863	0.250	0.220	0.197	0.158
Price Per Pair					
Half core	N87 NEW 178-1864	5.020	4.510	4.010	3.210
Half core	N97 NEW 178-1865	6.390	5.750	5.110	4.090
Gapped	N87 NEW 178-1866	5.270	4.740	4.210	3.370
Gapped	N87 NEW 178-1867	5.270	4.740	4.210	3.370
Gapped	N87 NEW 178-1869	5.270	4.740	4.210	3.370
Price Each					
Coilformer One section 12 pin	NEW 178-1871	1.070	0.960	0.850	0.690
Steel clip	NEW 178-1872	0.410	0.360	0.320	0.260

E Cores and Accessories



	H	W	D
E42	33	42.5	43
E55	46	56	57

- An assembly set consists of two half cores and a coil former
- Suitable for large power capacity power supplies
- High saturation flux density and low power loss
- N27 material recommended for power applications up to 100kHz
- N67 material recommended for power applications from 100kHz to 300kHz

Transformer Half Core	Material Grade	AL +30% -20%	Mftrs. List No.	Order Code	Coilformer Mftrs. List No.	Order Code
E42	N27	3500	B66325GX127	119-0595	E42 B66242J1000R1	119-0598
E42	N87	3800	B66325GX187	119-0596	E55 B66252BM1	119-0599
E55	N27	5800	B66335GX127	119-0597		

AL=Inductance Factor (nH)=L/N²

Note: The most favoured method of fixing the half cores together is adhesive bonding. Suitable adhesive Order Code 318-036

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Order Code	Price Each					
	1+	50+	250+	500+	1K+	
E42						
Half core N27	119-0595	1.67	1.60	1.48	1.36	1.15
Half core N87	119-0596	1.36	1.23	1.10	1.04	0.97
Coilformer single section 10 pin	119-0598	2.43	2.19	1.90	1.76	1.66
E55						
Half core N27	119-0597	3.18	3.02	2.79	2.53	2.22
Coilformer single section 14 pin	119-0599	3.57	3.40	3.11	2.84	2.49

ER Cores and Accessories



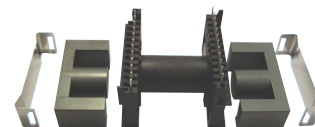
	H	W	D
ER9.5	2.5	9.5	5
ER11	2.5	11	6

Transformer Half Core	Material Grade	AL +30% -20%	Mftrs. List No.	Order Code	Coilformer Mftrs. List No.	Order Code
ER9.5	N97	840	B65523JR97	142-2738	ER9.5 B65527B1008T1	142-2739
ER11	N97	1200	B65525JR97	142-2742	ER11 B65526B1010T1	142-2743

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Order Code	Price Each				
	1+	250+	500+	1K+	
ER9.5					
Half core N97	142-2738	0.510	0.500	0.470	0.450
Coilformer One section 10 pin	142-2739	0.560	0.540	0.520	0.510
Steel clip	142-2740	0.470	0.450	0.430	0.400
ER11					
Half core N97	142-2742	0.560	0.530	0.510	0.500
Coilformer One section 10 pin	142-2743	0.950	0.920	0.880	0.850
Steel clip	142-2744	0.081	0.078	0.077	0.075

ETD Cores and Accessories



	H	W	D		H	W	D		H	W	D		H	W	D
ETD29	16	30.6	9.8	ETD39	20	38.9	12.8	ETD54	27.8	54.5	19.3	ETD59	31.2	59.8	22.1
Transformer Half Core	Material Grade	AL +30% -20%	Mftrs. List No.	Order Code	Coilformer Mftrs. List No.	Order Code									
ETD29	N97	2250	B66358GX197	142-2745	ETD29 B66359W1013T1	142-2746									
ETD34	N87	2600	B66361G0000X187	178-1878	ETD34 B66359X1014T001	178-1877									
ETD39	N97	2800	B66363GX197	142-2748	ETD39 B66364W1016T1	142-2749									
ETD54	N97	4600	B66395GX197	142-2751	ETD54 B66396W1022T1	142-2752									
ETD59	N97	5500	B66397GX197	142-2755	ETD59 B66398W1024T1	142-2756									

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Over half a million products available online



		Price Each				
		Order Code	1+	250+	500+	1K+
ETD29						
Half core	N97	142-2745	0.510	0.490	0.470	0.460
Half core	N87	NEW 178-1873	0.520	0.470	0.420	0.330
Half core - Gapped	N87	NEW 178-1874	0.550	0.490	0.440	0.350
Half core - Gapped	N87	NEW 178-1875	0.550	0.490	0.440	0.350
Half core - Gapped	N87	NEW 178-1876	0.550	0.490	0.440	0.350
Coilformer	One section 14 pin	NEW 178-1877	1.010	0.920	0.810	0.650
Coilformer	One section 13 pin	142-2746	0.850	0.820	0.790	0.770
Steel clip		142-2747	0.300	0.290	0.280	0.270
ETD34						
Half core	N87	NEW 178-1878	0.630	0.570	0.510	0.410
Half core - Gapped	N87	NEW 178-1879	0.670	0.590	0.530	0.430
Half core - Gapped	N87	NEW 178-1880	0.670	0.590	0.530	0.430
Half core - Gapped	N87	NEW 178-1882	0.670	0.590	0.530	0.430
Coilformer	One section 14 pin	NEW 178-1883	1.220	1.090	0.980	0.780
Steel clip		NEW 178-1884	0.250	0.220	0.199	0.159
ETD39						
Half core	N97	142-2748	1.130	1.110	1.070	1.040
Coilformer	One section 16 pin	142-2749	1.180	1.140	1.100	1.070
Steel clip		142-2750	2.350	2.280	2.190	2.130
ETD54						
Half core	N97	142-2751	2.880	2.800	2.680	2.600
Coilformer	One section 22 pin	142-2752	1.500	1.440	1.380	1.340
Steel clip		142-2754	0.610	0.590	0.570	0.550
ETD59						
Half core	N97	142-2755	3.850	3.720	3.590	3.460
Coilformer	One section 24 pin	142-2756	1.730	1.610	1.560	1.510
Steel clip		142-2757	0.830	0.810	0.790	0.760

EF Cores and Accessories

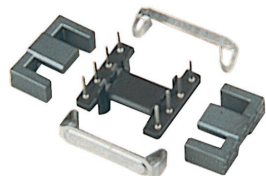


Transformer	Material	AL	Grade	+30% -20%	Mfrs. List No.	Order Code	Coilformer	Mfrs. List No.	Order Code
EF20	N87	1470	B66311GX187	142-2758	EF20	B66206A1110T1	142-2759		
EF25	N87	1850	B66317GX187	142-2761	EF25	B66208A1110T1	142-2762		
E30	N87	1900	B66319GX187	142-2764	E30	B66232A1114T1	142-2766		

		Price Each				
		Order Code	1+	250+	500+	1K+
EF20						
Half core	N87	142-2758	0.220	0.200	0.189	0.178
Coilformer	One section 10 pin	142-2759	1.090	1.060	1.020	0.990
Steel clip		142-2760	0.370	0.350	0.340	0.330
EF25						
Half core	N87	142-2761	0.300	0.290	0.280	0.270
Coilformer	One section 10 pin	142-2762	0.830	0.810	0.780	0.760
Steel clip		142-2763	0.260	0.250	0.230	0.220
E30						
Half core	N87	142-2764	0.360	0.350	0.340	0.330
Coilformer	One section 14 pin	142-2766	1.370	1.330	1.270	1.230
Steel clip		142-2767	0.250	0.240	0.230	0.210

EFD Cores and Accessories

Material Grade N87



Assembly set dimensions			
	H (above PCB)	W	D
EFD15	8	17	19.3
EFD20	10	22	24.3
EFD25	12.5	27.3	29.3
EFD30	12.5	32.5	

A range of EFD cores and accessories having a flattened and lowered centre limb, suitable for low profile transformer designs within switch mode power supplies and dc to dc converters.

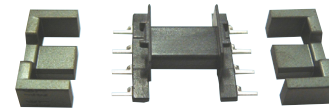
An assembly set consists of two half cores, a single section bobbin and two retaining clips.

Mfrs. List Nos	Order Code	Mfrs. List Nos	Order Code	Mfrs. List Nos	Order Code
B66413GX187	119-0582	B66418W1008D001	119-0586	B66422W1010D001	119-0589
B66414W1008D1	119-0583	B66418B2000X000	119-0587	B66422B2000X000	119-0590
B66414B2000	119-0584	B66421G0000X187	119-0588	B66423GX187	119-0591
B66417G0000X187	119-0585	B66421U0160K187	178-1887	B66424W1012D1	119-0592
B66417U0100K187	178-1885	B66421U0250K187	178-1888	B66424B2000	119-0594
B66417U0160K187	178-1886	B66421U0315K187	178-1889		

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		Price Each				
		Order Code	1+	250+	500+	1K+
EFD15						
Half core		119-0582	1.180	1.120	1.040	0.950
Bobbin, 8pin		119-0583	1.980	1.890	1.750	1.570
Retaining clip		119-0584	0.290	0.280	0.260	0.240
EFD20						
Half core		119-0585	0.580	0.520	0.500	0.490
Half core Gapped		NEW 178-1885	0.310	0.280	0.250	0.198
Half core Gapped		NEW 178-1886	0.310	0.280	0.250	0.198
Bobbin, 8pin		119-0586	0.760	0.700	0.630	0.600
Retaining clip		119-0587	0.290	0.280	0.260	0.240
EFD25						
Half core		119-0588	1.070	0.990	0.870	0.830
Half core Gapped		NEW 178-1887	0.350	0.310	0.280	0.230
Half core Gapped		NEW 178-1888	0.350	0.310	0.280	0.230
Half core Gapped		NEW 178-1889	0.350	0.310	0.280	0.230
Bobbin, 10pin		119-0589	0.970	0.880	0.780	0.750
Retaining clip		119-0590	0.187	0.167	0.150	0.148
EFD30						
Half core		119-0591	1.090	0.990	0.870	0.830
Bobbin, 12pin		119-0592	1.040	0.930	0.820	0.790
Retaining clip		119-0594	0.290	0.280	0.260	0.240

EFD Cores and Accessories



	H	W	D
EFD15	7.5	15	4.65
EFD20	10	20	6.65
EFD25	12.5	25	9.1
EFD30	15	30	9.1

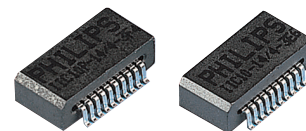
Transformer	Material	AL	Grade	+30% -20%	Mfrs. List No.	Order Code
Half Core	N97	820	B66413GX197			142-2726
EFD20	N97	1250	B66417G0000X197			142-2729
EFD25	N97	2100	B66421G0000X197			142-2731
EFD30	N97	2150	B66423GX197			142-2732
Coilformer						
EFD15			B66414B6008T1			142-2727
EFD20			B66418W1008D001			119-0586
EFD25			B66422W1010D001			119-0589
EFD30			B66424W1012D1			119-0592

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		Price Each				
		Order Code	1+	250+	500+	1K+
EFD15						
Half core	N97	142-2726	1.180	1.120	1.040	0.950
Coilformer	One section 8 pin	142-2727	1.500	1.440	1.320	1.190
Retaining clip		119-0584	0.290	0.280	0.260	0.240
EFD20						
Half core	N97	142-2729	0.590	0.560	0.520	0.480
Coilformer	One section 8 pin	119-0586	0.760	0.700	0.630	0.600
Retaining clip		119-0587	0.290	0.280	0.260	0.240
EFD25						
Half core	N97	142-2731	1.180	1.120	1.040	0.950
Coilformer	One section 10 pin	119-0589	0.970	0.880	0.780	0.750
Retaining clip		119-0590	0.187	0.167	0.150	0.148
EFD30						
Half core	N97	142-2732	1.180	1.120	1.040	0.950
Coilformer	One section 12 pin	119-0592	1.040	0.930	0.820	0.790
Retaining clip		119-0594	0.290	0.280	0.260	0.240

Ferrite Transformers - Ferroxcube

Integrated Inductive Components - IIC FERROXCUBE



- Surface mount component comparable in size to standard integrated circuits
- Windings are completed by PCB tracks
- Wide range of magnetic functions can be realised with the same product, depending on layout
- Available with or without airgap

Applications for IIC without Airgap include:
Power transformer
Signal transformer
Common-mode choke

Applications for IIC with Airgap include:
Power inductors
Output Choke
EMI-choke with bias

Operating temperature:	-55°C to +150°C	Reel quantity:	1000 pieces
Mfrs. List No.	Order Code	Mfrs. List No.	Order Code
IIC10-14/4-3F4-Z	305-6776	IIC10P-14/4-3F4-Z	305-6764
IIC10-14/4-3S4	305-6788		

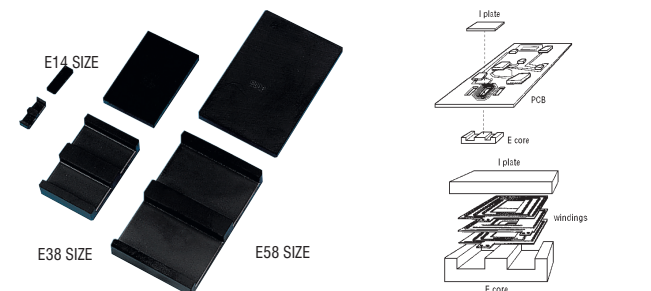


Ferrite Transformers - Ferroxcube - continued

Integrated Inductive Components - IIC - continued

With		Material	Price Each					
Partial Airgap	Grade	Order Code	1+	10+	30+	100+	300+	1K+
IIC10P-14/4	3F4	305-6764	3.79	3.38	2.96	2.61	2.37	2.14
Without Airgap								
IIC10-14/4	3S4	305-6788	3.55	3.11	2.78	2.61	2.19	2.11

Planar Cores



- A range of low profile ferrite E cores which can be used in 2 ways:
 - The integrated method uses windings which are etched into a multi-layer PCB i.e. the coils are an integral part of the PCB
 - The stand alone method uses coils etched onto mono layer PCB's which are then stacked between the planar cores
- Transformer and choke designs with power throughput from 10 to 1500 Watts achievable
- E cores can be glued to their mating parts, or sizes E14, E18 and E22 can be clipped together using spring clips
- Planar advantages include: very low profile, less skin effect with flat conductors, good coupling of stacked coils, no bobbin necessary, no winding labour costs, no winding errors and excellent repeatability
- Mfrs. List No. gives EW/H/D-material for E cores and PLTW/D/H-material for I plates



Mfrs. List No.	Order Code	1+	30+	100+	300+	500+	1K+
E14 Core Size							
E Core E14/3.5/5/R-3F3	926-462	1.260	0.950	0.860	0.690	0.630	0.590
I Plate PLT14/5/1.5/S-3F3	926-474	1.200	0.910	0.770	0.650	0.590	0.550
E Core E14/3.5/5/R-3C90	305-5966	0.240	0.210	0.186	0.180	0.168	0.143
I Plate PLT14/5/1.5/S-3C90	305-5978	0.630	0.590	0.540	0.490	0.470	0.410
E Core E14/3.5/5/R-3F4	305-5980	0.480	0.390	0.350	0.310	0.300	0.290
I Plate PLT14/5/1.5/S-3F4	305-5991	1.100	1.030	0.930	0.820	0.730	0.620
Clip CLM-E14/PLT14	926-486	0.540	0.440	0.330	0.280	0.260	0.250
E18 Core Size							
E Core E18/4/10/R-3F3	926-498	1.590	1.190	1.060	0.890	0.810	0.740
I Plate PLT18/10/2/S-3F3	926-504	1.510	1.090	0.970	0.820	0.730	0.690
E Core E18/4/10/R-3C90	305-6004	1.520	1.230	1.090	1.010	0.960	0.820
I Plate PLT18/10/2/S-3C90	305-6016	1.220	1.140	1.010	0.910	0.820	0.680
E Core E18/4/10/R-3F4	305-6028	0.530	0.510	0.500	0.480	0.470	0.460
I Plate PLT18/10/2/S-3F4	305-6030	0.400	0.350	0.300	0.270	0.250	0.230
Clip CLM-E18/PLT18	926-516	0.540	0.440	0.330	0.280	0.260	0.250
E22 Core Size							
E Core E22/6/16/R-3F3	926-528	2.020	1.470	1.290	1.080	0.990	0.930
I Plate PLT22/16/2.5/S-3F3	926-530	1.850	1.380	1.230	1.030	0.950	0.890
E Core E22/6/16/R-3C90	305-6041	1.820	1.510	1.330	1.200	1.180	0.990
I Plate PLT22/16/2.5/S-3C90	305-6053	1.580	1.460	1.270	1.130	1.030	0.870
E Core E22/6/16/R-3F4	305-6065	2.170	1.750	1.580	1.460	1.380	1.140
I Plate PLT22/16/2.5/S-3F4	305-6077	1.880	1.730	1.540	1.360	1.230	1.010
Clip CLM-E22/PLT22	926-541	0.540	0.440	0.330	0.280	0.260	0.250
E32 Core Size							
E Core E32/6/20-3F3	926-577	1.130	1.030	0.920	0.870	0.830	0.780
I Plate PLT32/20/3.2-3F3	926-589	1.040	0.950	0.850	0.780	0.740	0.700
E Core E32/6/20-3C90	305-6089	1.690	1.380	1.230	1.120	1.050	0.920
I Plate PLT32/20/3.2-3C90	305-6090	2.280	2.100	1.810	1.600	1.490	1.200
E Core E32/6/20-3F4	305-6107	1.560	1.280	1.140	1.030	0.980	0.840
I Plate PLT32/20/3.2-3F4	305-6119	2.690	2.470	2.150	1.880	1.700	1.410

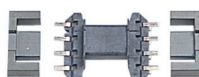


Mfrs. List No.	Order Code	1+	30+	100+	300+	500+	1K+
E38 Core Size							
E Core E38/8/25-3F3	926-619	3.910	2.930	2.650	2.360	2.190	2.090
I Plate PLT38/25/3.8-3F3	926-620	1.420	1.080	0.960	0.850	0.780	0.720
E Core E38/8/25-3C90	305-6144	1.880	1.540	1.370	1.250	1.210	1.000
I Plate PLT38/25/3.8-3C90	305-6156	0.830	0.760	0.670	0.580	0.550	0.540
E Core E38/8/25-3F4	305-6120	2.790	2.280	2.020	1.820	1.750	1.500
I Plate PLT38/25/3.8-3F4	305-6132	3.140	2.870	2.510	2.180	2.000	1.610
E43 Core Size							
E Core E43/10/28-3F3	926-656	5.330	4.010	3.630	3.090	2.880	2.780
I Plate PLT43/28/4.1-3F3	926-668	1.810	1.360	1.220	1.020	0.960	0.920
E Core E43/10/28-3C90	305-6168	2.920	2.380	2.140	1.950	1.820	1.560
E58 Core Size							
E Core E58/11/38-3F3	926-693	8.650	6.550	5.830	5.190	4.750	4.460
I Plate PLT58/38/4-3F3	926-700	7.530	5.690	5.080	4.510	4.180	3.920
E64 Core Size							
E Core E64/10/50/50-3C90	305-6247	9.900	8.100	7.220	6.530	6.260	5.300
I Plate PLT64/50/5.1-3C90	305-6259	5.610	5.420	5.190	4.840	4.520	3.970
I Plate	305-6296	3.190	3.100	3.020	2.930	2.860	2.790

EFD Cores and Accessories, Surface Mount



Material Grade 3F3, 3F4 and 3C90



A range of cores and bobbins offering a combination of very low build height and high throughput power densities. Applications include dc-dc converters, switch mode power supplies and other power conversion circuits. 3F3 is a material for designs up to 1MHz 3F4 is recommended for designs up to 3MHz, such as resonant converters. 3C90 is recommended for designs up to 200kHz, such as general purpose transformers.

	EFD10			EFD15		
	H	W	D	H	W	D
Half core	2.7	10.5	5.2	4.65	15	7.5
Bobbin	5.4	11.7	14.7	7.5	16.7	

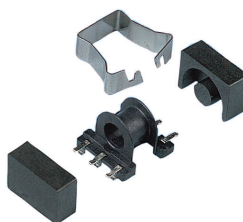
Note: The most favoured method of fixing the half cores together is by adhesive bonding.

Mfrs. List Nos	Order Code	Mfrs. List Nos	Order Code	Mfrs. List Nos	Order Code
EFD10-3F3-S	482-602	CLM-EFD10	310-2427	EFD12-3C90-S	310-2397
EFD10-3F4-S	482-614	EFD12-3F3-S	482-638	CLM-EFD12	310-2439
CPHS-EFD10/3-1S-8P	482-626				

An assembly set is a full core, bobbin and one clamp

Core Grade	Order Code	1+	30+	300+	1K+
EFD10					
Full core 3F3	SMD482-602	3.270	2.330	1.750	1.450
Full core 3F4	SMD482-614	6.520	4.730	3.530	2.790
Bobbin, 8 pin	SMD482-626	1.280	0.910	0.680	0.540
Steel Clamp	SMD310-2427	0.890	0.460	0.210	0.160
EFD12					
Full core 3F3	SMD482-638	2.730	1.970	1.500	1.180
Full core 3C90	SMD310-2397	1.550	0.740	0.480	0.390
Steel Clamp	SMD310-2439	0.240	0.125	0.057	0.055

EP Cores and Accessories



- Suitable for wideband transformer applications
- High pcb packing densities
- Design provides excellent magnetic shielding from adjacent cores

	H	W	D
EP7	6.5	7.5	6.5
EP10	7.6	11.5	10.2
EP13	9	12.8	13

3 Mfrs. List Nos	Order Code	3 Mfrs. List Nos	Order Code
EP7-3C90	305-6727	CSH-EP10-1S-8P	307-2551
EP7-3E6	305-6739	CLI-EP10	307-2563
EP7-3F3	305-6740	EP13-3C90	305-6697
CSH-EP7-1S-6P-B	116-2321	EP13-3E6	305-6703
CLI-EP7	307-2605	EP13-3F3	305-6715
EP10-3E6	305-6673	CSH-EP13-1S-10P	307-2575
EP10-3F3	305-6685	CLI-EP13	307-2587

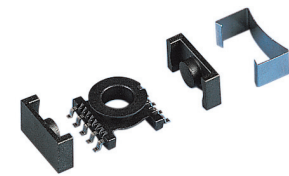
An assembly set consists of a full core, bobbin and one clip.

Material	Grade	Order Code	1+	10+	30+	100+	300+	1K+
EP7								
Full Core	3C90	305-6727	1.580	1.410	1.280	1.150	1.030	0.930
Full Core	3E6	305-6739	1.030	1.000	0.960	0.950	0.880	0.810
Full Core	3F3	305-6740	0.720	0.680	0.640	0.620	0.550	0.530
Bobbin	Single Section							
	6 pin	116-2321	0.270	0.220	0.190	0.186	0.181	0.177
Clip		307-2605	0.220	0.190	0.155	0.140	0.097	0.080

Material		Order Code	Price Each					
EP7	Grade		1+	10+	30+	100+	300+	1K+
EP10								
Full Core	3E6	305-6673	0.810	0.740	0.660	0.630	0.610	0.600
Full Core	3F3	305-6685	1.980	1.770	1.590	1.310	1.080	1.040
Bobbin	Single Section 8 pin	307-2551	0.270	0.220	0.182	0.178	0.173	0.169
Clip		307-2563	0.157	0.124	0.104	0.086	0.072	0.067
EP13								
Full Core	3C90	305-6697	1.820	1.670	1.540	1.270	1.060	1.000
Full Core	3E6	305-6703	0.710	0.640	0.590	0.560	0.530	0.500
Full Core	3F3	305-6715	1.420	1.340	1.250	1.070	0.960	0.910
Bobbin	Single Section	307-2575	1.060	0.830	0.670	0.560	0.470	0.360
Clip		307-2587	0.300	0.240	0.210	0.173	0.138	0.112

Dimensions			Order Code	Price Each				
ETD29	W	L		D	1+	30+	300+	1K+
ETD49								
Half core	49	25	16	305-6417	2.840	2.240	2.020	1.690
Bobbin	One section 20 pin			305-6338	2.910	2.680	2.630	2.420
Steel clip				105-778	0.690	0.410	0.260	0.220
ETD54								
Half core	54	28	19	305-6429	2.910	2.800	2.550	2.440
Bobbin	One section 22 pin			137-029	7.330	5.730	4.970	3.590
Steel clip				137-030	0.710	0.550	0.490	0.360
ETD59								
Half core	59	31	22	305-6430	4.610	4.300	4.190	3.870
Bobbin	One section 24 pin			137-054	7.600	5.960	5.170	3.720
Steel clip				137-066	1.310	1.080	0.950	0.670

ER Cores and Accessories



- Suitable for power and signal transformers
- Design provides low copper losses
- Surface mount bobbins



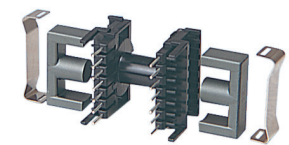
	Per Half Core			Bobbin		
	H	W	D	H	W	D
ER9.5	2.45	9.5	5.0	4.4	11.7	8.6
ER11	2.45	11.0	4.4	12.35	10.6	

Mfrs. List No.	Order Code	Mfrs. List No.	Order Code
ER9.5-3E5-S	305-7033	ER11-3E5-S	305-7057
ER9.5-3F3-S	305-7045	ER11-3F3-S	305-7069
CPVS-ER9.5-1S-8P	116-2322	CPVS-ER11-1S-10P	116-2323
CLM-ER9.5	307-2629	CLM-ER11	307-2642

223852

Material		Order Code	Price Each					
ER9.5	Grade		1+	10+	30+	100+	300+	1K+
Full Core	3E5	SMD 305-7033	2.060	1.950	1.730	1.580	1.410	1.140
Full Core	3F3	SMD 305-7045	1.780	1.700	1.600	1.540	1.400	1.290
Bobbin Single Section								
	8 pin	SMD 116-2322	0.620	0.540	0.510	0.440	0.380	0.300
Clamp		SMD 307-2629	0.390	0.350	0.310	0.270	0.192	0.128
ER11								
Full Core	3E5	SMD 305-7057	1.580	1.560	1.480	1.370	1.310	1.190
Full Core	3F3	305-7069	0.650	0.630	0.620	0.600	0.560	0.550
Bobbin Single Section								
	10 pin	SMD 116-2323	0.380	0.340	0.330	0.310	0.300	0.290
Clamp		SMD 307-2642	0.560	0.490	0.430	0.360	0.300	0.240

Ferroxcube ETD Cores and Accessories



A range of ungapped E cores suitable for power application where a high operating flux density and low total core-loss is required. 3C90 is a low loss, medium frequency ferrite for applications up to 200kHz, such as switched mode power supplies and inverters. Two cores, one bobbin and two stainless steel clips are required to make up a transformer.

Note: New design of bobbin has square pins instead of round and is 2-3mm lower in height but functionally is identical

Mfrs. List Nos	Order Code	Mfrs. List Nos	Order Code	Mfrs. List Nos	Order Code
ETD29/16/10-3C90	305-6375	CPH-ETD39-1S-16P	305-6314	CLI-ETD49	105-778
CPH-ETD29-1S-13P	178-506	CLI-ETD39	105-772	ETD54/28/19-3C90	305-6429
CLI-ETD29	178-507	ETD44/22/15-3C90	305-6405	CPH-ETD54-1S-22P	137-029
ETD34/17/11-3C90	305-6387	CPH-ETD44-1S-18P	305-6326	CLI-ETD54	137-030
CPH-ETD34-1S-14P	305-6302	CLI-ETD44	105-775	ETD59/31/22-3C90	305-6430
CLI-ETD34	105-769	ETD49/25/16-3C90	305-6417	CPH-ETD59-1S-24P	137-054
ETD39/20/13-3C90	305-6399	CPH-ETD49-1S-20P	305-6338	CLI-ETD59	137-066

223879

Dimensions			Order Code	Price Each				
ETD29	W	L		D	1+	30+	300+	1K+
Half core	29	16	10	305-6375	1.580	1.080	0.870	0.720
Bobbin	One section 13 pin			178-506	1.810	1.270	0.960	0.740
Steel clip				178-507	0.320	0.210	0.181	0.141
ETD34								
Half core	35	17	11	305-6387	1.670	1.150	0.930	0.760
Bobbin	One section 14 pin			305-6302	2.340	1.980	1.770	1.580
Steel clip				105-769	0.500	0.270	0.181	0.156
ETD39								
Half core	39	20	12	305-6399	1.960	1.630	1.400	1.150
Bobbin	One section 16 pin			305-6314	2.500	2.020	1.720	1.540
Steel clip				105-772	0.550	0.320	0.200	0.170
ETD44								
Half core	44	22	15	305-6405	3.050	2.360	2.080	1.640
Bobbin	One section 18 pin			305-6326	2.740	2.360	2.180	1.740
Steel clip				105-775	0.700	0.350	0.230	0.186

Without Centre Hole



Transformer	Material	Grade	AL±25% @ 4kHz @ 0.1mT	Mfrs. List No.	Order Code
Full-Core	RM4/I	3E5	—	RM4/I-3E5	136-920
	RM5/I	3E5	—	RM5/I-3E5	136-943
	RM5/I	3C90	—	RM5/I-3C90	305-6910
	RM6-SI	3H3	—	RM6S/I-3H3	305-6879
	RM6-SI	3E5	—	RM6S/I-3E5	305-6818
	RM6-SI	3C90	—	RM6S/I-3C90	305-6820
	RM7/I	3C90	—	RM7/I-3C90	312-3431
	RM8/I	3C90	—	RM8/I-3C90	305-6831
	RM8/I	3H3	—	RM8/I-3H3	305-6880
	RM10/I	3E5	—	RM10/I-3E5	305-6909
	RM10/I	3C90	—	RM10/I-3C90	305-6843
	RM12/I	3C90	—	RM12/I-3C90	305-6855
	RM14/I	3C90	—	RM14/I-3C90	305-6867

AL=Inductance Factor (nH) = L / N²

223880

Transformer	Full-Core	Order Code	Price Each			
			1+	30+	300+	1K+
RM4/I	136-920	2.20	1.88	1.69	1.30	
RM5/I	136-943	2.52	2.05	1.75	1.27	
RM5/I	305-6910	1.09	0.86	0.68	0.58	
RM6-SI	305-6879	2.09	1.61	1.36	1.15	
RM6-SI	305-6818	0.96	0.86	0.85	0.83	
RM6-SI	305-6820	1.97	1.52	1.29	1.15	
RM7/I	312-3431	2.50	2.24	1.91	1.67	
RM8/I	305-6831	2.75	2.18	1.86	1.55	
RM8/I	305-6880	3.05	2.57	2.15	2.00	
RM10/I	305-6909	5.42	4.98	4.33	3.95	
RM10/I	305-6843	3.38	3.02	2.69	2.36	
RM12/I	305-6855	4.87	4.47	3.98	3.72	
RM14/I	305-6867	5.37	5.08	4.73	4.64	

Accessories for RM Transformer



Mfrs. List No.	Order Code	Mfrs. List No.	Order Code	Mfrs. List No.	Order Code
CPVS-RM4-1S-6P	136-967	CSV-RM7/I-2S-8P	200-736	CSV-RM10-2S-8P	178-921
CLI-RM4/5/I	137-005	CSV-RM8-1S-4P	178-916	CLI/P-RM10/I	443-773
CSV-RM5-1S-6P-G	136-980	CSV-RM8-1S-8P/L	178-917	CPV-RM12/I-1S-12PD	178-513
CLI-RM4/5/I	137-005	CLI/P-RM8/I	443-750	CLI/P-RM12/I	433-135
CLI/P-RM6/I	136-815	CSV-RM10-1S-5P	178-919	CSV-RM14-1S-12P	200-657
CSV-RM6S-1S-6P-G	312-3443	CSV-RM10-1S-8P	178-920	CLI/P-RM14/I	291-432

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Core		Order Code	Price Each			
Size	Description		1+	30+	300+	1K+
RM4	One section 6 pin bobbin	136-967	0.340	0.300	0.290	0.280
	Retaining clip RM4/5	137-005	0.063	0.047	0.041	0.030
RM5	One section 6 pin bobbin	136-980	1.370	1.080	0.930	0.680
	Retaining clip RM4/5	137-005	0.063	0.047	0.041	0.030
RM6-R	Retaining clip + earth tag	136-815	0.144	0.079	0.050	0.043
RM-S	One section 6 pin bobbin	312-3443	0.720	0.600	0.540	0.510
RM7	One section 8 pin bobbin	200-736	0.530	0.440	0.430	0.420
RM8	One section 4 pin bobbin	178-916	0.860	0.600	0.450	0.440
	One section 8 pin bobbin	178-917	1.560	1.080	0.820	0.670
	Retaining clip + earth tag	443-750	0.260	0.136	0.090	0.073
RM10	One section 5 pin bobbin	178-919	1.790	1.260	0.950	0.760
	One section 8 pin bobbin	178-920	1.790	1.260	0.950	0.740
	Two section 8 pin bobbin	178-921	0.660	0.490	0.400	0.390
	Retaining clip + earth tag	443-773	0.330	0.178	0.106	0.095
RM12	One section 12 pin bobbin	178-513	3.830	2.680	2.020	1.600
	Retaining clip + earth tag	433-135	0.310	0.167	0.106	0.090
RM14	One section 12 pin bobbin	200-657	3.980	2.790	2.090	1.670
	Retaining clip + earth tag	291-432	0.500	0.270	0.181	0.156

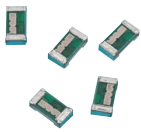
◆Note:- Retaining clip + earth tag is common to RM6-R and RM6-S transformers

Over half a million products available online

Inductors - SMD Chip - Multicomp

Thin Film Inductors

0402 & 0603 Case Sizes



	H	W	D
0402	0.32	1	0.5 mm
0603	0.45	1.6	0.8 mm

- Thin film technology surface mount RF inductors
- 0402 and 0603 case sizes
- Photolithographic single layer ceramic chip
- High SRF, excellent Q, superior temperature stability
- Tight tolerance of $\pm 1\%$ or $\pm 0.1\text{nH}$
- Stable inductance in high frequency circuit
- Highly stable design for critical needs

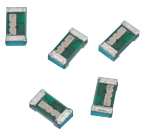


Inductance (nH)	Tolerance	Q Min.	Resonant Freq. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0402 Case Size							
1	$\pm 0.1\text{nH}$	13	12	0.15	700	MCFT000000	171-1705
1.5	$\pm 0.1\text{nH}$	13	10	0.25	700	MCFT000001	171-1706
2.2	$\pm 0.1\text{nH}$	13	8	0.35	440	MCFT000002	171-1707
3.3	$\pm 0.1\text{nH}$	13	6	0.45	380	MCFT000003	171-1708
4.7	$\pm 0.1\text{nH}$	13	6	0.65	320	MCFT000004	171-1709
6.8	$\pm 0.1\text{nH}$	13	6	1.05	260	MCFT000005	171-1710
8.2	$\pm 0.1\text{nH}$	13	5.5	1.25	220	MCFT000006	171-1711
10	$\pm 1\%$	13	4.5	1.35	200	MCFT000007	171-1712
15	$\pm 1\%$	13	3.3	1.75	130	MCFT000008	171-1713
22	$\pm 1\%$	13	2.8	2.65	90	MCFT000009	171-1715
0603 Case Size							
1	$\pm 0.1\text{nH}$	15	13	0.35	800	MCFT000011	171-1717
1.5	$\pm 0.1\text{nH}$	15	10	0.35	800	MCFT000012	171-1718
2.2	$\pm 0.1\text{nH}$	15	8	0.35	300	MCFT000013	171-1719
3.3	$\pm 0.1\text{nH}$	15	6	0.45	300	MCFT000014	171-1720
4.7	$\pm 0.1\text{nH}$	15	5	0.55	300	MCFT000015	171-1721
6.8	$\pm 0.1\text{nH}$	15	5	0.75	300	MCFT000016	171-1722
10	$\pm 1\%$	15	4	0.95	300	MCFT000017	171-1723
15	$\pm 1\%$	15	3	1.35	300	MCFT000018	171-1724
22	$\pm 1\%$	15	2	1.95	250	MCFT000019	171-1725
33	$\pm 1\%$	15	1.5	2.75	250	MCFT000020	171-1727
47	$\pm 1\%$	15	1.5	3	200	MCFT000021	171-1728
68	$\pm 1\%$	15	1	5	150	MCFT000022	171-1729

Case Size	Order Code	10+	50+	100+	500+
0402	All Values RL	0.083	0.071	0.057	0.046
0603	All Values RL	0.114	0.104	0.089	0.078

Multilayer Ceramic Inductors

0402 & 0603 Case Sizes



	H	W	D
0402	0.5	1	0.5 mm
0603	0.8	1.6	0.8 mm

- A ceramic material construction for high frequency application up to 10GHz
- Tight inductance tolerance and excellent Q value
- Available in three compact sizes of 0402, 0603, 0805



Inductance (nH)	Tolerance	Q Typ.	Resonant Freq. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0402 Case Size							
1	$\pm 0.3\text{nH}$	33	10	0.12	300	MCFT000024	171-1731
1.5	$\pm 0.3\text{nH}$	29	6	0.13	300	MCFT000025	171-1732
2.2	$\pm 0.3\text{nH}$	26	6	0.16	300	MCFT000026	171-1733
3.3	$\pm 0.3\text{nH}$	28	6	0.19	300	MCFT000027	171-1734
4.7	$\pm 0.3\text{nH}$	28	4	0.24	300	MCFT000028	171-1735
6.8	$\pm 5\%$	26	3.9	0.32	300	MCFT000029	171-1736
10	$\pm 5\%$	25	3.2	0.42	300	MCFT000030	171-1737
15	$\pm 5\%$	24	2.3	0.55	300	MCFT000031	171-1739
22	$\pm 5\%$	24	1.6	0.8	300	MCFT000032	171-1741
33	$\pm 5\%$	23	1.2	1	200	MCFT000033	171-1742
47	$\pm 5\%$	21	0.9	1.3	150	MCFT000034	171-1743
68	$\pm 5\%$	19	0.75	2.2	100	MCFT000035	171-1744
100	$\pm 5\%$	18	0.6	2.5	100	MCFT000036	171-1745
0603 Case Size							
1	$\pm 0.3\text{nH}$	36	6	0.1	500	MCFT000037	171-1746
1.5	$\pm 0.3\text{nH}$	34	6	0.1	500	MCFT000038	171-1747
2.2	$\pm 0.3\text{nH}$	38	6	0.1	500	MCFT000039	171-1748
3.3	$\pm 0.3\text{nH}$	40	6	0.13	500	MCFT000040	171-1749
4.7	$\pm 0.3\text{nH}$	37	4	0.2	500	MCFT000041	171-1750
6.8	$\pm 5\%$	37	3.75	0.25	500	MCFT000042	171-1752
10	$\pm 5\%$	37	3	0.3	300	MCFT000043	171-1753
15	$\pm 5\%$	38	2.3	0.4	300	MCFT000044	171-1754
22	$\pm 5\%$	40	1.6	0.5	300	MCFT000045	171-1755
33	$\pm 5\%$	40	1.2	0.6	300	MCFT000046	171-1756
47	$\pm 5\%$	36	0.9	0.7	300	MCFT000047	171-1757
68	$\pm 5\%$	35	0.7	0.85	300	MCFT000048	171-1758
100	$\pm 5\%$	28	0.6	1.2	300	MCFT000049	171-1759

Order Multiple=50

Case Size	Order Code	50+	100+	500+	2K+
0402	All Values RL	0.031	0.023	0.018	0.016
0603	All Values RL	0.032	0.024	0.019	0.017

Wound Ferrite Chip

0805, 1008, 1210 & 1812 Case Sizes

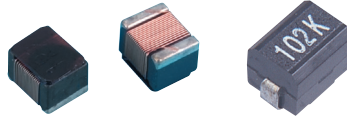


Fig. 1

Fig. 2

	H	W	D
0805 (Fig. 1)	1.45	2.29	1.71 mm
1008 (Fig. 1)	2.1	2.92	2.79 mm
1210 (Fig. 2)	2.5	3.5	2.8 mm
1812 (Fig. 2)	3.5	4.8	3.5 mm

- Very strong solderability by flow soldering, soldering iron or wave soldering.
- Terminals are highly resistant to pull forces.
- Highly resistant to mechanical shocks and pressure.
- Highly reliable in environments of sudden temperature change and humidity. Super Q characteristics.

Inductance (μH)	Tolerance	Q min.	Resonant Freq. (MHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0805 Case Size							
0.15	$\pm 5\%$	20	900	0.18	1100	MCFT000152	171-1874
0.22	$\pm 5\%$	20	550	0.25	700	MCFT000153	171-1875
0.33	$\pm 5\%$	20	550	0.35	650	MCFT000154	171-1876
0.47	$\pm 5\%$	20	350	0.45	600	MCFT000155	171-1877
0.68	$\pm 5\%$	20	300	0.6	500	MCFT000156	171-1879
1	$\pm 5\%$	15	280	0.8	450	MCFT000157	171-1881
1.5	$\pm 5\%$	15	250	1.05	350	MCFT000158	171-1882
2.2	$\pm 5\%$	15	110	1.1	320	MCFT000159	171-1883
3.3	$\pm 5\%$	15	60	1.5	300	MCFT000160	171-1884
4.7	$\pm 5\%$	15	45	2.1	200	MCFT000161	171-1885
6.8	$\pm 5\%$	15	36	2.7	200	MCFT000162	171-1886
10	$\pm 5\%$	10	30	4.5	180	MCFT000163	171-1887
1008 Case Size							
0.15	$\pm 5\%$	30	800	0.15	1200	MCFT000164	171-1888
0.22	$\pm 5\%$	30	600	0.25	1200	MCFT000165	171-1889
0.33	$\pm 5\%$	30	400	0.2	1100	MCFT000166	171-1890
0.47	$\pm 5\%$	30	350	0.45	900	MCFT000167	171-1892
0.68	$\pm 5\%$	30	300	0.4	800	MCFT000168	171-1893
1	$\pm 5\%$	25	245	0.5	600	MCFT000169	171-1894
1.5	$\pm 5\%$	25	182	0.65	550	MCFT000170	171-1895
2.2	$\pm 5\%$	25	105	0.95	500	MCFT000171	171-1896
3.3	$\pm 5\%$	25	55	1.15	350	MCFT000172	171-1897
4.7	$\pm 5\%$	25	43	1.28	300	MCFT000173	171-1898
6.8	$\pm 5\%$	25	39	1.6	300	MCFT000174	171-1899
10	$\pm 5\%$	20	33	2.3	250	MCFT000175	171-1900
15	$\pm 5\%$	20	24	2.7	200	MCFT000176	171-1901
22	$\pm 5\%$	20	18	3.3	180	MCFT000177	171-1902
33	$\pm 5\%$	20	16	4	120	MCFT000178	171-1903
47	$\pm 5\%$	18	14	5.9	110	MCFT000179	171-1904
68	$\pm 5\%$	18	12	9.5	90	MCFT000180	171-1905
100	$\pm 5\%$	12	8	11	120	MCFT000181	171-1906
1210 Case Size							
1	$\pm 10\%$	30	120	0.7	400	MCFT000182	171-1907
1.5	$\pm 10\%$	30	85	0.85	370	MCFT000183	171-1909
2.2	$\pm 10\%$	30	75	1	320	MCFT000184	171-1911
3.3	$\pm 10\%$	30	60	1.2	260	MCFT000185	171-1912
4.7	$\pm 10\%$	30	50	1.5	220	MCFT000186	171-1913
6.8	$\pm 10\%$	30	40	1.8	180	MCFT000187	171-1914
10	$\pm 10\%$	30	30	2.1	150	MCFT000188	171-1915
15	$\pm 10\%$	30	20	2.8	130	MCFT000189	171-1916
22	$\pm 10\%$	30	20	3.7	110	MCFT000190	171-1917
33	$\pm 10\%$	30	17	5.6	70	MCFT000191	171-1918
47	$\pm 10\%$	30	15	7	60	MCFT000192	171-1919
68	$\pm 10\%$	30	12	9	50	MCFT000193	171-1920
100	$\pm 10\%$	20	10	10	40	MCFT000194	171-1922
150	$\pm 10\%$	20	8	15	65	MCFT000195	171-1923
220	$\pm 10\%$	20	7	21	50	MCFT000196	171-1924
1812 Case Size							
1	$\pm 10\%$	50	100	0.5	450	MCFT000197	171-1925
1.5	$\pm 10\%$	50	70	0.6	410	MCFT000198	171-1926
2.2	$\pm 10\%$	50	55	0.7	380	MCFT000199	171-1927
3.3	$\pm 10\%$	50	45	0.8	355	MCFT000200	171-1928
4.7	$\pm 10\%$	50	35	1	315	MCFT000201	171-1929
6.8	$\pm 10\%$	50	27	1.2	285	MCFT000202	171-1930
10	$\pm 10\%$	50	20	1.6	250	MCFT000203	171-1931
15	$\pm 10\%$	50	17	2.5	200	MCFT000204	171-1932
22	$\pm 10\%$	50	13	3.2	180	MCFT000205	171-1934
33	$\pm 10\%$	50	11	4	160	MCFT000206	171-1935
47	$\pm 10\%$	50	10	5	140	MCFT000207	171-1936
68	$\pm 10\%$	50	9	6	130	MCFT000208	171-1937
100	$\pm 10\%$	40	8	8	110	MCFT000209	171-1938
150	$\pm 10\%$	40	5	9	105	MCFT000210	171-1939
220	$\pm 10\%$	40	4	10	100	MCFT000211	171-1940
330	$\pm 10\%$	30	3.5	15	85	MCFT000212	171-1941
470	$\pm 10\%$	30	3	26	62	MCFT000213	171-1942
680	$\pm 10\%$	30	3	30	50	MCFT000214	171-1943

Order Multiple=10

Case Size

Wire Wound Chip

0402, 0603, 0805 & 1206 Case Sizes



	H	W	D
0402	0.61	1.27	0.76 mm
0603	1.02	1.8	1.12 mm
0805	1.52	2.29	1.73 mm
0805 Low Profile	1.03	2.29	1.73 mm
1206	1.52	3.56	2.16 mm



- Wire wound ceramic construction provide high SRF
- Ultra-compact inductors provide exceptional Q values
- Low profile, high current are available
- Miniature SMD chip inductor for fully automated assembly
- Tighter tolerance down to ±2%

Inductance (nH)	Tolerance	Q min.	Resonant Freq. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0402 Case Size							
1	± 10%	16	12.7	0.045	1360	MCFT000063	171-1774
2.2	± 0.3nH	19	10.8	0.07	960	MCFT000064	171-1776
3.3	± 0.3nH	19	7	0.066	840	MCFT000065	171-1777
4.7	± 0.3nH	18	4.7	0.13	640	MCFT000066	171-1778
6.8	± 5%	20	4.8	0.083	680	MCFT000067	171-1779
10	± 5%	21	3.9	0.195	480	MCFT000068	171-1780
12	± 5%	24	3.6	0.12	640	MCFT000069	171-1781
15	± 5%	24	3.28	0.172	560	MCFT000070	171-1782
18	± 5%	25	3.1	0.23	420	MCFT000071	171-1783
22	± 5%	25	2.8	0.3	400	MCFT000072	171-1784
27	± 5%	24	2.48	0.3	400	MCFT000073	171-1785
33	± 5%	24	2.35	0.35	400	MCFT000074	171-1786
39	± 5%	25	2.1	0.55	200	MCFT000075	171-1788
47	± 5%	25	2.1	0.83	150	MCFT000076	171-1789
56	± 5%	25	1.76	0.97	100	MCFT000077	171-1790
68	± 5%	22	1.62	1.12	100	MCFT000078	171-1791

Inductance (nH)	Tolerance	Q min.	Resonant Freq. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0603 Case Size							
2.2	± 5%	15	6	0.1	700	MCFT000079	171-1792
3.3	± 5%	22	6	0.08	700	MCFT000080	171-1793
4.7	± 5%	25	5.8	0.12	700	MCFT000081	171-1794
6.8	± 5%	27	5.8	0.11	700	MCFT000082	171-1795
10	± 5%	31	4.8	0.13	700	MCFT000083	171-1796
12	± 5%	35	4	0.13	700	MCFT000084	171-1797
15	± 5%	35	4	0.17	700	MCFT000085	171-1798
18	± 5%	35	3.1	0.17	700	MCFT000086	171-1800
22	± 5%	38	3	0.19	700	MCFT000087	171-1801
27	± 5%	40	2.8	0.22	600	MCFT000088	171-1802
33	± 5%	40	2.3	0.22	600	MCFT000089	171-1803
39	± 5%	40	2.2	0.25	600	MCFT000090	171-1804
47	± 5%	38	2	0.28	600	MCFT000091	171-1806
56	± 5%	38	1.9	0.31	600	MCFT000092	171-1807
68	± 5%	37	1.7	0.34	600	MCFT000093	171-1808
82	± 5%	34	1.7	0.54	400	MCFT000094	171-1809
100	± 5%	34	1.4	0.58	400	MCFT000095	171-1810
120	± 5%	32	1.3	0.65	300	MCFT000096	171-1811
150	± 5%	28	1.3	0.95	280	MCFT000097	171-1812
180	± 5%	25	1.25	1.4	250	MCFT000098	171-1813
220	± 5%	25	1.2	1.6	250	MCFT000099	171-1814
270	± 5%	25	0.9	2.1	200	MCFT000100	171-1815
330	± 5%	25	0.9	3.8	100	MCFT000101	171-1816
390	± 5%	25	0.9	4.35	100	MCFT000102	171-1818
470	± 5%	23	0.6	3.6	80	MCFT000103	171-1819

Inductance (nH)	Tolerance	Q min.	Resonant Freq. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0805 Case Size							
10	± 5%	60	4.2	0.1	600	MCFT000104	171-1820
12	± 5%	50	4	0.15	600	MCFT000105	171-1821
15	± 5%	50	3.4	0.17	600	MCFT000106	171-1822
18	± 5%	50	3.3	0.2	600	MCFT000107	171-1823
22	± 5%	55	2.6	0.22	500	MCFT000108	171-1824
27	± 5%	55	2.5	0.25	500	MCFT000109	171-1825
33	± 5%	60	2.05	0.27	500	MCFT000110	171-1826
39	± 5%	60	2	0.29	500	MCFT000111	171-1827
47	± 5%	60	1.65	0.31	500	MCFT000112	171-1828
56	± 5%	60	1.55	0.34	500	MCFT000113	171-1831
68	± 5%	60	1.45	0.38	500	MCFT000114	171-1832
82	± 5%	65	1.3	0.42	400	MCFT000115	171-1833
100	± 5%	65	1.2	0.46	400	MCFT000116	171-1834
120	± 5%	50	1.1	0.51	400	MCFT000117	171-1835
150	± 5%	50	0.92	0.56	400	MCFT000118	171-1836
180	± 5%	50	0.87	0.64	400	MCFT000119	171-1837
220	± 5%	50	0.86	0.66	400	MCFT000120	171-1838
270	± 5%	48	0.65	1	350	MCFT000121	171-1839
330	± 5%	48	0.6	1.4	310	MCFT000122	171-1840
390	± 5%	48	0.56	1.5	290	MCFT000123	171-1841
470	± 5%	33	0.375	1.7	250	MCFT000124	171-1843
560	± 5%	23	0.34	1.9	230	MCFT000125	171-1844
680	± 5%	23	0.2	2.2	190	MCFT000126	171-1845
820	± 5%	23	0.2	2.35	180	MCFT000127	171-1846
1000	± 5%	20	0.1	2.5	170	MCFT000128	171-1847
1500	± 5%	16	0.1	2.5	170	MCFT000129	171-1848
2200	± 5%	16	0.06	2.7	160	MCFT000130	171-1849
3300	± 5%	15	0.04	4.4	90	MCFT000131	171-1850
4700	± 5%	15	0.04	6.4	90	MCFT000132	171-1851

Inductance (nH)	Tolerance	Q min.	Resonant Freq. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0805 Case Size (Low Profile)							
10	± 5%	55	3.3	0.08	800	MCFT000133	171-1852
15	± 5%	50	2.95	0.1	800	MCFT000134	171-1853
22	± 5%	50	2.9	0.15	800	MCFT000135	171-1855
33	± 5%	50	2.35	0.28	600	MCFT000136	171-1856
47	± 5%	50	2	0.39	600	MCFT000137	171-1857
68	± 5%	50	1.5	0.4	500	MCFT000138	171-1858
100	± 5%	50	1.2	0.64	400	MCFT000139	171-1859

Inductance (nH)	Tolerance	Q min.	Resonant Freq. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
1206 Case Size							
10	± 5%	40	4	0.08	1000	MCFT000140	171-1860
15	± 5%	40	3.2	0.1	1000	MCFT000141	171-1861
22	± 5%	50	2.2	0.1	1000	MCFT000142	171-1862
33	± 5%	55	1.8	0.11	1000	MCFT000143	171-1863

Inductance (nH)	Tolerance	Q min.	Resonant Freq. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
1206 Case Size							
47	± 5%	55	1.5	0.13	1000	MCFT000144	171-1864
68	± 5%	55	1.2	0.26	950	MCFT000145	171-1865
150	± 5%	60	0.95	0.31	750	MCFT000146	171-1867
220	± 5%	55	0.76	0.5	670	MCFT000147	171-1868
330	± 5%	45	0.65	0.62	590	MCFT000148	171-1869
470	± 5%	45	0.55	1.3	490	MCFT000149	171-1870
680	± 5%	45	0.45	1.58	430	MCFT000150	171-1871
1000	± 5%	45	0.4	2.8	320	MCFT000151	171-1872

Case Size	Order Code	Price Each			
		10+	50+	100+	500+
0402	All Values	0.240	0.185	0.147	0.123
0603	All Values	0.156	0.123	0.095	0.079
0805	All Values	0.156	0.123	0.095	0.079
0805 (Low Profile)	All Values	0.240	0.181	0.139	0.118
1206	All Values	0.300	0.230	0.175	0.147

Inductors - SMD Chip - Epcos

SIMID 0603 Series

0603 Case Size

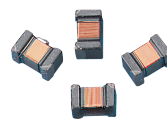


- Ceramic cored SMD inductors in 0603 size case
- Same frequency of measure for L and Q values
- Suitable for IR, vapour phase and wave soldering
- Tolerance ±0.3nH up to 3.3nH and 5% above
- Climatic category 40/085/56
- Supplied on 8mm embossed tape

nH	Max. (Ω)	Current (mA)	(min)	Frequency (MHz)	Frequency (MHz)	Order Code
SIMID 0603C Series 0603 Case Size						
1.2	0.06	1800	7	100	6000	387-6949
1.5	0.07	1500	8	100	6000	387-6950
1.8	0.08	1500	8	100	6000	387-6962
3.3	0.12	1200	9	100	5500	387-6986
4.7	0.17	800	9	100	4800	387-6998
5.6	0.18	700	9	100	4600	387-7000
6.8	0.2	700	9	100	3550	387-7012
10	0.32	600	10	100	2800	387-7024
15	0.41	420	10	100	2500	387-7036
22	0.5	380	10	100	2000	387-7048
47	0.95	270	11	100	1800	387-7061
100	1.8	200	12	100	1300	387-7085
150	4.5	130	5	25.2	1100	387-7097
180	6.5	120	4	25.2	1000	387-7103
220	7.5	110	4	25.2	900	387-7115

Order Code	Price Each					
	5+	100+	250+	500+	1K+	
SIMID 0603C Series	All Values	0.101	0.071	0.064	0.057	0.050

SIMID 0805B Series



- Ceramic or ferrite cored inductors in 0805 package
- L and Q values measured at one frequency (f/Q/L)
- Suitable for IR, vapour phase and wave soldering
- Supplied on 8mm embossed tape

LN	Rmax	Current	f/Q/L	Frequency	Q	Order Code
SIMID 0805B Series						
nH	Ω	mA	MHz	MHz		
2.7	0.03	1000	250	6000	20	400-0341
6.8	0.05	800	250	5500	30	400-0353
8.2	0.06	700	250	5000	35	400-0365
10	0.06	700	250	4500	40	400-0377
12	0.06	700	250	4000	40	400-0389
15	0.07	670	250	3500	45	400-0390
18	0.07	670	250	3300	45	400-0407
22	0.09	600	250	2600	45	400-0419
33	0.12	520	250	2150	45	400-0420
39	0.1	560	250	2050	50	400-0432
47	0.13	500	200	1900	45	400-0444
68	0.19	410	200	1550	45	400-0456
82	0.21	390	150	1430	40	400-0468
100	0.26	350	150	1310	40	400-0470
120	0.44	270	150	1210	40	400-0481



Inductors - SMD Chip - Epcos - continued

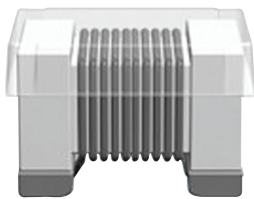
SIMID 0805B Series - continued

LN	Rmax	Current	fQ/FL	Frequency			
1800	0.85	190	7.96	250	20	400-0602	
2200	1.7	130	7.96	200	20	400-0614	
3300	3.3	100	7.96	200	20	400-0626	
3900	3.6	95	7.96	150	20	400-0638	
4700	3.8	90	7.96	150	20	400-0640	

204166

		Price Each				
		5+	10+	100+	250+	500+
SIMID 0805B Series	All Values ● RL	0.74	0.52	0.39	0.35	0.32

SIMID 0805F Series



- Ceramic or ferrite cored inductors in 0805 package
- L and Q values measured at one frequency (fQ/FL)
- Suitable for IR, vapour phase and wave soldering
- Supplied on 8mm embossed tape

Tolerance ±10%
Climatic category 55/125/56
H=1.6 W=2.2 D=1.4

LN	Rmax	Current	fQ/FL	Frequency	Mftrs.	Q	List No.	Order Code
22	0.08	700	250	500	60	60	B82498F3220J	880-8120
33	0.11	600	250	500	65	65	B82498F3330J	880-8139
47	0.13	600	200	500	65	65	B82498F3470J	880-8147
100	0.28	450	150	500	55	55	B82498F3101J	880-8163
330	1.5	220	100	250	45	45	B82498F3331J	880-8180
470	1.9	190	50	100	30	30	B82498F3471J	880-8198
1000	0.5	250	7.96	7.96	15	15	B82498F1102J	880-8210
4700	3.8	90	7.96	7.96	15	15	B82498F1472J	880-8244

386500

		Price Each				
		5+	50+	100+	500+	1K+
SIMID 0805-F Series	All Values ● RL	0.300	0.230	0.198	0.175	0.161

RL FREE Re-reeling service. Only buy what you need and improve assembly efficiency. For more information visit www.farnell.com

SIMID 1008, 1812, 1210 & 2220 Series



SIMID 1008 case size H=1.6, W=2.5, D=2
SIMID 1812 case size H=3.2, W=4.5, D=3.2
SIMID 2220 case size H=5, W=5.6, D=5
SIMID 1210A case size H=1.9, W=3.2, D=2.5

- Miniature, encapsulated ferrite and ceramic cored chip inductor sizes
- Suitable for wave and reflow soldering.
- SIMID 2220, 1812 and 1210A series are supplied on 12mm embossed tape in accordance with IEC286 PT3
- SIMID 1008 series are supplied on 8mm embossed tape in accordance with EIAJ-RC-1009B.
- The inductance value is clearly marked on each component body.

Inductance	Tolerance	DC Resistance	Max. dc Current	Q factor	Test Frequency	Self Res Frequency	Order Code
SIMID 1008 Series 1008 Case Size							
2.2	20	1.05	155	25	7.96	80	200-517
SIMID 1812A series 1812 Case Size							
10	10	0.98	320	45	2.52	22	200-360
22	10	1.45	260	45	2.52	13	200-384
33	10	1.85	230	45	2.52	10.5	200-396
47	10	2.3	210	40	2.52	9.5	200-402
68	10	2.8	190	40	2.52	8	200-414
100	10	4.7	145	40	2.52	6.5	200-426
220	10	7.5	115	30	0.796	4.6	200-440
470	10	17.5	75	35	0.796	3.5	200-463
680	10	25	65	30	0.796	2.6	200-475
1000	10	31	55	30	0.796	2.3	200-487
SIMID 1812T series High Current 1812 Case Size							
1	10	0.08	1300	10	7.96	110	880-8406
3.3	10	0.19	900	10	7.96	50	880-8422
4.7	10	0.22	800	10	7.96	40	880-8430
10	10	0.35	650	10	2.52	25	880-8449
15	10	0.5	600	10	2.52	20	880-8457
22	10	0.7	450	10	2.52	15	880-8465
33	10	1.2	400	10	2.52	13	880-8473
47	10	1.35	350	10	2.52	11	880-8481
100	10	3.5	200	20	0.796	6.5	880-8503
220	10	7.5	130	20	0.796	4.5	880-8520
1000	10	30	70	20	0.252	2.3	880-8570
SIMID 1210A Series 1210 Case size							
0.22	10	0.64	280	20	30	700	608-257
0.68	10	2.7	140	20	30	400	608-282
1	10	0.34	380	20	7.96	320	608-294
1.5	10	0.42	340	20	7.96	270	608-300
2.2	10	0.75	270	25	7.96	230	608-312
4.7	10	2.2	150	25	7.96	145	608-336
6.8	10	2.8	135	25	7.96	115	608-348

Inductance	Inductance Tolerance	DC Resistance Max. Ω	Max. dc Current mA	Q factor Min	Test Frequency (MHz)	Self Res Frequency MHz	Order Code
SIMID 1210A Series 1210 Case size							
10	10	1.6	180	25	2.52	21	608-350
15	10	1.8	165	25	2.52	17.5	608-361
22	10	2.5	145	25	2.52	14	608-373
33	10	4.4	110	25	2.52	11.5	608-385
47	10	7	85	25	2.52	8	608-397
68	10	7.7	80	25	2.52	7.5	608-403
100	10	11.5	65	20	2.52	6	608-415

SIMID 1210T Series 1210 Case size							
0.1	10	0.31	450	28	100	900	387-7127
0.22	10	0.23	450	30	25.2	500	387-7140
0.47	10	0.34	450	30	25.2	300	387-7164
1	10	0.6	400	30	7.96	300	387-7190
2.2	10	0.8	320	30	7.96	100	387-7206
3.3	10	1.2	260	30	7.96	60	387-7218
4.7	10	1.5	220	30	7.96	50	387-7220
10	10	2.1	150	27	2.52	30	387-7231
22	10	3.5	110	27	2.52	20	387-7243
33	10	5.6	70	27	2.52	17	387-7255
47	10	7	60	27	2.52	15	387-7267
68	10	9	60	27	2.52	9	387-7279
100	10	11	60	20	7.96	8	387-7280
330	10	34	40	20	7.96	4	387-7346

SIMID 2220 Series 2220 Case Size							
1	10	0.03	1800	10	7.96	95	870-092
2.2	10	0.048	1300	10	7.96	42	158-720
3.3	10	0.08	1120	10	7.96	34	870-109
4.7	10	0.088	950	10	7.96	29	158-732
6.8	10	0.12	810	10	7.96	24	158-744
10	10	0.21	690	10	2.52	19	870-110
22	10	0.35	480	10	2.52	13	158-768
33	10	0.62	400	10	2.52	10.5	870-122
47	10	0.68	340	10	2.52	8.5	158-770
68	10	0.96	290	10	2.52	7	158-781
100	10	1.6	250	20	0.796	6	870-134
220	10	2.72	170	20	0.796	3.9	158-800
330	10	3.92	140	20	0.796	3.2	158-811
470	10	5.6	120	20	0.796	2.6	158-823
1000	10	12	85	30	0.252	1.8	158-847
1500	10	16	70	30	0.252	1.4	158-859
2200	10	28	55	30	0.252	1.2	158-860
4700	10	62.4	36	30	0.252	0.9	158-872
10000	10	120	25	30	0.0796	0.5	158-884

SIMID 2220H series High Current 2220 Case Size							
Inductance	Inductance Tolerance	DC Resistance Max. Ω	Max. dc Current	Q factor	Test Frequency (MHz)	Self Res Frequency MHz	Order Code
1	10	0.024	2.5	10	7.96	95	387-7360
2.2	10	0.048	1.8	10	7.96	42	387-7371
6.8	10	0.12	1.13	10	7.96	24	387-7401
10	10	0.168	1	10	2.52	19	387-7413
15	10	0.24	0.81	10	2.52	16	387-7425
22	10	0.35	0.67	10	2.52	13	387-7437
100	10	1.28	0.35	20	0.796	6	158-896
220	10	2.72	0.24	20	0.796	3.9	387-7450
330	10	3.92	0.2	20	0.796	3.2	158-902
1000	10	12	0.12	30	0.252	1.8	158-914
3300	10	48	0.055	30	0.252	1	158-926
10000	10	120	0.035	30	0.0796	0.5	158-938

		Price Each				
		10+	100+	250+	500+	1K+
SIMID 1008 Series	All Values ● RL	0.390	0.260	0.250	0.200	0.196
SIMID 1812A Series	All Values ● RL	0.730	0.660	0.540	0.480	0.430
SIMID 1812T Series	All Values ● RL	0.710	0.560	0.480	0.460	0.440
SIMID 1210A Series	All Values ● RL	0.470	0.390	0.370	0.360	0.250
SIMID 1210T Series	All Values ● RL	0.135	0.113	0.108	0.100	0.067
SIMID 2220 Series	All Values ● RL	1.000	--	--	--	--
SIMID 2220H Series	All Values ● RL	1.410	1.200	0.890	0.800	0.630

SIMID Kits

SIMID 0603, 0805, 1210, 1812T & 2220 Series



- SMD inductor kits containing the most popular values in 0603, 0805, 1210 and 2220 packages
- All values refillable from stock
- Suitable for development and research

SIMID 0603 kit contains 20 each of 1.5, 1.8, 2.2, 3.3, 3.9, 4.7, 5.6, 6.8, 8.2, 10, 12, 15, 18, 22, 27, 33, 39, 47, 56, 68, 82 and 100nH

SIMID 1210 kit contains 15 each of 0.015, 0.022, 0.033, 0.047, 0.068, 0.1, 0.15, 0.22, 0.33, 0.47, 0.68, 1.0, 1.5, 2.2, 3.3, 4.7, 6.8, 10, 15, 22, 33, 47, 68 and 100µH

SIMID 1812T Kit contains 6 each of 1, 1.5, 1.8, 2.2, 3.3, 3.9, 4.7, 6.8, 8.2, 10, 15, 18, 22, 33, 39, 47, 68, 100, 150, 220, 330, 470, 680 and 1000uHµH

SIMID 2220 Kit contains 6 each of 1.0, 4.7, 10, 47, 100, 330*, 470, 1000, 1000*, 4700 and 10000uH

(*denotes items from SIMID 2220H Series)

	Order Code	Price Each		
		1+	5+	10+
Kit SIMID 0603	960-7625	117.75	105.49	100.01
Kit SIMID 1210	387-7358	98.00	--	--
Kit SIMID 2220	158-707	130.83	117.21	111.13

SIMID 1210-H Series



- Ferrite drum core
- Laser welded winding
- Flame retardant encapsulation
- Very high current handling capability
- Suitable for reflow soldering
- AECQ200 qualified

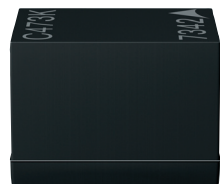
Case size Tolerance 1210 ±10%

Inductance nH	Rmax Ω	Current Rating mA	Frequency KHz	Q	Mftrs. List	Order Code
1	0.1	1150	150	8	B82422H1102K	129-9970
2.2	0.16	800	90	8	B82422H1222K	129-9971
3.3	0.18	770	70	8	B82422H1332K	129-9972
4.7	0.25	700	46	8	B82422H1472K	129-9974
10	0.46	500	30	12	B82422H1103K	129-9975
22	1	330	21	12	B82422H1223K	129-9976
33	1.4	280	15	15	B82422H1333K	129-9977
47	2.1	230	12	15	B82422H1473K	129-9978
68	3.4	180	10	15	B82422H1683K	129-9981
100	4.8	150	8	20	B82422H1104K	129-9982
330	13	90	4.5	20	B82422H1334K	129-9983

Order Multiple=10

	Order Code	Price Each				
		10+	100+	250+	500+	1K+
SIMID 1210-H Series	All Values	0.44	0.35	0.34	0.33	0.22

SIMID 1812C Series



- High Q factor
- Upright ferrite drum core
- Temperature range up to 150 °C
- Suitable for lead-free reflow soldering
- Qualified to AEC-Q200

Tolerance ± 10%

H=3.2 W=3.2 D=4.5

LN µH	Rmax Ω	Current mA	Frequency MHz	Q	Mftrs. List No.	Order Code
10	0.98	320	28	40	B82432C1103K000	164-4381
47	2.3	210	12	30	B82432C1473K000	164-4393
68	2.8	190	10	30	B82432C1683K000	164-4395
100	4.7	145	8	30	B82432C1104K000	164-4382
150	6.1	130	7	30	B82432C1154K000	164-4388
330	14.1	85	4.5	30	B82432C1334K000	164-4392
470	17.5	75	4	30	B82432C1474K000	164-4394

Order Multiple=5

	Order Code	Price Each				
		5+	50+	100+	500+	1K+
SIMID 1812C Series	All Values	0.88	0.62	0.55	0.44	0.35

SIMID 2220A Series



- Very high current handling capability
- High L values
- Ferrite drum core
- Temperature range up to 150 °C
- Suitable for lead-free reflow soldering
- Qualified to AEC-Q200

Tolerance ± 20%

H=5 W=5 D=5.6

LN µH	Rmax Ω	Current mA	Frequency MHz	Q	Mftrs. List No.	Order Code
1	0.025	3510	111	15	B82442T1102M050	164-4424
1.5	0.033	3020	60	15	B82442T1152M050	164-4430
2.2	0.038	2710	46	15	B82442T1222M050	164-4434
3.3	0.046	2460	36	15	B82442T1332M050	164-4438
4.7	0.073	1950	30	15	B82442T1472M050	164-4444
6.8	0.106	1680	23	15	B82442T1682M050	164-4448
10	0.132	1510	19	15	B82442T1103K050	164-4425
22	0.238	1040	13	15	B82442T1223K050	164-4435
33	0.36	840	11	15	B82442T1333K050	164-4441
68	0.781	570	7	15	B82442T1683K050	164-4449
100	0.99	510	6.1	20	B82442T1104K050	164-4426
150	1.5	410	4.6	20	B82442T1154K050	164-4432

LN	Rmax	Current	Frequency	Mftrs.		
220	2.21	330	3.9	20	B82442T1224K050	164-4436
330	3.29	280	3.4	20	B82442T1334K050	164-4442
470	4.73	240	2.6	20	B82442T1474K050	164-4446
680	5.87	210	2.3	20	B82442T1684K050	164-4450
1000	9.5	150	1.8	20	B82442T1105K050	164-4428
1500	14.9	130	1.5	20	B82442T1155K050	164-4433
2200	22.5	100	1.2	20	B82442T1225K050	164-4437
3300	32.8	85	1	20	B82442T1335K050	164-4443
4700	48.6	73	0.8	20	B82442T1475K050	164-4447
6800	60.3	65	0.6	20	B82442T1685K050	164-4451
10000	112	46	0.5	20	B82442T1106K050	164-4429

	Order Code	Price Each				
		1+	50+	100+	500+	1K+
SIMID 2220A Series	All Values	1.36	1.19	1.00	0.75	0.59

Transponder Coils

B82450 Series



- Ferrite core
- Enamel copper winding
- Moulded case
- High mechanical resistance

L = 11.4, W = 3.5, H = 2.4

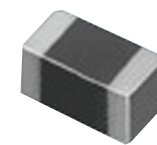
Operating temperature		-40°C to +125°C		Tolerance		±3%	
Inductance (mH)	Resonant Frequency (KHz)	Q Factor	DC resistance Max.(Ω)	Mftrs. List No.	Order Code		
1	2700	33	15	B82450A1004A	129-9965		
2.36	2000	34	25	B82450A2364A	129-9966		

	Order Code	Price Each				
		1+	5+	50+	250+	500+
SIMID 2220A Series	All Values	0.75	0.63	0.55	0.51	0.49

Inductors - SMD Chip - Murata

LQM18 Series

0603 Case Size



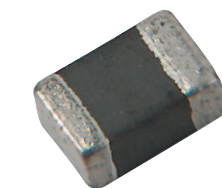
- Magnetically shielded chip coil providing excellent characteristics in crosstalk and magnetic coupling
- Suitable for high density mounting due to compact size
- External electrodes with nickel barrier structure provide excellent solder heat resistance for both flow and reflow soldering

Operating temperature		-40°C to +85°C		Tolerance		±20%		
Inductance nH	Tolerance	Q Factor	Test Frequency MHz	DC Resistance Ω Max.	Self Resonance Freq. MHz	Allowable Current mA	Mftrs. List No.	Order Code
47	±20%	10	50	0.3	260	50	LQM18NN47NM00D	134-3096
68	±20%	10	50	0.3	250	50	LQM18NN68NM00D	134-3097
100	±10%	15	25	0.5	240	50	LQM18NNR10K00D	134-3100
120	±10%	15	25	0.5	205	50	LQM18NNR12K00D	134-3101
150	±10%	15	25	0.6	180	50	LQM18NNR15K00D	134-3102
180	±10%	15	25	0.6	165	50	LQM18NNR18K00D	134-3103
220	±10%	15	25	0.8	150	50	LQM18NNR22K00D	134-3104
270	±10%	15	25	0.8	136	50	LQM18NNR27K00D	134-3106
330	±10%	15	25	0.85	125	35	LQM18NNR33K00D	134-3107
390	±10%	15	25	1	110	35	LQM18NNR39K00D	134-3108
470	±10%	15	25	1.35	105	35	LQM18NNR47K00D	134-3109
560	±10%	15	25	1.55	95	35	LQM18NNR56K00D	134-3110
680	±10%	15	25	1.7	90	35	LQM18NNR68K00D	134-3111
1000	±10%	35	10	0.6	75	25	LQM18NN1R0K00D	134-3113
1200	±10%	35	10	0.8	65	25	LQM18NN1R2K00D	134-3114
1500	±10%	35	10	0.8	60	25	LQM18NN1R5K00D	134-3115
1800	±10%	35	10	0.95	55	25	LQM18NN1R8K00D	134-3116
2200	±10%	35	10	1.15	50	15	LQM18NN2R2K00D	134-3118

	Order Code	Price Each				
		5+	100+	500+	1K+	4K+
SIMID 2220A Series	All Values	0.137	0.107	0.092	0.082	0.061

LQM21 Series

0805 Case Size



- Miniature SMD inductors using multilayer process technology and magnetic materials
- Magnetically shielded design – ideal for high density mounting
- Approximately ¼ the size of conventional chip coils while still retaining high reliability
- 0805 case size

L=2.0, W=1.25, H=0.85 (3.3, 4.7µH=1.25)

Operating temperature		-40°C to +85°C		Test Frequency		25MHz (up to 0.68µH) 25MHz (1.0 to 4.7µH)	
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Inductors - SMD Chip - Murata - continued

LQM21 Series - continued

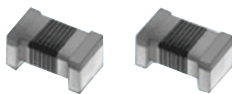
0805 Case Size - continued

Inductance µh	Inductance Tolerance	Q Factor Min.	DC Resistance Ω Max.	Self Resonance Freq. MHz Min	Allowable Current mA	Order Code
0.1	±10%	20	0.26	340	250	952-7893
0.15	±10%	20	0.32	270	250	952-7907
0.22	±10%	20	0.38	220	250	952-7915
0.33	±10%	20	0.48	180	250	952-7923
0.47	±10%	25	0.57	150	200	952-7931
0.68	±10%	25	0.72	125	150	952-7940
1	±10%	45	0.4	107	50	952-7850
1.5	±10%	45	0.5	87	50	952-7869
3.3	±10%	45	0.8	59	30	952-7877
4.7	±10%	45	1	47	30	952-7885

Order Code	5+	50+	100+	500+	1K+
All Values ● RL	0.230	0.162	0.139	0.124	0.103

LQW04A Series

03015 Case Size



H=0.8mm, W=0.4mm, D=0.06mm

The LQW04A series consists of air core chip coil using a miniature alumina core. The LQW04A series has high Q value in high frequency range and high self resonant frequency. It is suitable for high frequency circuits which are used in telecommunications equipment.

Features:

- Resin-coated surface enables excellent mounting
- Low DC resistance design is ideal for low loss, high output and low power consumption

Applications:

- Mobile phones such as GSM, CDMA, PDC, etc.
- W-LAN & Bluetooth
- High frequency circuits in general

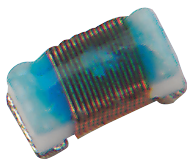


Inductance nH	Resistance Ω	Current mA	Mfrs. List No.	Order Code
1.8	0.056	700	LQW04AN1N8D00D	111-5002
2.7	0.07	570	LQW04AN2N7D00D	111-5003
3.9	0.098	530	LQW04AN3N9D00D	111-5007
4.7	0.14	440	LQW04AN4N7D00D	111-5009
5.6	0.112	470	LQW04AN5N6D00D	111-5011
6.8	0.14	440	LQW04AN6N8D00D	111-5013
7.5	0.14	440	LQW04AN7N5D00D	111-5014
10	0.252	330	LQW04AN10NJ00D	111-5018
11	0.28	310	LQW04AN11NJ00D	111-5019
12	0.28	310	LQW04AN12NJ00D	111-5020
15	0.476	240	LQW04AN15NJ00D	111-5022
18	0.532	220	LQW04AN18NJ00D	111-5024
22	0.63	200	LQW04AN22NJ00D	111-5026

Order Code	10+	100+	500+	1K+	2K+
All Values ●	0.290	0.230	0.210	0.179	0.156

LQW15 Series

0402 Case Size



- Innovative coil and case structures
- Low DC resistance
- High-frequency characteristics
- Operating Temp: -55°C to +125°C
- Reel Qty: 10,000



H=0.5, W=0.1, D=0.6

Inductance nH	Inductance Tolerance	Test Freq. (MHz)	Q Factor Min.	DC Resistance Ω Max.	Self Resonance Freq. GHz Min	Rated Current mA	Order Code
1.3	± 0.2nH	250	20	0.017	16	1200	176-2599
1.5	± 0.2nH	100	10	0.03	18	1000	176-2600
2.2	± 0.2nH	250	25	0.027	14	1000	176-2601
2.7	± 0.2nH	100	20	0.05	15	850	176-2602
3.3	± 0.5nH	250	30	0.04	12	900	176-2603
3.6	± 0.2nH	250	30	0.04	9.5	900	176-2604
3.9	± 0.1nH	100	25	0.07	10	750	176-2605
4.3	± 0.2nH	100	25	0.07	10	750	176-2607
4.7	± 0.2nH	100	25	0.07	8	750	176-2608
5.1	± 0.2nH	100	25	0.12	8	600	176-2609
5.6	± 0.2nH	100	30	0.051	8	800	176-2610
6.2	± 0.2nH	100	25	0.09	8	700	176-2611
6.8	± 2%	100	25	0.09	6	700	176-2612
7.5	± 2%	100	25	0.13	6	570	176-2613
8.2	± 2%	100	25	0.14	5.5	540	176-2614
8.7	± 2%	100	25	0.14	5.5	540	176-2615
9.1	± 2%	100	25	0.14	5.5	540	176-2616
10	± 2%	100	25	0.17	5.5	500	176-2617
12	± 2%	100	30	0.14	5.5	500	176-2619

Inductance nh	Inductance Tolerance	Test Freq. (MHz)	Q Factor Min.	DC Resistance Ω Max.	Self Resonance Freq. GHz Min	Rated Current mA	Order Code
15	± 2%	100	30	0.16	5	460	176-2621
18	± 2%	100	25	0.27	4.5	370	176-2622
22	± 2%	100	25	0.3	4	310	176-2623
24	± 2%	100	25	0.52	3.5	280	176-2624
27	± 2%	100	25	0.52	3.5	280	176-2625
33	± 2%	100	25	0.63	3.2	260	176-2626
39	± 2%	100	25	0.7	3	250	176-2627
47	± 2%	100	25	1.08	2.9	210	176-2628
68	± 2%	100	20	1.96	2.5	140	176-2629
82	± 2%	100	20	2.24	2.3	130	176-2630
100	± 5%	100	20	2.52	1.5	120	176-2632
120	± 5%	100	20	2.66	1	110	176-2633

Mfrs. List No.

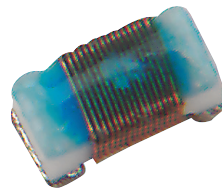
LQW15AN1N3C10D = 176-2599	LQW15AN6N2C00D = 176-2611	LQW15AN22NG00D = 176-2623	LQW15AN1N5C00D = 176-2600	LQW15AN6N8G00D = 176-2612	LQW15AN24NG00D = 176-2624
LQW15AN2N2C10D = 176-2601	LQW15AN7N5G00D = 176-2613	LQW15AN27NG00D = 176-2625	LQW15AN2N7C00D = 176-2602	LQW15AN8N2G00D = 176-2614	LQW15AN33NG00D = 176-2626
LQW15AN3N3D10D = 176-2603	LQW15AN8N7G00D = 176-2615	LQW15AN39NG00D = 176-2627	LQW15AN3N6C10D = 176-2604	LQW15AN9N1G00D = 176-2616	LQW15AN47NG00D = 176-2628
LQW15AN3N9B00D = 176-2605	LQW15AN10NG00D = 176-2617	LQW15AN68NG00D = 176-2629	LQW15AN4N3C00D = 176-2607	LQW15AN12NG00D = 176-2619	LQW15AN82NG00D = 176-2630
LQW15AN4N7C00D = 176-2608	LQW15AN15NG00D = 176-2621	LQW15ANR10J00D = 176-2632	LQW15AN5N1C00D = 176-2609	LQW15AN18NG00D = 176-2622	LQW15ANR12J00D = 176-2633
LQW15AN5N6C10D = 176-2610					

Order Multiple=10

Order Code	10+	50+	250+	1K+	5K+
All Values ●	0.187	0.158	0.140	0.128	0.112

LQW18 Series

0603 Case Size



- Miniature SMD inductors with alumina core
- Unique winding technology minimises stray capacitance leading to increased SRF
- High Q and stable inductance at high frequencies
- Low DC resistance
- 0603 case size allows high density mounting



L=1.6, W=0.8, H=0.8

Inductance nh	Inductance Tolerance	Q Factor Min.	DC Resistance Ω Max.	Self Resonance Freq. MHz Min	Allowable Current mA	Order Code
5.6	±2%	35	0.082	6000	750	952-8016
10	±2%	35	0.11	6000	650	952-7958
12	±2%	35	0.13	6000	600	952-7966
15	±2%	40	0.13	6000	600	952-7974
22	±2%	40	0.17	4600	500	952-7982
33	±2%	40	0.23	3200	420	952-7990
47	±2%	38	0.29	2600	380	952-8008
68	±2%	38	0.38	2200	340	952-8024
100	±2%	34	0.68	1800	220	952-8032
150	±2%	32	1.5	1400	160	952-8040
220	±2%	25	2.5	1200	120	952-8059

Mfrs. List No.

LQW18AN5N6D00D = 952-8016	LQW18AN22NG00D = 952-7982	LQW18ANR10G00D = 952-8032	LQW18AN10NG00D = 952-7958	LQW18AN33NG00D = 952-7990	LQW18ANR15G00D = 952-8040
LQW18AN12NG00D = 952-7966	LQW18AN47NG00D = 952-8008	LQW18ANR22G00D = 952-8059	LQW18AN15NG00D = 952-7974	LQW18AN68NG00D = 952-8024	

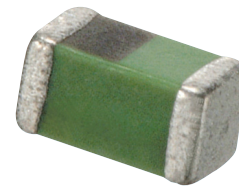
LQW15 Series

0402 Case Size

Order Code	5+	50+	100+	500+	1K+
All Values ●	0.390	0.280	0.240	0.220	0.181

LQG15 Series

0402 Case Size



- Chip inductors designed for high frequency applications
- High Q, stable inductance achieved by original structure that minimizes stray capacitance
- Suitable for small or mobile equipment due to miniature size
- External electrodes with nickel barrier structure provide excellent solder heat resistance



Inductance nH	Inductance Tolerance	DC Resistance Ω Max.	Self Resonance Freq. MHz Min	Allowable Current mA	Mfrs. List No.	Order Code
1.1	± 0.3nH	0.1	6000	300	LQG15HN1N0S02D	134-3054
1.1	± 0.3nH	0.1	6000	300	LQG15HN1N1S02D	134-3056
1.2	± 0.3nH	0.1	6000	300	LQG15HN1N2S02D	134-3057
1.3	± 0.3nH	0.1	6000	300	LQG15HN1N3S02D	134-3058
1.5	± 0.3nH	0.1	6000	300	LQG15HN1N5S02D	134-3059
1.6	± 0.3nH	0.1	6000	300	LQG15HN1N6S02D	134-3060
1.8	± 0.3nH	0.1	6000	300	LQG15HN1N8S02D	134-3061
2	± 0.3nH	0.12	6000	300	LQG15HN2N0S02D	134-3062

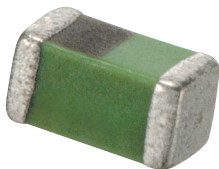
Inductance nH	Inductance Tolerance	DC Resistance Ω Max.	Self Resonance Freq. MHz Min	Allowable Current mA	Mfrs. List No.	Order Code
2.2	± 0.3nH	0.15	6000	300	LQG15HN2N2S02D	134-3064
2.4	± 0.3nH	0.16	6000	300	LQG15HN2N4S02D	134-3065
2.7	± 0.3nH	0.17	6000	300	LQG15HN2N7S02D	134-3066
3	± 0.3nH	0.18	6000	300	LQG15HN3N0S02D	134-3067
3.3	± 0.3nH	0.19	6000	300	LQG15HN3N3S02D	134-3068
3.6	± 0.3nH	0.19	6000	300	LQG15HN3N6S02D	134-3069
3.9	± 0.3nH	0.19	6000	300	LQG15HN3N9S02D	134-3070
4.3	± 0.3nH	0.21	6000	300	LQG15HN4N3S02D	134-3071
4.7	± 0.3nH	0.23	6000	300	LQG15HN4N7S02D	134-3072
5.1	± 0.3nH	0.24	6000	300	LQG15HN5N1S02D	134-3073
5.6	± 0.3nH	0.26	5300	300	LQG15HN5N6S02D	134-3074
6.2	± 0.3nH	0.27	4300	300	LQG15HN6N2S02D	134-3076
6.8	±5%	0.29	4200	300	LQG15HN6N8J02D	134-3077
7.5	±5%	0.31	3900	300	LQG15HN7N5J02D	134-3078
8.2	±5%	0.33	3600	300	LQG15HN8N2J02D	134-3079
9.1	±5%	0.34	3400	300	LQG15HN9N1J02D	134-3080
10	±5%	0.35	3200	300	LQG15HN10N0J02D	134-3081
12	±5%	0.41	2800	300	LQG15HN12N0J02D	134-3082
15	±5%	0.46	2300	300	LQG15HN15N0J02D	134-3083
18	±5%	0.51	2100	300	LQG15HN18N0J02D	134-3084
22	±5%	0.58	1800	300	LQG15HN22N0J02D	134-3085
27	±5%	0.67	1600	300	LQG15HN27N0J02D	134-3086
33	±5%	0.67	1500	200	LQG15HN33N0J02D	134-3088
39	±5%	1.06	1200	200	LQG15HN39N0J02D	134-3089
47	±5%	1.15	1000	200	LQG15HN47N0J02D	134-3090
56	±5%	1.2	800	200	LQG15HN56N0J02D	134-3091
68	±5%	1.25	800	180	LQG15HN68N0J02D	134-3092
82	±5%	1.6	600	150	LQG15HN82N0J02D	134-3093
100	±5%	1.6	600	150	LQG15HNR10J02D	134-3094
120	±5%	1.6	600	150	LQG15HNR12J02D	134-3095

462636

Order Multiple=10

Order Code	10+	100+	500+	5K+	10K+
All Values	0.127	0.109	0.097	0.084	0.077

LQG18 Series
0603 Case Size



- 0603 chip coils for high frequency applications



LQG18 0603 Case Size ±0.3nH

Inductance nH	Resistance Ω	Current mA	Resonant Frequency MHz	Q Factor	Mfrs. List No.	Order Code
1.2 ± 0.3nH	0.1	500	6000	12	LQG18HN1N2S00D	151-5377
1.5 ± 0.3nH	0.1	500	6000	12	LQG18HN1N5S00D	151-5379
1.8 ± 0.3nH	0.1	500	6000	12	LQG18HN1N8S00D	151-5381
2.2 ± 0.3nH	0.1	500	6000	12	LQG18HN2N2S00D	151-5384
2.7 ± 0.3nH	0.15	500	6000	12	LQG18HN2N7S00D	151-5385
3.3 ± 0.3nH	0.15	500	6000	12	LQG18HN3N3S00D	151-5388
3.9 ± 0.3nH	0.15	450	6000	12	LQG18HN3N9S00D	151-5389
5.6 ± 0.3nH	0.2	430	5000	12	LQG18HN5N6S00D	151-5393

Inductance nH	Order Code	5+	50+	100+	250+	500+
1.2	151-5377	0.210	0.146	0.124	0.111	0.093
1.5	151-5379	0.220	0.151	0.130	0.115	0.096
1.8	151-5381	0.210	0.146	0.124	0.111	0.093
2.2	151-5384	0.096	0.068	0.057	0.051	0.043
2.7	151-5385	0.220	0.151	0.130	0.115	0.096
3.3	151-5388	0.220	0.151	0.130	0.115	0.096
3.9	151-5389	0.260	0.176	0.152	0.135	0.113
5.6	151-5393	0.220	0.151	0.130	0.115	0.096

LQG18 0603 Case Size ±5%

Inductance nH	Resistance Ω	Current mA	Resonant Frequency MHz	Q Factor	Mfrs. List No.	Order Code
6.8 ± 5%	0.25	430	5000	12	LQG18HN6N8J00D	151-5395
8.2 ± 5%	0.25	400	4000	12	LQG18HN8N2J00D	151-5397
10 ± 5%	0.3	400	3500	12	LQG18HN10N0J00D	151-5373
12 ± 5%	0.35	400	3000	12	LQG18HN12N0J00D	151-5374
15 ± 5%	0.4	350	2800	12	LQG18HN15N0J00D	151-5375
18 ± 5%	0.45	350	2600	12	LQG18HN18N0J00D	151-5376
22 ± 5%	0.5	300	2300	12	LQG18HN22N0J00D	151-5382
27 ± 5%	0.55	300	2000	12	LQG18HN27N0J00D	151-5383
33 ± 5%	0.6	300	1700	12	LQG18HN33N0J00D	151-5386
39 ± 5%	0.65	300	1500	12	LQG18HN39N0J00D	151-5387
47 ± 5%	0.7	300	1200	12	LQG18HN47N0J00D	151-5390
68 ± 5%	0.8	300	1000	12	LQG18HN68N0J00D	151-5394
82 ± 5%	0.85	300	900	12	LQG18HN82N0J00D	151-5396
100 ± 5%	0.9	300	800	12	LQG18HNR10J00D	151-5398

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Inductance nH	Order Code	5+	50+	100+	250+	500+
6.8	151-5395	0.096	0.068	0.057	0.051	0.043
8.2	151-5397	0.220	0.151	0.130	0.115	0.096
10	151-5373	0.260	0.190	0.165	0.139	0.118
12	151-5374	0.250	0.183	0.156	0.129	0.107
15	151-5375	0.117	0.095	0.074	0.057	0.045
18	151-5376	0.180	0.133	0.116	0.098	0.082
22	151-5382	0.230	0.173	0.150	0.126	0.105
27	151-5383	0.240	0.180	0.157	0.132	0.111
33	151-5386	0.180	0.133	0.116	0.098	0.082
39	151-5387	0.200	0.155	0.120	0.087	0.072
47	151-5390	0.151	0.115	0.088	0.064	0.053
68	151-5394	0.145	0.111	0.085	0.062	0.051
82	151-5396	0.133	0.108	0.084	0.065	0.055
100	151-5398	0.156	0.122	0.091	0.068	0.057

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LQH Series



- 1515, 2424 and 3131 case sizes
- DC-DC Converter Wire Wound Type



Operating temperature range: -40°C - 85°C
HxWxD 1515 Case 1.65 x 4 x 4mm
HxWxD 2424 Case 4.3 x 6 x 6mm
HxWxD 3131 Case 3.8 x 8 x 8mm

1515 Case Size

Inductance (µH)	Tolerance	S.R.F. (MHz)	DC Res. (mΩ)	Current Max. (A)	Mfrs. List No.	Order Code
1	± 30%	90	30	2.45	LQH44PN1R0NPOL	178-2795
2.2	± 20%	70	49	1.8	LQH44PN2R2MPOL	178-2796
3.3	± 20%	50	65	1.77	LQH44PN3R3MPOL	178-2797
4.7	± 20%	40	80	1.7	LQH44PN4R7MPOL	178-2798
6.8	± 20%	35	120	1.34	LQH44PN6R8MPOL	178-2799
10	± 20%	25	160	1.17	LQH44PN100MPOL	178-2801
22	± 20%	17	370	0.79	LQH44PN220MPOL	178-2802

Order Code	10+	50+	250+	1K+
All Values	0.210	0.161	0.129	0.107

2424 Case Size

Inductance (µH)	Tolerance	S.R.F. (MHz)	DC Res. (mΩ)	Current Max. (A)	Mfrs. List No.	Order Code
1	± 30%	110	9	4.3	LQH6PPN1R0M43L	178-2803
1.5	± 30%	60	10	4.15	LQH6PPN1R5N43L	178-2804
2.2	± 30%	30	14	4.1	LQH6PPN2R2M43L	178-2805
3.3	± 30%	30	16	3.8	LQH6PPN3R3M43L	178-2806
4.7	± 20%	25	20	3.2	LQH6PPN4R7M43L	178-2807
6.8	± 20%	20	28	2.85	LQH6PPN6R8M43L	178-2808
10	± 20%	15	44	2.6	LQH6PPN100M43L	178-2809
15	± 20%	10	65	2.2	LQH6PPN150M43L	178-2810
22	± 20%	10	108	1.55	LQH6PPN220M43L	178-2811
33	± 20%	6	137	1.29	LQH6PPN330M43L	178-2813
47	± 20%	6	230	1.1	LQH6PPN470M43L	178-2814
68	± 20%	5	289	1	LQH6PPN680M43L	178-2815
100	± 20%	3	436	0.8	LQH6PPN101M43L	178-2816

Order Code	10+	50+	250+	+
All Values	0.210	0.188	0.105	--

3131 Case Size

Inductance (µH)	Tolerance	S.R.F. (MHz)	DC Res. (mΩ)	Current Max. (A)	Mfrs. List No.	Order Code
1	± 30%	100	6	8	LQH88PN1R0N38L	178-2817
1.5	± 30%	60	8	7.1	LQH88PN1R5N38L	178-2818
2.2	± 30%	50	9	6.4	LQH88PN2R2N38L	178-2819
3.3	± 30%	35	13	5	LQH88PN3R3N38L	178-2820
4.7	± 30%	30	17	4.2	LQH88PN4R7N38L	178-2821
6.8	± 30%	20	22	3.8	LQH88PN6R8N38L	178-2822
10	± 20%	18	29	3.15	LQH88PN100M38L	178-2823
15	± 20%	13	41	2.45	LQH88PN150M38L	178-2825
22	± 20%	10	66	2.25	LQH88PN220M38L	178-2826
33	± 20%	9	95	1.75	LQH88PN330M38L	178-2827
47	± 20%	7	157	1.45	LQH88PN470M38L	178-2828
68	± 20%	7	190	1.1	LQH88PN680M38L	178-2829
100	± 20%	4	265	1	LQH88PN101M38L	178-2830

Order Code	10+	50+	250+	+
All Values	0.270	0.240	0.136	--

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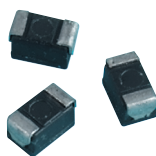
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Inductors - SMD Chip - Panasonic

RF/RE/ND Series

Non Magnetic Core



- High Q
- Designed for automatic and high density mounting
- ±5% tolerance
- Suitable for CTV, VTC, HIC, HDD, FDD, pagers, cordless and portable telephones
- Constructed for use in high frequency circuits
- Stable L value against environmental conditions

Panasonic



RF Series - 0402 Case Size

Inductance (nH)	Q Min.	Resonant Freq. (MHz)	DC Res. (Ω)	DC current Max. (mA)	Mfrs. List No.	Order Code
2.7	21	5500	0.1	400	ELJRF2N7DFB	130-5090
3.3	21	5500	0.12	400	ELJRF3N3DFB	130-5091
3.9	20	5200	0.15	360	ELJRF3N9DFB	130-5092
5.6	20	4600	0.19	340	ELJRF5N6DFB	130-5093
6.8	19	4000	0.3	320	ELJRF6N8JFB	130-5094
8.2	19	3500	0.35	320	ELJRF8N2JFB	130-5095
10	19	2800	0.41	320	ELJRF10N1JFB	130-5096

Order Multiple=5

Order Code	Price Each				
	5+	50+	250+	500+	1K+
All Values ● RL	0.129	0.125	0.109	0.104	0.090

RE Series - 0603 Case Size

Inductance (nH)	Q Min.	Resonant Freq. (MHz)	DC Res. (Ω)	DC current Max. (mA)	Mfrs. List No.	Order Code
3.9	9	5500	0.15	450	ELJRE3N9JFA	119-8370
5.6	9	4600	0.18	430	ELJRE5N6JFA	119-8372
6.8	9	3550	0.2	430	ELJRE6N8JFA	119-8374
8.2	9	3500	0.28	400	ELJRE8N2JFA	119-8375
10	10	2800	0.32	400	ELJRE10N1JFA	119-8376
12	10	2800	0.35	400	ELJRE12N1JFA	119-8377
15	10	2500	0.41	350	ELJRE15N1JFA	119-8378
18	10	2300	0.45	350	ELJRE18N1JFA	119-8379
22	10	2000	0.5	300	ELJRE22N1JFA	119-8381
27	10	2000	0.55	300	ELJRE27N1JFA	119-8382
33	10	1800	0.6	300	ELJRE33N1JFA	119-8383
39	11	1800	0.8	300	ELJRE39N1JFA	119-8384
47	11	1800	0.95	250	ELJRE47N1JFA	119-8386
56	12	1800	1.2	250	ELJRE56N1JFA	119-8387
82	12	1500	1.5	250	ELJRE82N1JFA	119-8389
100	12	1300	1.8	200	ELJRE101JFA	119-8390

Order Multiple=5

Order Code	Price Each				
	5+	50+	100+	500+	1K+
All Values ● RL	0.099	0.079	0.066	0.059	0.049

ND Series - 0805 Case Size

Inductance (nH)	Q Min.	Resonant Freq. (MHz)	DC Res. (Ω)	DC current Max. (mA)	Mfrs. List No.	Order Code
39	15	2000	0.41	390	ELJND39N1JFA	119-8400
56	15	1550	0.51	360	ELJND56N1JFA	119-8401
100	8	800	0.86	285	ELJNDR101JFA	119-8405
330	10	200	2.16	160	ELJNDR33JFA	119-8411
390	10	150	2.37	150	ELJNDR39JFA	119-8412
470	10	150	2.56	145	ELJNDR47JFA	119-8413
680	10	100	3.02	130	ELJNDR68JFA	119-8416
1000	8	80	3.88	120	ELJND101JFA	119-8418

234172

Order Code	Price Each				
	1+	+	+	+	+
All Values ● RL	0.167	--	--	--	--

FC/FA/FB Series

Regular Type



- High Q
- ±5% tolerance

Panasonic



FC Series - 1008 Case Size

Inductance (μH)	Q Min.	Resonant Freq. (MHz)	DC Res. (Ω)	DC current Max. (mA)	Mfrs. List No.	Order Code
1	25	115	0.65	195	ELJFC1R0JF	119-8419
2.2	25	80	1.05	155	ELJFC2R2JF	119-8422
3.3	25	65	1.3	135	ELJFC3R3JF	119-8423
10	25	32	3.5	80	ELJFC100JF	119-8424
12	25	30	3.8	75	ELJFC120JF	119-8425
22	25	22	5.8	60	ELJFC220JF	119-8426
33	20	20	7.1	110	ELJFC330JF	119-8428
100	15	12	21	60	ELJFC101JF	119-8429

Order Code	Price Each				
	10+	50+	100+	500+	1K+
All Values ● RL	0.250	0.178	0.168	0.156	0.135

FA Series - 1210 Case Size

Inductance (μH)	Q Min.	Resonant Freq. (MHz)	DC Res. (Ω)	DC current Max. (mA)	Mfrs. List No.	Order Code
1	30	115	0.69	230	ELJFA1R0JF2	119-8443
1.2	30	100	0.75	215	ELJFA1R2JF2	119-8444
1.5	30	90	0.75	210	ELJFA1R5JF	119-8445
1.8	30	85	0.82	200	ELJFA1R8JF	119-8446
2.2	30	80	0.95	190	ELJFA2R2JF	119-8447
2.7	30	75	1.1	180	ELJFA2R7JF	119-8448
3.3	30	65	1.2	180	ELJFA3R3JF	119-8449
3.9	30	60	1.3	175	ELJFA3R9JF	119-8450
4.7	30	55	1.5	165	ELJFA4R7JF	119-8451
5.6	30	50	1.6	160	ELJFA5R6JFN	119-8453
6.8	30	45	1.8	150	ELJFA6R8JF	119-8454
8.2	30	40	2	140	ELJFA8R2JF	119-8455
10	30	36	2.1	140	ELJFA100JF	119-8456
12	30	33	2.5	125	ELJFA120JF	119-8457
15	30	30	2.8	120	ELJFA150JF	119-8458
18	30	27	3.3	110	ELJFA180JF	119-8459
22	30	25	3.7	105	ELJFA220JF	119-8460
27	30	22	5	90	ELJFA270JF	119-8461
33	30	20	5.6	85	ELJFA330JF	119-8462
47	30	15	7	75	ELJFA470JF	119-8465
68	30	15	9	65	ELJFA680JF	119-8467
100	20	10	10	60	ELJFA101JF	119-8469
150	20	8	15	50	ELJFA151JF	119-8471
220	20	7	21	45	ELJFA221JF	119-8473

Price Each

Order Code	Price Each				
	10+	50+	100+	500+	1K+
All Values ●	0.250	0.178	0.134	0.113	0.098

FB Series - 1812 Case Size

Inductance (μH)	Q Min.	Resonant Freq. (MHz)	DC Res. (Ω)	DC current Max. (mA)	Mfrs. List No.	Order Code
2.2±10%	30	45	0.61	410	ELJFB2R2KF	119-8486
3.3±10%	50	39	0.66	380	ELJFB3R3KF	119-8489
4.7±10%	50	33	0.81	350	ELJFB4R7KF	119-8492
5.6±10%	50	30	0.88	330	ELJFB5R6KF	119-8493
10±10%	50	22	1.8	235	ELJFB100JF	119-8495
15	50	18	2.1	215	ELJFB150JF	119-8496
22	50	15	2.6	195	ELJFB220JF	119-8497
33	50	12	3.1	175	ELJFB330JF	119-8499
47	50	9.7	4.2	130	ELJFB470JF	119-8501
56	40	9	4.7	125	ELJFB560JF	119-8502
82	40	7.5	5.9	110	ELJFB820JF	119-8504
100	40	6.7	8.8	105	ELJFB101JF	119-8505
150	40	5.5	11	95	ELJFB151JF	119-8507
220	40	4.5	13	85	ELJFB221JF	119-8508
330	40	3.7	16	75	ELJFB331JF	119-8510
470	30	3.3	31	55	ELJFB471JF	119-8512
680	30	2.5	39	50	ELJFB681JF	119-8515
820	30	2.4	45	45	ELJFB821JF	119-8516
1000	30	2.1	53	50	ELJFB102JF	119-8517

234175

Order Code	Price Each				
	10+	50+	100+	500+	1K+
All Values ● RL	0.450	0.320	0.200	0.179	0.164

PC/PA Series

High Power type



- High Power types that can handle large dc currents
- Suitable for use as power line choke coil
- ±10% tolerance

L = 6mm, W = 6.4mm, H = 2.5mm

PC Series - 1008 Case Size

Inductance (μH)	Q Min.	Resonant Freq. (MHz)	DC resistance Max. (Ω)	DC Current Max. (mA)	Mfrs. List No.	Order Code
1±20%	10	95	0.45	475	ELJPC1R0MF	119-8430
4.7±20%	8	43	1.2	285	ELJPC4R7MF	119-8434
10	20	32	2.2	210	ELJPC100KF	119-8436
22	20	18	4	160	ELJPC220KF	119-8441

Order Multiple=5

Order Code	Price Each				
	5+	50+	100+	500+	1K+
All Values ● RL	0.250	0.210	0.169	0.150	0.128

PA 1210 Series

Inductance (μH)	Q Min.	Resonant Freq. (MHz)	DC resistance Max. (Ω)	DC Current Max. (mA)	Mfrs. List No.	Order Code
2.2	7	80	0.23	500	ELJPA2R2MF2	NEW 179-8567
4.7	7	46	0.34	350	ELJPA4R7MF2	NEW 179-8568
10	15	23	0.5	240	ELJPA100KF2	NEW 179-8569
10	15	23	0.5	240	ELJPA100KF	119-8474
15	15	18	0.74	220	ELJPA150KF	119-8475
22	15	15	1.15	185	ELJPA220KF	119-8477
22	15	15	1.15	185	ELJPA220KF2	NEW 179-8570
33	15	12	1.65	155	ELJPA330KF	119-8480
33	15	15	1.65	155	ELJPA330KF2	NEW 179-8572
47	15	9.5	2.25	135	ELJPA470KF	119-8481
47	15	9.5	2.25	135	ELJPA470KF2	NEW 179-8573
68	15	7.5	3.7	105	ELJPA680KF2	NEW 179-8574

PA 1210 Series

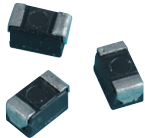
100	20	6.5	5	90	ELJPA101KF	119-8483
100	20	6.5	5	90	ELJPA101KF2	NEW 179-8575
220	20	4	11	60	ELJPA221KF	119-8484
220	20	4	11	60	ELJPA221KF2	NEW 179-8576
330	20	3	16	50	ELJPA331KF	119-8485

234180

Order Multiple=5

Order Code	Price Each				
	5+	50+	100+	500+	1K+
All Values RL	0.250	0.184	0.134	0.113	0.099

DA & FA D Series
Low & Super Low Distortion Type



- General use wire wound and resin molded chip inductor.
- Low distortion type suitable for Signal processing.
- 2 line-up of Super low distortion series and low distortion type.
- Good mounting characteristic.

Low Distortion Type
DA Series - 1210 Case Size

Inductance (μH)	Q Min.	Resonant Freq. (MHz)	DC Res. (Ω)	DC current Max. (mA)	Mfrs. List No.	Order Code
39	30	12	6	105	ELJFA390JFD	179-8553
47	30	12	6.7	100	ELJFA470JFD	179-8554
56	30	12	7	95	ELJFA560JFD	179-8555
68	30	12	9	85	ELJFA680JFD	179-8556
82	30	10	12	75	ELJFA820JFD	179-8557
10	24	10	14	70	ELJFA101JFD	179-8559

Order Code	Price Each				
	10+	50+	250+	500+	2K+
All Values RL	0.200	0.170	0.140	0.117	0.097

Super Low Distortion Type
FA D Series - 1210 Case Size

Inductance (μH)	Q Min.	Resonant Freq. (MHz)	DC Res. (Ω)	DC current Max. (mA)	Mfrs. List No.	Order Code
39	21	11	5.2	110	ELJDA390JF	179-8561
47	21	10	5.9	105	ELJDA470JF	179-8562
56	21	8.5	6.5	100	ELJDA560JF	179-8563
68	21	7.5	9	85	ELJDA680JF	179-8564
82	19	7	10	80	ELJDA820JF	179-8565
100	24	7	13	70	ELJDA101JF	179-8566

Order Code	Price Each				
	10+	50+	250+	500+	2K+
All Values RL	0.220	0.183	0.151	0.126	0.104

Inductors - SMD Chip - TDK

MLF1608/2012 Series Inductors



Features:

- High-reliability monolithic structure.
- Ferrite core and magnetic shielding enables the design of compact circuits with high packing density.
- Excellent solderability and high heat resistance permits either flow or reflow soldering.
- The products contain no lead and also support lead-free soldering.

Application

Digital mobile phone, car audio, TV, personal computers, or various electronic appliances.

Operating temperature	-25°C to +85°C	Case Style (MLF2012)	2012
Case Style (MLF1608)	1608	L x W	2 x 1.25mm
L x W	1.6 x 0.8mm		

MLF1608 Series

Inductance (μH)	Tolerance	Q Typ.	Self-resonant Frequency. Typ (MHz)	DC resistance Typ. Ω	Rated Current Max. mA	Order Code
0.22	± 10%	25	400	0.3	150	166-9534
0.33	± 10%	25	320	0.4	100	166-9535
0.47	± 10%	30	260	0.5	100	166-9536
0.56	± 10%	30	230	0.55	100	166-9537
0.68	± 10%	30	210	0.65	70	166-9538
1.2	± 10%	50	150	0.25	50	166-9528
1.5	± 10%	55	140	0.3	50	166-9529
2.7	± 10%	55	110	0.5	30	166-9530
3.3	± 10%	60	100	0.55	30	166-9531
6.8	± 10%	60	60	0.65	15	166-9542
8.2	± 10%	60	55	0.8	10	166-9543
10	± 10%	55	50	1	10	166-9541
22	± 10%	40	38	0.9	2	166-9532
27	± 10%	40	35	1.2	2	166-9533

MLF2012 Series

Inductance (μH)	Tolerance	Q Typ.	Self-resonant Frequency. Typ (MHz)	DC resistance Typ. Ω	Rated Current Max. mA	Order Code
0.047	± 20%	25	700	0.05	300	166-9555
0.082	± 20%	25	550	0.08	300	166-9556
0.12	± 10%	30	450	0.12	300	166-9557
0.15	± 10%	30	410	0.13	300	166-9558
0.27	± 10%	30	300	0.18	250	166-9559
0.33	± 10%	30	270	0.23	250	166-9560
0.56	± 10%	35	210	0.3	150	166-9561
0.68	± 10%	35	190	0.35	150	166-9562
1	± 10%	55	160	0.15	80	166-9544
1.2	± 10%	55	150	0.15	80	166-9545
1.8	± 10%	60	130	0.2	80	166-9546
2.2	± 10%	60	120	0.22	50	166-9547
2.7	± 10%	70	100	0.25	50	166-9548
3.3	± 10%	70	90	0.28	50	166-9549
10	± 10%	75	50	0.4	15	166-9563
5.6	± 10%	75	65	0.3	15	166-9565
6.8	± 10%	75	60	0.32	15	166-9566
18	± 10%	45	38	0.38	5	166-9551
27	± 10%	45	33	0.5	5	166-9553
33	± 10%	45	28	0.55	5	166-9554
47	± 10%	55	20	1.6	4	166-9567
100	± 10%	45	12	2.5	2	166-9550

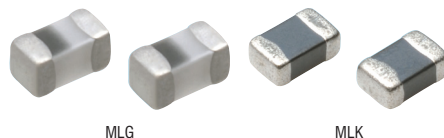
531670

Order Multiple=5

Inductance (μH)	Order Code	Price Each				
		5+	50+	100+	500+	1K+
MLF1608						
0.22	166-9534	0.176	0.141	0.110	0.082	0.069
0.33	166-9535	0.176	0.141	0.110	0.082	0.069
0.47	166-9536	0.176	0.141	0.110	0.082	0.069
0.56	166-9537	0.176	0.141	0.110	0.082	0.069
0.68	166-9538	0.176	0.141	0.110	0.082	0.069
1.2	166-9528	0.176	0.141	0.110	0.082	0.069
1.5	166-9529	0.176	0.141	0.110	0.082	0.069
2.7	166-9530	0.176	0.141	0.110	0.082	0.069
3.3	166-9531	0.176	0.141	0.110	0.082	0.069
6.8	166-9542	0.176	0.141	0.110	0.082	0.069
8.2	166-9543	0.176	0.141	0.110	0.082	0.069
10	166-9541	0.176	0.141	0.110	0.082	0.069
22	166-9532	0.176	0.141	0.110	0.082	0.069
27	166-9533	0.176	0.141	0.110	0.082	0.069
MLF2012						
0.047	166-9555	0.176	0.141	0.110	0.082	0.069
0.082	166-9556	0.176	0.141	0.110	0.082	0.069
0.12	166-9557	0.176	0.141	0.110	0.082	0.069
0.15	166-9558	0.176	0.141	0.110	0.082	0.069
0.27	166-9559	0.176	0.141	0.110	0.082	0.069
0.33	166-9560	0.176	0.141	0.110	0.082	0.069
0.56	166-9561	0.176	0.141	0.110	0.082	0.069
0.68	166-9562	0.176	0.141	0.110	0.082	0.069
1	166-9544	0.176	0.141	0.110	0.082	0.069
1.2	166-9545	0.176	0.141	0.110	0.082	0.069
1.8	166-9546	0.176	0.141	0.110	0.082	0.069
2.2	166-9547	0.176	0.141	0.110	0.082	0.069
2.7	166-9548	0.176	0.141	0.110	0.082	0.069
3.3	166-9549	0.176	0.141	0.110	0.082	0.069
5.6	166-9565	0.176	0.141	0.110	0.082	0.069
6.8	166-9566	0.176	0.141	0.110	0.082	0.069
10	166-9563	0.176	0.141	0.110	0.082	0.069
18	166-9551	0.176	0.141	0.110	0.082	0.069
27	166-9553	0.176	0.141	0.110	0.082	0.069
33	166-9554	0.176	0.141	0.110	0.082	0.069
47	166-9567	0.176	0.141	0.110	0.082	0.069
100	166-9550	0.176	0.141	0.110	0.082	0.069

MLK/MLG Series Inductors

High Frequency



Features:

- Advanced monolithic structure is formed using a multilayering and sintering process with ceramic and conductive materials for high-frequency.
- The products contain no lead and also support lead-free soldering.

Applications:

For high-frequency applications including mobile phones, high frequency modules (PA, VCO, FEM etc.), Bluetooth, W-LAN, UWB and tuners.



Inductors - SMD Chip - TDK - continued

MLK/MLG Series Inductors - continued

High Frequency - continued

Inductance (nH)	Tolerance	Q Typ.	Self-resonant Frequency, Typ (GHz)	DC resistance Typ. Ω	Rated Current Max. mA	Order Code
MLG0603S Type						
3	± 0.3nH	20	7.8	0.2	300	166-9570
6.2	± 0.3nH	19	5.1	0.32	200	166-9573
22	± 5%	18	2.5	0.88	150	166-9568
33	± 5%	17	2	1.2	100	166-9569
47	± 5%	12	1.5	1.48	50	166-9571
68	± 5%	5	1.2	2.4	50	166-9572
MLG1005S Type						
0.7	± 0.2nH	28	18.7	0.02	1000	166-9574
0.9	± 0.2nH	29	17.7	0.04	1000	166-9575
1	± 0.3nH	29	13.8	0.04	1000	166-9577
1.3	± 0.3nH	29	11.7	0.04	1000	166-9578
1.8	± 0.3nH	29	10.3	0.06	900	166-9579
2.2	± 0.3nH	29	8.6	0.08	900	166-9581
2.7	± 0.3nH	30	7.3	0.08	800	166-9582
3.6	± 0.3nH	31	6.7	0.09	700	166-9583
3.9	± 0.3nH	31	6.5	0.11	700	166-9584
6.2	± 0.3nH	30	4.7	0.16	600	166-9585
6.8	± 5%	30	4.4	0.15	600	166-9586
7.5	± 5%	30	4.1	0.15	500	166-9587
8.2	± 5%	30	4	0.19	500	166-9589
9.1	± 5%	30	3.8	0.2	500	166-9591
22	± 5%	27	2.2	0.46	350	166-9580
MLG1608 Type						
1	± 0.3nH	8	20	0.03	600	166-9596
1.2	± 0.3nH	8	20	0.04	600	166-9597
1.5	± 0.3nH	8	19.6	0.03	600	166-9598
1.8	± 0.3nH	8	16.6	0.04	600	166-9599
2.2	± 0.3nH	10	10.8	0.05	600	166-9602
2.7	± 0.3nH	10	8.8	0.06	600	166-9603
3.3	± 0.3nH	10	8.8	0.06	600	166-9607
3.9	± 0.3nH	10	7.9	0.06	600	166-9608
4.7	± 0.3nH	10	6.8	0.08	600	166-9610
5.6	± 0.5nH	10	6.8	0.08	600	166-9612
6.8	± 0.5nH	10	5.7	0.1	600	166-9614
8.2	± 0.5nH	10	5.6	0.1	600	166-9616
10	± 5%	12	4.5	0.11	600	166-9592
12	± 5%	12	3.8	0.13	600	166-9593
15	± 5%	12	3.6	0.14	600	166-9594
18	± 5%	12	3.3	0.16	600	166-9595
22	± 5%	12	3	0.19	500	166-9600
27	± 5%	12	2.7	0.21	500	166-9601
33	± 5%	12	2.3	0.25	500	166-9604
39	± 5%	12	2	0.26	400	166-9605
47	± 5%	14	1.8	0.35	400	166-9609
56	± 5%	14	1.8	0.41	400	166-9611
68	± 5%	14	1.6	0.43	300	166-9613
82	± 5%	14	1.4	0.5	300	166-9615
100	± 5%	14	1.2	0.64	300	166-9617
MLK1005 Type						
1	± 0.3nH	5	16.9	0.05	500	166-9624
1.2	± 0.3nH	5	14.4	0.05	500	166-9625
1.5	± 0.3nH	6	12.2	0.06	500	166-9626
1.8	± 0.3nH	6	10.9	0.07	500	166-9627
2.2	± 0.3nH	6	9.6	0.08	500	166-9630
2.7	± 0.3nH	6	9.1	0.1	500	166-9632
3.3	± 0.3nH	7	8.3	0.11	400	166-9635
3.9	± 0.3nH	7	7.8	0.12	400	166-9636
4.7	± 0.3nH	7	6.9	0.13	400	166-9638
5.6	± 0.5nH	7	6.7	0.15	400	166-9640
6.8	± 0.5nH	7	6.3	0.18	400	166-9642
8.2	± 0.5nH	7	6	0.21	350	166-9645
10	± 5%	7	5.2	0.23	350	166-9619
12	± 5%	7	5.3	0.27	350	166-9621
15	± 5%	7	4.8	0.33	300	166-9622
18	± 5%	7	4.7	0.38	250	166-9623
22	± 5%	7	4.4	0.46	200	166-9628
27	± 5%	7	3.9	0.53	200	166-9629
33	± 5%	7	3.5	0.59	200	166-9633
39	± 5%	6	3.1	0.65	200	166-9634
47	± 5%	6	3	0.74	200	166-9637
56	± 5%	6	2.6	0.84	200	166-9639
68	± 5%	6	2.4	1.01	150	166-9641
82	± 5%	6	2.2	1.39	150	166-9644
100	± 5%	6	1.9	1.6	100	166-9646

531687

Order Multiple=5

Inductance (nH)	Order Code	5+	50+	100+	500+	1K+
MLG0603 Type						
6.2	166-9573	0.082	0.069	0.055	0.048	0.042
3	166-9570	0.082	0.069	0.055	0.048	0.042
22	166-9568	0.082	0.069	0.055	0.048	0.042
33	166-9569	0.082	0.069	0.055	0.048	0.042
47	166-9571	0.082	0.069	0.055	0.048	0.042
68	166-9572	0.082	0.069	0.055	0.048	0.042
MLG1005S Type						
0.7	166-9574	0.097	0.082	0.069	0.062	0.056
0.9	166-9575	0.097	0.082	0.069	0.062	0.056
1	166-9577	0.097	0.082	0.069	0.062	0.056
1.3	166-9578	0.097	0.082	0.069	0.062	0.056
1.8	166-9579	0.097	0.082	0.069	0.062	0.056

MLG1005S Type

2.2	166-9581	0.097	0.082	0.069	0.062	0.056
2.7	166-9582	0.097	0.082	0.069	0.062	0.056
3.6	166-9583	0.097	0.082	0.069	0.062	0.056
3.9	166-9584	0.097	0.082	0.069	0.062	0.056
6.2	166-9585	0.097	0.082	0.069	0.062	0.056
6.8	166-9586	0.097	0.082	0.069	0.062	0.056
7.5	166-9587	0.097	0.082	0.069	0.062	0.056
8.2	166-9589	0.097	0.082	0.069	0.062	0.056
9.1	166-9591	0.097	0.082	0.069	0.062	0.056
22	166-9580	0.097	0.082	0.069	0.062	0.056

MLG1608 Type

1	166-9596	0.069	0.049	0.045	0.041	0.037
1.2	166-9597	0.069	0.049	0.045	0.041	0.037
1.5	166-9598	0.069	0.049	0.045	0.041	0.037
1.8	166-9599	0.069	0.049	0.045	0.041	0.037
2.2	166-9602	0.069	0.049	0.045	0.041	0.037
2.7	166-9603	0.069	0.049	0.045	0.041	0.037
3.3	166-9607	0.069	0.049	0.045	0.041	0.037
3.9	166-9608	0.069	0.049	0.045	0.041	0.037
4.7	166-9610	0.069	0.049	0.045	0.041	0.037
5.6	166-9612	0.069	0.049	0.045	0.041	0.037
6.8	166-9614	0.069	0.049	0.045	0.041	0.037
8.2	166-9616	0.069	0.049	0.045	0.041	0.037
10	166-9592	0.069	0.049	0.045	0.041	0.037
12	166-9593	0.069	0.049	0.045	0.041	0.037
15	166-9594	0.069	0.049	0.045	0.041	0.037
18	166-9595	0.069	0.049	0.045	0.041	0.037
22	166-9600	0.069	0.049	0.045	0.041	0.037
27	166-9601	0.069	0.049	0.045	0.041	0.037
33	166-9604	0.069	0.049	0.045	0.041	0.037
39	166-9605	0.069	0.049	0.045	0.041	0.037
47	166-9609	0.069	0.049	0.045	0.041	0.037
56	166-9611	0.069	0.049	0.045	0.041	0.037
68	166-9613	0.069	0.049	0.045	0.041	0.037
82	166-9615	0.069	0.049	0.045	0.041	0.037
100	166-9617	0.069	0.049	0.045	0.041	0.037

MLK1005 Type

1	166-9624	0.062	0.048	0.042	0.028	0.023
1.2	166-9625	0.062	0.048	0.042	0.028	0.023
1.5	166-9626	0.062	0.048	0.042	0.028	0.023
1.8	166-9627	0.062	0.048	0.042	0.028	0.023
2.2	166-9630	0.062	0.048	0.042	0.028	0.023
2.7	166-9632	0.062	0.048	0.042	0.028	0.023
3.3	166-9635	0.062	0.048	0.042	0.028	0.023
3.9	166-9636	0.062	0.048	0.042	0.028	0.023
4.7	166-9638	0.062	0.048	0.042	0.028	0.023
5.6	166-9640	0.062	0.048	0.042	0.028	0.023
6.8	166-9642	0.062	0.048	0.042	0.028	0.023
8.2	166-9645	0.062	0.048	0.042	0.028	0.023
10	166-9619	0.062	0.048	0.042	0.028	0.023
12	166-9621	0.062	0.048	0.042	0.028	0.023
15	166-9622	0.062	0.048	0.042	0.028	0.023
18	166-9623	0.062	0.048	0.042	0.028	0.023
22	166-9628	0.062	0.048	0.042	0.028	0.023
27	166-9629	0.062	0.048	0.042	0.028	0.023
33	166-9633	0.062	0.048	0.042	0.028	0.023
39	166-9634	0.062	0.048	0.042	0.028	0.023
47	166-9637	0.062	0.048	0.042	0.028	0.023
56	166-9639	0.062	0.048	0.042	0.028	0.023
68	166-9641	0.062	0.048	0.042	0.028	0.023
82						

Inductance (nH)	Q	Test. Freq (MHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0.022	23	100	1700	0.2	450	NLV32T-022J-PF 962-1415
0.027	23	100	1500	0.22	450	NLV32T-027J-PF 962-1423
0.033	25	100	1400	0.24	450	NLV32T-033J-PF 962-1431
0.039	25	100	1300	0.27	450	NLV32T-039J-PF NEW 166-9921
0.047	26	100	1200	0.3	450	NLV32T-047J-PF 962-1440
0.056	26	100	1100	0.33	450	NLV32T-056J-PF NEW 166-9922
0.068	27	100	1000	0.36	450	NLV32T-068J-PF NEW 166-9923
0.082	27	100	900	0.4	450	NLV32T-082J-PF NEW 166-9924
0.1	28	100	700	0.44	450	NLV32T-R10J-PF 962-1458
0.12	30	25.2	500	0.22	450	NLV32T-R12J-PF NEW 166-9957
0.15	30	25.2	450	0.25	450	NLV32T-R15J-PF NEW 166-9958
0.18	30	25.2	400	0.28	450	NLV32T-R18J-PF NEW 166-9959
0.22	30	25.2	350	0.32	450	NLV32T-R22J-PF NEW 166-9960
0.27	30	25.2	320	0.36	450	NLV32T-R27J-PF NEW 166-9961
0.33	30	25.2	300	0.4	450	NLV32T-R33J-PF 962-1466
0.39	30	25.2	250	0.45	450	NLV32T-R39J-PF NEW 166-9962
0.47	30	25.2	220	0.5	450	NLV32T-R47J-PF NEW 166-9963
0.56	30	25.2	180	0.55	450	NLV32T-R56J-PF NEW 166-9964
0.68	30	25.2	160	0.6	450	NLV32T-R68J-PF 962-1474
0.82	30	25.2	140	0.65	450	NLV32T-R82J-PF 962-1482
1	30	7.96	120	0.7	400	NLV32T-1R0J-PF 962-1490
1.2	30	7.96	100	0.75	390	NLV32T-1R2J-PF NEW 166-9935
1.5	30	7.96	85	0.85	370	NLV32T-1R5J-PF 962-1504
1.8	30	7.96	80	0.9	350	NLV32T-1R8J-PF 962-1512
2.2	30	7.96	75	1	320	NLV32T-2R2J-PF 962-1520
2.7	30	7.96	70	1.1	290	NLV32T-2R7J-PF NEW 166-9940
3.3	30	7.96	60	1.2	260	NLV32T-3R3J-PF 962-1539
3.9	30	7.96	55	1.3	250	NLV32T-3R9J-PF NEW 166-9946
4.7	30	7.96	50	1.5	220	NLV32T-4R7J-PF NEW 166-9949
5.6	30	7.96	45	1.6	200	NLV32T-5R6J-PF NEW 166-9951
6.8	30	7.96	40	1.8	180	NLV32T-6R8J-PF NEW 166-9954
8.2	30	7.96	35	2	170	NLV32T-8R2J-PF NEW 166-9956
10	30	2.52	30	2.1	150	NLV32T-100J-PF NEW 166-9925
12	30	2.52	20	2.5	140	NLV32T-120J-PF NEW 166-9927
15	30	2.52	20	2.8	130	NLV32T-150J-PF NEW 166-9931
18	30	2.52	20	3.3	120	NLV32T-180J-PF NEW 166-9933
22	30	2.52	20	3.7	110	NLV32T-220J-PF NEW 166-9936
27	30	2.52	20	5	80	NLV32T-270J-PF NEW 166-9938
33	30	2.52	17	5.6	70	NLV32T-330J-PF NEW 166-9942
39	30	2.52	16	6.4	65	NLV32T-390J-PF NEW 166-9944
47	30	2.52	15	7	60	NLV32T-470J-PF NEW 166-9947
56	30	2.52	13	8	55	NLV32T-560J-PF NEW 166-9950
68	30	2.52	12	9	50	NLV32T-680J-PF NEW 166-9952
82	30	2.52	11	10	45	NLV32T-820J-PF NEW 166-9955
100	20	0.796	10	10	40	NLV32T-101J-PF NEW 166-9926
120	20	0.796	10	11	70	NLV32T-121J-PF NEW 166-9929
150	20	0.796	8	15	65	NLV32T-151J-PF NEW 166-9932
180	20	0.796	7	17	60	NLV32T-181J-PF NEW 166-9934
220	20	0.796	7	21	50	NLV32T-221J-PF NEW 166-9937
270	20	0.796	6	28	45	NLV32T-271J-PF NEW 166-9939
330	20	0.796	5	34	40	NLV32T-331J-PF NEW 166-9943
390	20	0.796	5	36	35	NLV32T-391J-PF NEW 166-9945
470	20	0.796	4	40	25	NLV32T-471J-PF NEW 166-9948

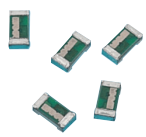
Order Multiple=5

Order Code	Price Each				
	5+	50+	100+	500+	1K+
All Values RL	0.187	0.131	0.114	0.102	0.085
NEW All Values RL	0.111	0.089	0.078	0.072	0.067

Inductors - SMD Chip - Tyco Electronics

3640 Series

0402 & 0603 Case Sizes



- Thin film technology surface mount RF inductors
- 0402 and 0603 case sizes
- Tight tolerances with narrow distributions
- High Q factor
- Suitable for telecommunications applications



H=0.5, W=0.8, L=1.6
 Supplied on 8mm tape (reel=500pcs)
 Operating temperature: -40°C to +85°C
 Temperature coefficient: 0 to +125ppm/°C
 Self resonant frequency: 6000MHz

Inductance (nH)	Q	Test. Freq (MHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0402 Case Size						
0.2	± 0.2nH	13	500	0.1	800	36401E0N2ATDF 176-0946
0.4	± 0.2nH	13	500	0.1	800	36401E0N4ATDF 176-0947
0.8	± 0.2nH	13	500	0.15	700	36401E0N8ATDF 176-0948
1	± 0.2 nH	13	300	0.1	700	36401E1N0ATDF 117-4118
1.1	± 0.2nH	13	500	0.15	700	36401E1N1ATDF 176-0949
1.2	± 0.2nH	13	500	0.15	700	36401E1N2ATDF 176-0950
1.3	± 0.2nH	13	500	0.25	700	36401E1N3ATDF 176-0951
1.4	± 0.2nH	13	500	0.25	700	36401E1N4ATDF 176-0952
1.5	± 0.2 nH	13	300	0.2	700	36401E1N5ATDF 117-4119
1.6	± 0.2nH	13	500	0.25	560	36401E1N6ATDF 176-0953
1.7	± 0.2nH	13	500	0.25	560	36401E1N7ATDF 176-0954
1.8	± 0.2nH	13	500	0.25	560	36401E1N8ATDF 176-0955
1.9	± 0.2nH	13	500	0.35	560	36401E1N9ATDF 176-0957
2	± 0.2nH	13	500	0.35	560	36401E2N0ATDF 176-0958
2.1	± 0.2nH	13	500	0.35	440	36401E2N1ATDF 176-0959
2.2	± 0.2 nH	13	300	0.3	440	36401E2N2ATDF 117-4120
2.3	± 0.2nH	13	500	0.35	440	36401E2N3ATDF 176-0960
2.4	± 0.2nH	13	500	0.35	440	36401E2N4ATDF 176-0961
2.5	± 0.2nH	13	500	0.35	440	36401E2N5ATDF 176-0962
2.6	± 0.2nH	13	500	0.35	440	36401E2N6ATDF 176-0963
2.7	± 0.2nH	13	500	0.35	440	36401E2N7ATDF 176-0964
2.8	± 0.2nH	13	500	0.45	380	36401E2N8ATDF 176-0965

Inductance (nH)	Q	Test. Freq (MHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0402 Case Size						
2.9	± 0.2nH	13	500	0.45	380	36401E2N9ATDF 176-0966
3	± 0.2nH	13	500	0.45	380	36401E3N0ATDF 176-0967
3.1	± 0.2nH	13	500	0.45	380	36401E3N1ATDF 176-0969
3.2	± 0.2nH	13	500	0.45	380	36401E3N2ATDF 176-0971
3.3	± 0.2 nH	13	300	0.4	380	36401E3N3ATDF 117-4121
3.4	± 0.2nH	13	500	0.55	380	36401E3N4ATDF 176-0972
3.5	± 0.2nH	13	500	0.55	380	36401E3N5ATDF 176-0973
3.6	± 0.2nH	13	500	0.55	380	36401E3N6ATDF 176-0974
3.7	± 0.2nH	13	500	0.55	340	36401E3N7ATDF 176-0975
3.8	± 0.2nH	13	500	0.55	340	36401E3N8ATDF 176-0976
3.9	± 0.2nH	13	500	0.55	340	36401E3N9ATDF 176-0977
4.7	± 0.2 nH	13	300	0.6	320	36401E4N7ATDF 117-4122
5.6	± 0.2nH	13	500	0.85	280	36401E5N6ATDF 176-0978
5.9	± 0.2nH	13	500	0.85	280	36401E5N9ATDF 176-0979
6.8	± 0.2 nH	13	300	0.9	260	36401E6N8ATDF 117-4123
7.2	± 0.2nH	13	500	1.05	260	36401E7N2ATDF 176-0980
8	± 0.2nH	13	500	1.25	220	36401E8N0ATDF 176-0982
8.2	± 0.2 nH	13	300	1.1	220	36401E8N2ATDF 117-4124
9.1	± 0.2nH	13	500	1.25	220	36401E9N1ATDF 176-0983
10	± 5%	13	300	1.3	200	36401E10NGTDF 117-4126
12	± 2%	13	500	1.55	180	36401E12NGTDF 176-0984
13.8	± 2%	13	500	1.75	180	36401E13N8GTFD 176-0985
15	± 2%	13	500	1.75	130	36401E15NGTDF 176-0986
17	± 2%	13	500	1.95	100	36401E17NGTDF 176-0987
18	± 2%	13	500	2.15	100	36401E18NGTDF 176-0988
20.8	± 2%	13	500	2.55	90	36401E20N8GTFD 176-0989
22	± 5%	13	300	2.6	90	36401E22NJ 117-4127
33	± 5%	13	200	3.6	130	36401E33NJTDF 117-4128
27	± 2%	13	500	3.25	75	36401E27NGTDF 176-0990

Inductance (nH)	Q	Test. Freq (MHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
0603 Case Size						
1	± 0.2 nH	15	300	0.2	800	36401J1N0A 117-4040
1.2	± 0.2nH	15	300	0.35	800	36401J1N2ATDF 176-0991
1.5	± 0.2 nH	15	300	0.2	800	36401J1N5A 117-4041
1.8	± 0.2nH	15	300	0.35	300	36401J1N8ATDF 176-0992
2.2	± 0.2 nH	15	300	0.2	300	36401J2N2ATDF 117-4042
2.7	± 0.2nH	15	300	0.45	300	36401J2N7ATDF 176-0994
3.3	± 0.2 nH	15	300	0.2	300	36401J3N3ATDF 117-4043
3.9	± 0.2nH	15	300	0.45	300	36401J3N9ATDF 176-0995
4.7	± 0.2 nH	15	300	0.2	300	36401J4N7ATDF 117-4044
5.6	± 0.2nH	15	300	0.65	300	36401J5N6ATDF 176-0996
6.8	± 0.2 nH	15	300	0.5	300	36401J6N8ATDF 117-4045
8.2	± 0.2nH	15	300	0.95	300	36401J8N2ATDF 176-0997
10	± 2%	15	300	1	300	36401J10NGTDF 117-4047
12	± 2%	15	300	1.05	300	36401J12NGTDF 176-0998
15	± 2%	15	300	1	300	36401J15NGTDF 117-4048
18	± 2%	15	300	1.65	300	36401J18NGTDF 176-0999
22	± 2%	15	300	2	250	36401J22NGTDF 117-4049
27	± 2%	15	300	2.35	250	36401J27NGTDF 176-1000
33	± 2%	15	200	2	250	36401J33NGTDF 117-4050
39	± 2%	15	200	3	200	36401J39NG 117-4051
47	± 2%	15	200	3	200	36401J47NGTDF 117-4052
56	± 2%	15	300	5	150	36401J56NGTDF 176-1001
68	± 2%	15	200	5	150	36401J68NGTDF 117-4053
100	± 2%	15	200	8.5	100	36401JR10GTDF 117-4054

Kit Contains 20 each of:
 Size 0402 values are: 0.2nH, 0.3nH, 0.4nH, 0.5nH, 0.8nH, 0.9nH, 1.0nH, 1.1nH, 1.2nH, 1.3nH, 1.4nH, 1.5nH, 1.6nH, 1.7nH, 1.8nH, 1.9nH, 2.0nH, 2.1nH, 2.2nH, 2.3nH, 2.4nH, 2.5nH, 2.6nH, 2.7nH, 2.8nH, 2.9nH, 3.0nH, 3.1nH, 3.2nH, 3.3nH, 3.4nH, 3.5nH, 3.6nH, 3.7nH, 3.8nH, 3.9nH, 4.3nH, 4.7nH, 5.4nH, 5.6nH, 5.9nH, 6.5nH, 6.8nH, 7.2nH, 8.0nH, 8.1nH, 8.2nH, 9.1nH, 10nH, 10.8nH, 12nH, 13.8nH, 15nH, 17nH, 18nH, 20.8nH, 22nH, 27nH, 33nH
 Size 0603 values are: 1.0nH, 1.2nH, 1.5nH, 1.8nH, 2.2 nH, 2.7nH, 3.3nH, 3.9nH, 4.7nH, 5.6nH, 6.8nH, 8.2nH, 10nH, 12nH, 15nH, 18nH, 22nH, 27nH, 33nH, 39nH, 47nH, 56nH, 68nH, 100nH

Order Multiple=10

Case Size	Order Code	5+	50+	100+	500+
0402	All Values RL	0.220	0.189	0.167	0.1



Inductors - SMD Chip - Tyco Electronics - continued

3650 Series - continued

0402 Case Size - continued

Inductance (nH)	Tolerance	Q	S.R.F. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
6.2	±5%	20	4.8	0.083	760	36501E6N2JTDG	126-5407
6.8	±5%	20	4.8	0.083	680	36501E6N8JTDG	126-5408
7.5	±5%	22	4.8	0.104	680	36501E7N5JTDG	126-5409
8.2	±5%	22	4.4	0.104	680	36501E8N2JTDG	126-5410
8.7	±5%	18	4.1	0.2	480	36501E8N7JTDG	126-5411
10	±5%	21	3.9	0.195	480	36501E10NJTDG	126-5414
12	±5%	24	3.6	0.12	640	36501E12NJTDG	126-5418
13	±5%	24	3.45	0.21	440	36501E13NJTDG	126-5419
15	±5%	24	3.28	0.172	560	36501E15NJTDG	126-5420
16	±5%	24	3.1	0.22	560	36501E16NJTDG	126-5421
18	±5%	24	3.1	0.23	420	36501E18NJTDG	126-5422
20	±5%	25	3	0.25	420	36501E20NJTDG	126-5424
22	±5%	25	2.8	0.3	400	36501E22NJTDG	126-5425
24	±5%	25	2.7	0.3	400	36501E24NJTDG	126-5427
27	±5%	24	2.48	0.3	400	36501E27NJTDG	126-5429
30	±5%	25	2.35	0.35	400	36501E30NJTDG	126-5431
33	±5%	24	2.35	0.35	400	36501E33NJTDG	126-5432
36	±5%	24	2.32	0.44	320	36501E36NJTDG	126-5433
39	±5%	25	2.1	0.55	200	36501E39NJTDG	126-5434
43	±5%	25	2.03	0.81	100	36501E43NJTDG	126-5436
47	±5%	20	2.1	0.83	150	36501E47NJTDG	126-5437
56	±5%	22	1.76	0.97	100	36501E56NJTDG	126-5439
68	±5%	22	1.62	1.12	100	36501E68NJTDG	126-5440

Price Each

Order Code	5+	100+	250+	1K+
All Values	0.210	0.187	0.169	0.156

0603 Case Size

Inductance (nH)	Tolerance	Q	S.R.F. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
1.6	±5%	16	12500	0.04	700	36501J1N6JTDG	126-5442
1.8	±5%	16	12500	0.045	700	36501J1N8JTDG	126-5443
2.2	±5%	20	6000	0.1	700	36501J2N2JTDG	126-5444
3.3	±5%	22	6000	0.08	700	36501J3N3JTDG	126-5445
3.6	±5%	22	5800	0.063	700	36501J3N6JTDG	126-5446
3.9	±5%	22	6000	0.08	700	36501J3N9JTDG	126-5447
4.3	±5%	22	5800	0.063	700	36501J4N3JTDG	126-5448
4.7	±5%	20	5800	0.12	700	36501J4N7JTDG	126-5449
5.1	±5%	20	5800	0.16	700	36501J5N1JTDG	126-5450
5.6	±5%	20	5800	0.17	700	36501J5N6JTDG	126-5451
6.8	±5%	27	5800	0.11	700	36501J6N8JTDG	126-5452
7.5	±5%	27	4800	0.11	700	36501J7N5JTDG	126-5454
8.2	±5%	27	4800	0.11	700	36501J8N2JTDG	126-5455
8.7	±5%	27	4800	0.11	700	36501J8N7JTDG	126-5456
9.5	±5%	27	4800	0.13	700	36501J9N5JTDG	126-5457
10	±5%	31	4800	0.13	700	36501J010JTDG	126-5458
12	±5%	35	4000	0.13	700	36501J012JTDG	126-5460
15	±5%	35	4000	0.17	700	36501J15NJTDG	126-5461
16	±5%	35	3300	0.11	700	36501J16NJTDG	126-5462
18	±5%	35	3100	0.17	700	36501J18NJTDG	126-5463
22	±5%	38	3000	0.19	700	36501J022JTDG	126-5464
24	±5%	36	2800	0.13	700	36501J24NJTDG	126-5467
27	±5%	40	2800	0.22	600	36501J027JTDG	126-5468
30	±5%	37	2800	0.15	600	36501J30NJTDG	126-5469
33	±5%	40	2300	0.22	600	36501J033JTDG	126-5470
36	±5%	37	2300	0.25	600	36501J36NJTDG	126-5471
39	±5%	40	2200	0.25	600	36501J039JTDG	126-5472
47	±5%	38	2000	0.28	600	36501J047JTDG	126-5474
51	±5%	35	1900	0.28	600	36501J51NJTDG	126-5475
56	±5%	38	1900	0.31	600	36501J56NJTDG	126-5476
68	±5%	37	1700	0.34	600	36501J068JTDG	126-5478
82	±5%	34	1700	0.54	400	36501J82NJTDG	126-5480
100	±5%	34	1400	0.58	400	36501JR10JTDG	126-5481
110	±5%	32	1350	0.61	300	36501JR11JTDG	126-5482
120	±5%	32	1300	0.65	300	36501JR12JTDG	126-5483
150	±5%	32	1300	0.95	280	36501JR15JTDG	126-5485
180	±5%	25	1250	1.4	250	36501JR18JTDG	126-5487
220	±5%	25	1200	1.6	250	36501JR22JTDG	126-5488
270	±5%	25	900	2.1	200	36501JR27JTDG	126-5492
330	±5%	25	900	3.8	100	36501JR33JTDG	126-5493
390	±5%	25	900	4.35	100	36501JR39JTDG	126-5494

Order Multiple=5

Order Code	5+	100+	250+	1K+	2K+
All Values	0.290	0.250	0.191	0.155	0.148

0805 Case Size

Inductance (nH)	Tolerance	Q	S.R.F. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
3.3	±5%	50	6000	0.08	600	36502A3N3JTDG	126-5497
5.6	±5%	65	5500	0.08	600	36502A5N6JTDG	126-5498
6.8	±5%	50	5500	0.11	600	36502A6N8JTDG	126-5499
8.2	±5%	50	4700	0.12	600	36502A8N2JTDG	126-5501
8.7	±5%	50	3900	0.21	400	36502A8N7JTDG	126-5502
10	±5%	60	4200	0.1	600	36502A10NJTDG	126-5503
12	±5%	50	4000	0.15	600	36502A12NJTDG	126-5504
15	±5%	50	3400	0.17	600	36502A15NJTDG	126-5505
18	±5%	50	3300	0.2	600	36502A18NJTDG	126-5506
22	±5%	55	2600	0.22	500	36502A22NJTDG	126-5508
27	±5%	55	2500	0.25	500	36502A27NJTDG	126-5510
33	±5%	60	2050	0.27	500	36502A33NJTDG	126-5511
39	±5%	60	2000	0.29	500	36502A39NJTDG	126-5513
47	±5%	60	1650	0.31	500	36502A47NJTDG	126-5515
56	±5%	60	1550	0.34	500	36502A56NJTDG	126-5516
68	±5%	60	1450	0.38	500	36502A68NJTDG	126-5517
82	±5%	65	1300	0.42	400	36502A82NJTDG	126-5521
100	±5%	65	1200	0.46	400	36502AR10JTDG	126-5523

Order Multiple=5

Order Code	5+	100+	250+	1K+	2K+
All Values	0.340	0.290	0.220	0.183	0.148

Inductance (nH)	Tolerance	Q	S.R.F. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
110	±5%	50	1000	0.48	400	36502AR11JTDG	126-5524
120	±5%	50	1100	0.51	400	36502AR12JTDG	126-5526
150	±5%	50	920	0.56	400	36502AR15JTDG	126-5527
180	±5%	50	870	0.64	400	36502AR18JTDG	126-5528
220	±5%	50	850	0.7	400	36502AR22JTDG	126-5530
270	±5%	48	650	1	350	36502AR27JTDG	126-5534
300	±5%	48	620	1.2	330	36502AR30JTDG	126-5535
330	±5%	48	600	1.4	310	36502AR33JTDG	126-5536
390	±5%	48	560	1.5	290	36502AR39JTDG	126-5538
470	±5%	33	375	1.7	220	36502AR47JTDG	126-5540
560	±5%	23	340	1.9	210	36502AR56JTDG	126-5541
680	±5%	23	200	2.2	190	36502AR68JTDG	126-5543
820	±5%	23	200	2.35	180	36502AR82JTDG	126-5546
1000	±5%	20	100	2.5	170	36502A1R0JTDG	126-5547
1800	±5%	16	80	2.5	170	36502A1R8JTDG	126-5550
2200	±5%	16	60	2.7	160	36502A2R2JTDG	126-5551
2700	±5%	16	50	2.95	150	36502A2R7JTDG	126-5552

Order Multiple=5

Order Code	5+	100+	250+	1K+	2K+
All Values	0.340	0.290	0.220	0.183	0.148

1008 Case Size

Inductance (nH)	Tolerance	Q	S.R.F. (GHz)	DC Res. (Ω)	Current Max. (mA)	Mfrs. List No.	Order Code
10	±5%	50	4100	0.08	1000	36502C10NJTDG	126-5554
22	±5%	55	2400	0.12	1000	36502C22NJTDG	126-5559
33	±5%	60	1600	0.14	1000	36502C33NJTDG	126-5562
39	±5%	60	1500	0.15	1000	36502C39NJTDG	126-5563
47	±5%	65	1500	0.16	1000	36502C47NJTDG	126-5564
56	±5%	65	1300	0.18	1000	36502C56NJTDG	126-5565
68	±5%	65	1300	0.2	1000	36502C68NJTDG	126-5567
82	±5%	60	1000	0.22	1000	36502C82NJTDG	126-5571
100	±5%	60	1000	0.56	650	36502CR10JTDG	126-5572
120	±5%	60	950	0.63	650	36502CR12JTDG	126-5573
180	±5%	45	750	0.77	620	36502CR18JTDG	126-5575
220	±5%	45	700	0.84	500	36502CR22JTDG	126-5576
270	±5%	45	600	0.91	500	36502CR27JTDG	126-5578
330	±5%	45	570	1.05	450	36502CR33JTDG	126-5580
390	±5%	45	500	1.12	470	36502CR39JTDG	126-5583
470	±5%	45	450	1.19	470	36502CR47JTDG	126-5585
560	±5%	45	415	1.33	400	36502CR56JTDG	126-5586
680	±5%	45	375	1.47	400	36502CR68JTDG	126-5588
1000	±5%	35	290	1.75	370	36502C1R0JTDG	126-5592
4700	±5%	20	90	4	260	36502C4R7JTDG	126-5602
8200	±5%	15	25	6	170	36502C8R2JTDG	126-5606
10000	±5%	15	20	9	150	36502C10R3JTDG	126-5607
15000	±5%	15	15	11.5	120	36502C15R3JTDG	126-5609

Order Multiple=5

Order Code	5+	100+	250+	1K+	2K+
All Values	0.400	0.330	0.260	0.155	0.148

3613C Series

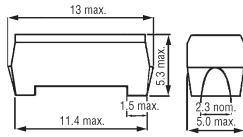
1812 Case Size, Fully Encapsulated

- Ferrite cored wound

494120

Order Code	Price Each
0402 Lab Kit	150-2947 ● 269.00
0603 Lab Kit	150-2948 ● 269.00
0805 Lab Kit	150-2949 ● 269.00

High Current - 3615 Series



Supplied on 24mm tape, Individually marked (Reel=1k pcs)

- High current, wound, surface mount inductors
- One case size covers all inductance values
- High reliability
- Suitable for DIP and wave soldering
- Epoxy moulded construction

Insulation resistance 1000mΩ Inductance tolerance ±10% Operating temperature -55°C to +100°C

Inductance μH	DC Resistance Ω	Max DC Current (mA)	Q factor (Min)	Test. Frequency MHz	Self Res Frequency MHz	Order Code
0.1	0.027	3500	50	25	550	117-4504
0.22	0.035	2570	50	25	415	117-4506
0.47	0.08	1700	50	25	300	117-4507
1	0.25	930	50	25	200	117-4508
2.2	0.9	505	35	7.9	140	117-4509
4.7	0.21	1050	35	7.9	60	117-4510
10	0.6	620	35	7.9	42	117-4511
100	4.9	216	55	2.5	8	117-4513
220	7.5	175	60	0.79	5.8	117-4515
470	11	144	60	0.79	4	117-4516
1000	16.5	118	60	0.79	2.5	117-4517

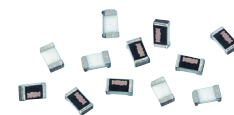
Mftrs. List No. 3615A + value + K

Order Code	Price Each
0.1μH to 47μH All Values ● RL	0.98 0.81 0.77 0.68 0.65 0.52
100μH to 1000μH All Values ● RL	1.29 1.15 1.09 0.94 0.91 0.70

Inductors - SMD Chip - Würth Elektronik

WE-TCI Series

0402 & 0603 Case Sizes



- High self resonant frequency
- Excellent Q-factor
- Tight tolerances of 2% (1% on request) or ± 0.1 nH
- Outstanding temperature stability
- In high frequency circuit the inductance is very stable

- Low inductance values
- Recommended soldering profile: Reflow
- Operating temperature range -40°C up to +125°C

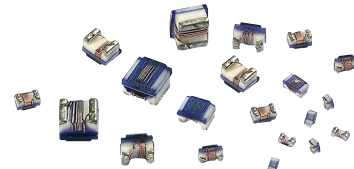
Inductance (nH)	Tolerance	Q Min.	Test. Freq (MHz)	DC Res. (Ω)	Current Max. (mA)	SRF (GHz)	Mftrs. List No.	Order Code
0.1	± 0.1nH	13	500	0.1	700	12	744901010	180-0294
1.2	± 0.1nH	13	500	0.1	700	12	744901012	180-0295
1.5	± 0.1nH	13	500	0.2	700	10	744901015	180-0296
1.8	± 0.1nH	13	500	0.2	560	10	744901018	180-0297
2.2	± 0.1nH	13	500	0.3	440	8	744901022	180-0298
2.7	± 0.1nH	13	500	0.3	440	8	744901027	180-0299
3.3	± 0.1nH	13	500	0.4	380	6	744901033	180-0300
3.9	± 0.1nH	13	500	0.5	340	6	744901039	180-0301
4.7	± 0.1nH	13	500	0.6	320	6	744901047	180-0302
5.6	± 0.1nH	13	500	0.7	280	6	744901056	180-0303
6.8	± 0.1nH	13	500	0.9	260	6	744901068	180-0304
8.2	± 0.1nH	13	500	1.1	220	5.5	744901082	180-0305
10	± 2%	13	500	1.3	200	4.5	744901110	180-0306
12	± 2%	13	500	1.6	180	3.7	744901112	180-0307
15	± 2%	13	500	1.8	130	3.3	744901115	180-0308
18	± 2%	13	500	2	100	3.1	744901118	180-0311
22	± 2%	13	500	2.6	90	2.8	744901122	180-0312

Inductance nH	Inductance Tolerance	DC Resistance (mΩ)	Self-Resonant Freq. (MHz)	Max. Rated Current (mA)	Mftrs. List No.	Order Code
1	± 0.1nH	15	300	0.2	800	13 744902010 180-0313
1.2	± 0.1nH	15	300	0.2	800	13 744902012 180-0314
1.5	± 0.1nH	15	300	0.2	800	10 744902015 180-0315
1.8	± 0.1nH	15	300	0.2	300	10 744902018 180-0316
2.2	± 0.1nH	15	300	0.2	300	8 744902022 180-0317
2.7	± 0.1nH	15	300	0.2	300	6 744902027 180-0318
3.3	± 0.1nH	15	300	0.2	300	6 744902033 180-0319
3.9	± 0.1nH	15	300	0.2	300	6 744902039 180-0320
4.7	± 0.1nH	15	300	0.2	300	5 744902047 180-0321
5.6	± 0.1nH	15	300	0.5	300	5 744902056 180-0323
6.8	± 0.1nH	15	300	0.5	300	5 744902068 180-0324
8.2	± 0.1nH	15	300	0.5	300	4 744902082 180-0325
10	± 2%	15	300	1	300	4 744902110 180-0326
12	± 2%	15	300	1	300	3 744902112 180-0327
15	± 2%	15	300	1	300	3 744902115 180-0328
18	± 2%	15	300	2	300	2 744902118 180-0329
22	± 2%	15	300	2	250	2 744902122 180-0330
27	± 2%	15	300	2	250	2 744902127 180-0331

Inductance (nH)	Tolerance	Q Min.	Test. Freq (MHz)	DC Res. (Ω)	Current (mA)	SRF (GHz)	Mftrs. List No.	Order Code
33	± 2%	15	300	2	250	1.5	744902133	180-0332
39	± 2%	15	300	3	200	1.5	744902139	180-0333
47	± 2%	15	300	3	200	1.5	744902147	180-0335
56	± 2%	15	300	5	150	1	744902156	180-0336
68	± 2%	15	300	5	150	1	744902168	180-0337

Case Size	Order Code	10+	50+	100+	250+
0402	All Values ●	0.158	0.137	0.120	0.103
0603	All Values ●	0.290	0.250	0.220	0.189

WE-KI Series



- Excellent Q Factor
 - High Thermal Stability
 - Applications include bluetooth & wireless LAN
- Dimensions (HxWxD)
- | | |
|-------------------|---------------------|
| 0402 | 0.5 x 1 x 0.55mm |
| 0603 (7447xxxxxA) | 1.05 x 1.6 x 1.05mm |
| 0603 (7447xxxxxC) | 0.9 x 1.65 x 1.15mm |
| 0805 (7447xxxxxA) | 1.2 x 2 x 1.25mm |
| 0805 (7447xxxxxC) | 1.28 x 2.28 x 1.7mm |

Inductance nH	Inductance Tolerance	DC Resistance (mΩ)	Self-Resonant Freq. (MHz)	Max. Rated Current (mA)	Mftrs. List No.	Order Code
1	± 0.2nH	45	6000	1.36 A	744765010A	174-8697
1.9	± 0.2nH	70	6000	1.04 A	744765019A	174-8698
2	± 0.2nH	70	6000	1.04 A	744765020A	174-8699
2.2	± 0.2nH	70	6000	960	744765022A	174-8700
2.4	± 0.2nH	68	6000	790	744765024A	174-8702
2.7	± 0.2nH	120	6000	640	744765027A	174-8703
3.3	± 5%	66	6000	840	744765033A	174-8704
3.6	± 5%	66	6000	840	744765036A	174-8705
3.9	± 5%	66	5800	840	744765039A	174-8706
4.3	± 5%	91	6000	700	744765043A	174-8707
4.7	± 5%	130	4775	640	744765047A	174-8708
5.1	± 5%	83	5800	800	744765051A	174-8709
5.6	± 5%	83	5800	760	744765056A	174-8710
6.2	± 5%	83	5800	760	744765062A	174-8711
6.8	± 5%	83	4800	680	744765068A	174-8712
7.5	± 5%	104	5800	680	744765075A	174-8714
8.2	± 5%	104	4400	680	744765082A	174-8715
8.7	± 5%	200	4100	480	744765087A	174-8716
9	± 5%	104	4160	680	744765090A	174-8717
9.5	± 5%	200	4000	680	744765095A	174-8718
10	± 5%	195	3900	480	744765110A	174-8719
11	± 5%	120	3680	640	744765111A	174-8720
12	± 5%	120	3600	640	744765112A	174-8721
13	± 5%	210	3450	560	744765113A	174-8722
15	± 5%	172	3280	560	744765115A	174-8723
16	± 5%	220	3100	560	744765116A	174-8724
18	± 5%	230	3100	420	744765118A	174-8726
19	± 5%	202	3040	480	744765119A	174-8727
20	± 5%	250	3000	420	744765120A	174-8728
22	± 5%	300	2800	400	744765122A	174-8729
23	± 5%	214	2720	400	744765123A	174-8730
24	± 5%	300	2700	400	744765124A	174-8731
27	± 5%	298	2480	400	744765127A	174-8732
30	± 5%	300	2350	400	744765130A	174-8733
33	± 5%	350	2350	400	744765133A	174-8734
36	± 5%	403	2320	320	744765136A	174-8735
39	± 5%	550	2100	320	744765139A	174-8736
40	± 5%	438	2240	320	744765140A	174-8738
43	± 5%	810	2030	100	744765143A	174-8739
47	± 5%	830	2100	100	744765147A	174-8740
51	± 5%	820	1750	100	744765151A	174-8741
56	± 5%	970	1760	100	744765156A	174-8742
100	± 5%	2.52 ohm	1300	100	744765210A	174-8743

Order Code	1+	25+	50+	100+	250+
All Values ●	0.340	0.290	0.260	0.237	0.207

Inductance nH	Inductance Tolerance	DC Resistance (mΩ)	Self-Resonant Freq. (MHz)	Max. Rated Current (mA)	Mftrs. List No.	Order Code
1.6	± 5%	30	12500	700	744761016A	174-8744
1.8	± 0.2nH	50	12500	700	744761018A	174-8745
2	± 0.2nH	80	6900	700	744761020A	174-8746
3	± 0.2nH	60	5800	700	744761033A	174-8747
3.6	± 0.2nH	60	5900	700	744761036A	174-8748
3.9	± 5%	70	6900	700	744761039C	174-8751
4.3	± 5%	70	5900	700	744761043C	174-8752
4.7	± 5%	80	5800	700	744761047C	174-8753
5.1	± 5%	150	5700	700	744761051C	174-8754
5.6	± 5%	190	5700	700	744761056C	174-8755
6.8	± 5%	110	5800	700	744761068A	174-8756
7.5	± 5%	100	4800	700	744761075C	174-8757
8.2	± 5%	100	4700	700	744761082C	174-8758
8.7	± 5%	100	4600	700	744761087C	174-8759
10	± 5%	130	4800	700	744761110A	174-8760
11	± 5%	100	4000	700	744761111C	174-8761



Inductors - SMD Chip - Würth Elektronik - continued

WE-KI Series - continued

0603 Case Size - continued

Inductance nH	Inductance Tolerance	DC Resistance (mΩ)	Self-Resonant Freq. (MHz)	Max. Rated Current (mA)	Mfrs. List No.	Order Code
12	± 5%	100	4000	700	744761112C	174-8763
15	± 5%	170	4000	700	744761115A	174-8764
16	± 5%	170	3300	700	744761116A	174-8765
18	± 5%	120	3100	700	744761118C	174-8766
20	± 5%	120	3100	700	744761120C	174-8767
22	± 5%	220	3000	700	744761122A	174-8768
24	± 5%	140	2650	700	744761124C	174-8769
27	± 5%	220	2800	600	744761127A	174-8770
30	± 5%	220	2500	600	744761130A	174-8771
33	± 5%	200	2300	600	744761133C	174-8772
36	± 5%	200	2080	600	744761136C	174-8773
39	± 5%	210	2200	600	744761139C	174-8775
47	± 5%	230	2000	600	744761147C	174-8776
51	± 5%	240	1950	600	744761151C	174-8777
56	± 5%	250	1900	600	744761156C	174-8778
68	± 5%	350	1700	600	744761168C	174-8779
72	± 5%	490	1700	400	744761172A	174-8780
82	± 5%	580	1700	400	744761182C	174-8781
100	± 5%	630	1400	400	744761210A	174-8782
120	± 5%	650	1300	300	744761212C	174-8783
150	± 5%	850	990	280	744761215C	174-8784
180	± 5%	1 ohm	990	250	744761218C	174-8785
220	± 5%	1.8 ohm	900	250	744761222C	174-8787
270	± 5%	2.1 ohm	822	200	744761227C	174-8788
330	± 5%	2 ohm	500	150	744761233A	174-8789
390	± 5%	2.2 ohm	900	100	744761239A	174-8790

Price Each

Order Code	1+	25+	50+	100+	250+
All Values ●	0.320	0.270	0.240	0.218	0.189

0805 Case Size

Inductance nH	Inductance Tolerance	DC Resistance (mΩ)	Self-Resonant Freq. (MHz)	Max. Rated Current (mA)	Mfrs. List No.	Order Code
2.2	± 0.2nH	60	6000	800	744760022A	174-8791
2.7	± 5%	100	7900	800	744760027C	174-8792
3.3	± 0.2nH	80	6000	800	744760033A	174-8793
3.9	± 0.2nH	60	6000	600	744760039A	174-8794
4.7	± 0.2nH	60	5800	600	744760047A	174-8795
5.6	± 5%	100	5500	600	744760056C	174-8796
6.8	± 5%	110	5500	600	744760068C	174-8797
8.2	± 5%	60	5500	600	744760082A	174-8799
10	± 5%	120	4200	600	74476010C	174-8800
12	± 5%	150	4000	600	744760112C	174-8801
15	± 5%	170	3400	600	744760115C	174-8802
18	± 5%	200	3300	500	744760118C	174-8803
22	± 5%	220	2600	500	74476012C	174-8805
27	± 5%	250	2500	500	744760127C	174-8806
33	± 5%	270	2050	500	74476013C	174-8807
36	± 5%	180	2000	500	744760136A	174-8808
39	± 5%	290	2000	500	744760139C	174-8809
47	± 5%	310	1650	500	74476014C	174-8810
56	± 5%	340	1550	500	74476015C	174-8811
68	± 5%	380	1450	500	74476016C	174-8812
82	± 5%	420	1300	400	74476018C	174-8813
100	± 5%	460	1200	400	7447602C	174-8814
120	± 5%	510	1100	400	744760212C	174-8815
150	± 5%	560	920	400	744760215C	174-8817
180	± 5%	960	870	400	744760218C	174-8818
220	± 5%	1 ohm	850	400	744760222C	174-8819
270	± 5%	1.29 ohm	650	350	744760227C	174-8820
330	± 5%	1.56 ohm	600	310	744760233C	174-8821
390	± 5%	2.1 ohm	560	290	744760239C	174-8822
470	± 5%	2.3 ohm	375	250	74476032C	174-8823
560	± 5%	2.5 ohm	340	230	744760256C	174-8824
620	± 5%	2.7 ohm	188	400	744760262C	174-8825
680	± 5%	2.8 ohm	188	190	7447604C	174-8826
820	± 5%	3.9 ohm	215	180	744760282C	174-8827
1000	± 5%	4.2 ohm	285	150	744760310C	174-8829
1200	± 5%	4.6 ohm	200	150	744760312C	174-8831
1500	± 5%	5.3 ohm	200	130	744760315C	174-8832

Price Each

Order Code	1+	25+	50+	100+	250+
All Values ●	0.320	0.270	0.240	0.218	0.189

WE-LQ Series



- Miniature chip inductor wound on a special ferrite core
- High Q at high frequencies
- Low DC-resistance
- Operating temperature: -40 °C to +125 °C

- Recommended solder profile: Reflow
- Inductance tolerance 5 % on request



Inductance μH	Resistance Ω	Q Factor	Tolerance	Current A	Resonant Frequency MHz	Mfrs. List No.	Order Code
1210 Case							
1	0.1	20	± 20%	0.75	100	744032001	180-0375
1.5	0.13	20	± 20%	0.66	75	7440320015	180-0376
1.8	0.14	20	± 20%	0.64	60	7440320018	180-0377
2.2	0.15	20	± 20%	0.62	50	744032002	180-0378
2.7	0.18	20	± 20%	0.6	43	7440320027	180-0379
3.3	0.2	20	± 20%	0.58	38	744032003	180-0380
3.9	0.25	20	± 20%	0.54	35	7440320039	180-0381
4.7	0.28	20	± 20%	0.49	31	744032004	180-0382
5.6	0.36	20	± 20%	0.44	28	7440320056	180-0384
6.8	0.4	20	± 20%	0.42	25	744032006	180-0385
8.2	0.45	20	± 20%	0.39	23	744032008	180-0386
10	0.65	35	± 20%	0.32	20	744032100	180-0387
12	0.7	35	± 10%	0.29	18	744032120	180-0388
15	1	35	± 10%	0.27	16	744032150	180-0389
18	1.1	35	± 10%	0.24	15	744032180	180-0390
22	1.3	35	± 10%	0.22	14	744032220	180-0391
68	3.8	35	± 10%	0.13	9	744032680	180-0392
100	6.5	40	± 10%	0.1	8	744032101	180-0393
120	7	40	± 10%	0.095	7	744032121	180-0394
220	11.8	40	± 10%	0.075	5	744032221	180-0396

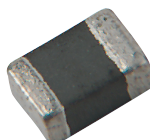
Inductance μH	Resistance Ω	Q Factor	Tolerance	Current A	Resonant Frequency MHz	Mfrs. List No.	Order Code
1812 Case							
1	0.08	40	± 20%	1.8	165	744045001	180-0397
1.5	0.09	42	± 20%	1.75	130	7440450015	180-0398
1.8	0.1	45	± 20%	1.7	100	7440450018	180-0399
2.2	0.11	40	± 20%	1.6	80	744045002	180-0400
2.7	0.12	40	± 20%	1.5	63	7440450027	180-0402
3.2	0.13	45	± 20%	1.4	58	744045003	180-0403
3.9	0.14	40	± 20%	1.32	54	7440450039	180-0404
4.7	0.15	36	± 20%	1.24	45	744045004	180-0405
5.6	0.18	36	± 20%	1.18	41	7440450056	180-0406
6.8	0.2	36	± 20%	1.1	37	744045006	180-0407
8.2	0.25	36	± 20%	1	34	744045008	180-0408
10	0.3	48	± 20%	0.95	30	744045100	180-0409
12	0.42	48	± 20%	0.8	28	744045120	180-0410
15	0.5	45	± 20%	0.73	26	744045150	180-0411
18	0.6	42	± 20%	0.68	22	744045180	180-0412
22	0.7	50	± 10%	0.63	20	744045220	180-0414
33	1.1	55	± 10%	0.43	18	744045330	180-0415
100	2.5	60	± 10%	0.27	10	744045210	180-0416
150	3.7	55	± 10%	0.22	8	744045215	180-0417
390	13	50	± 10%	0.11	5	744045391	180-0418
470	14.2	50	± 10%	0.105	5	744045471	180-0419
680	16.8	45	± 10%	0.09	3	744045681	180-0420
820	20	50	± 10%	0.085	2	744045821	180-0421
1000	30	28	± 10%	0.07	2	744045102	180-0422

Price Each

Order Code	5+	50+	100+	250+	500+
1210 All Values ●	0.53	0.46	0.40	0.34	0.30
1812 All Values ●	0.69	0.59	0.52	0.45	0.40

WE-PMI Series

1008 Case Size



- Compact multilayer type
- No crosstalk
- Operating temperature: -40 °C to +125 °C
- Recommended soldering profile: Reflow



Inductance μH	Resistance Ω	Q Factor @ 1MHz	Resonant Frequency MHz	Mfrs. List No.	Order Code
1	0.29	15	100	74479887210	179-5098
2.2	0.4	19	70	74479887222	179-5099
4.7	0.53	26	50	74479887247	179-5100
6.8	0.65	30	40	74479887268	179-5101
10	0.7	35	30	74479887310	179-5102

Price Each

Order Code	5+	50+	100+	500+
All Values ●	0.92	0.76	0.64	0.51

SMD Line Filter

WE-SLM Series, Common Mode



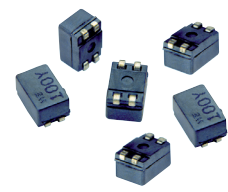
- Small size, High current up to 300mA
- Nominal Voltage: 80V DC (42V AC)
- Operating temperature: -40°C to +125°C
- Recommended soldering profile: Reflow
- For USB, CAN, FireWire, Data Lines
- Filter for measurement signals and power supplies

Inductance (μH)	Induct. Tolerance	R _{DC} max (Ω)	Current rating (mA)	Impedance max. (Ω)	Mfrs. List No.	Order Code
11	+50%, -30%	0.18	300	800	744242110	163-6264
51	+50%, -30%	0.32	300	2500	744242510	163-6265
100	+50%, -30%	0.58	300	4000	744242101	163-6266

Inductance (μH)	Order Code	Price Each				
		1+	10+	50+	100+	250+
11	163-6264	1.98	1.82	1.65	1.55	1.46
51	163-6265	1.98	1.82	1.65	1.55	1.46
100	163-6266	1.98	1.82	1.65	1.55	1.46

522475

Common mode Chokes
WE-SL2 Series, for Signal Lines



- For distortion-free removal of noise from transmitted electrical signals
- Double current-compensated choke
- Offering a wide bandwidth with the core materials NiZn / MnZn
- Ambient temperature: -40°C to +85°C
- Nominal voltage: 80V DC (42V AC)
- UL compliant housing
- for current compensated choke for data and signal lines, power supply systems, filter for measurement signals

2x Inductance (μH)	Inductance tolerance (%)	R _{DC} max (Ω)	Current rating (A)	Impedance max. (kΩ)	Mfrs. List No.	Order Code
51	± 30%	0.16	1	5.5	744227	163-6267
6500	± 50%	0.95	0.4	18.4	744229	163-6268
10	± 30%	0.08	1.6	0.92	744226	163-6269
25	± 30%	0.12	1	2.8	744228	163-6270
250	± 50%	0.13	1.2	1.8	744224	163-6272
500	± 50%	0.15	1	3.3	744223	163-6274
1000	± 50%	0.31	0.8	6	744222	163-6275
2000	± 50%	0.42	0.6	9.2	744221	163-6276
4700	± 50%	0.75	0.5	20	744220	163-6277

522476

2x Inductance (μH)	Order Code	1+	10+	50+	100+	250+
51	163-6267	1.74	1.61	1.49	1.40	1.31
6500	163-6268	1.74	1.61	1.49	1.40	1.31
10	163-6269	1.74	1.61	1.49	1.40	1.31
25	163-6270	1.74	1.61	1.49	1.40	1.31
250	163-6272	1.74	1.61	1.49	1.40	1.31
500	163-6274	1.74	1.61	1.49	1.40	1.31
1000	163-6275	1.74	1.61	1.49	1.40	1.31
2000	163-6276	1.74	1.61	1.49	1.40	1.31
4700	163-6277	1.74	1.61	1.49	1.40	1.31

Design Kits Chokes

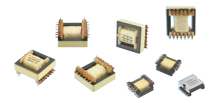


- Kit selection recommended by Linear Technology, National Semiconductor, Texas Instruments, Fairchild Semiconductor and STMicroelectronics
- Wide range of case sizes and current ratings
- Shielded and unshielded SMD chokes available
- For example:
 - Texas Instruments**
 - Starting Software, select Design, select Inductance
 - Analysing simulation and integrate selected choke
 - Kit of 35 values and 176 components
 - National Semiconductors**
 - Nomogram selection in the data sheet, operation range selection, extracting inductance code
 - Inductance selection, start simulation and integrate selected choke
 - 35 values and 190 components
 - For WEBENCH Simple Switcher and Multiphase switch mode units (high current chokes)
 - Linear Technology**
 - Selection of needed and design-recommended inductance
 - Start software starten, select IC, inductance selection according to related software recommendation
 - Kit of 35 values and 239 components
 - Suitable for Switcher CAD III
 - Fairchild Semiconductors**
 - Inductance selection through exact matching between Fairchild part.no. and Wurth components
 - 35 values and 230 components
 - For switch mode family FAN

523192

Manufacturer Kit	Order Code	Price Each
Linear Technology	163-6326	90.92
Texas Instruments	163-6328	90.92
Fairchild Semiconductors	163-6329	83.68
STMicroElectronics	163-6330	83.68
National Semiconductors	163-6331	98.29

Flyback Transformer
WE-FB 3751 Series



Inductance μH	Max. Winding Resistance (Ω)	Turns Ratio	Mfrs. List No.	Order Code
10	0.7	1:10	750032051	174-8692
10	1.06	1:10	750032052	174-8693
5	0.5	1:10	750310349	174-8694
2.5	0.25	1:10	750310355	174-8696

544624

Order Code	Price Each				
	1+	10+	25+	50+	100+
174-8692	6.69	6.37	6.05	5.73	5.31
174-8693	6.69	6.37	6.05	5.73	5.31
174-8694	7.95	7.57	7.19	6.82	6.31
174-8696	7.95	7.57	7.19	6.82	6.31

Flyback Transformer
WE-FB 3573 Series

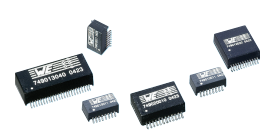


Inductance μH	Max. Winding Resistance (mΩ)	Output Voltage (V)	Turns Ratio	Mfrs. List No.	Order Code
24	64	3.3	4:1:1	750310559	174-8680
25	88	5	3:1:1	750310471	174-8681
25	135	12	2:1:1	750310562	174-8682
25	275	12	2:2:1	750310563	174-8685
63	95	±5	3:1:1:1	750310564	174-8686
30	236	5	3:1:1	750370040	174-8687
50	370	5	3:1:1	750370041	174-8688
25	195	15	3:3:1	750310799	174-8689
30	60	5	3:1:1	750370047	174-8690
15	480	5	1:1:1:1	750370042	174-8691

544589

Order Code	Price Each				
	1+	10+	25+	50+	100+
174-8680	4.52	4.30	4.09	3.87	3.59
174-8681	4.52	4.30	4.09	3.87	3.59
174-8682	4.52	4.30	4.09	3.87	3.59
174-8685	4.52	4.30	4.09	3.87	3.59
174-8686	4.52	4.30	4.09	3.87	3.59
174-8687	4.34	4.13	3.92	3.72	3.44
174-8688	4.34	4.13	3.92	3.72	3.44
174-8689	4.34	4.13	3.92	3.72	3.44
174-8690	4.88	4.65	4.41	4.18	3.87
174-8691	4.88	4.65	4.41	4.18	3.87

WE-LAN Transformers



- Flyback Transformers
- SMD
- Ethernet
- Power over Ethernet
- Hub, Router, Switches
- Operating Temp: 0°C to +70°C

547809

Mfr. No	Order Code	Price Each			
		1+	10+	100+	250+
749090010	163-6343	2.89	2.64	2.40	2.26
749010011	163-6344	2.64	2.40	2.15	2.02
749010012	163-6345	2.56	2.31	2.07	1.94
749010013	163-6346	2.56	2.31	2.07	1.94
749010014	163-6347	3.63	3.39	3.14	2.95
749013011	163-6349	2.53	2.29	2.06	1.94
749013010	163-6350	2.73	2.48	2.23	2.10
749013020	163-6351	4.87	4.60	4.33	4.09
749013021	163-6353	2.60	2.37	2.14	2.01
749013022	163-6354	5.29	4.96	4.63	4.35
749013040	163-6355	4.62	4.43	4.24	4.06
749020010	163-6356	3.72	3.47	3.22	3.03
749020011	163-6357	4.46	4.13	3.80	3.57



Inductors - SMD Chip - Würth Elektronik - continued

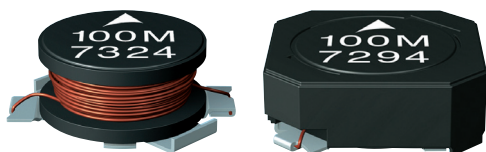
WE-LAN Transformers - continued

Mfr. No	Order Code	Price Each			
		1+	10+	100+	250+
749020013	163-6358	4.46	4.13	3.80	3.57
749020100	163-6359	5.62	5.29	4.96	4.66
749023010	163-6360	4.13	3.82	3.52	3.30
749023020	163-6361	4.66	4.54	4.41	4.23
749023015	163-6362	4.43	4.26	4.09	3.93
749023016	163-6363	5.57	5.35	5.14	4.87
749012011	163-6365	2.81	2.56	2.31	2.17
749022011	163-6367	5.27	4.97	4.66	4.38
Design Kit					
749119	163-6398	94.21	--	--	--

Inductors - SMD Power Coil - Epcos

Low Profile Power Inductors 6x6mm

B82462*2 Series



- Low profile of 2.5mm
- Size: 6x6mm
- Choice of shielded or unshielded
- Winding: enamel copper wire, welded to terminals
- Wide temperature range
- Very high rated current, low DC resistance
- Suitable for reflow soldering

Rated Inductance L_R Measured with HP4294A, measuring voltage 100mV
 Rated Current I_R Max permissible DC with temperature increase of $\leq 40k @ 85^\circ C$
 Saturation Current I_{sat} Max permissible DC with inductance decrease $\Delta L/L_0 = 10\%$
 Self-resonance frequency f_{res} Measured with network analyser HP8753
 (-55°C/+125°C/56 days damp heat test)
 Solderability 5d, 235°C, wetting >90%
 Resistance to soldering heat acc. o IEC 60068-2-58, leadfree reflow soldering profile
 DC resistance R_{max} Measured at 20 ambient temperature
 Weight Unshielded: 0.75g, shielded: 1.5g

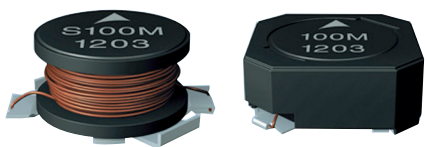
Inductance (μH)	Freq _L (MHz)	Tolerance (%)	I_R (A)	R_{max} (Ω)	Mfrs. List No.	Order Code
Shielded						
3.3	0.1	± 20%	2	0.04	B82462G2332M000	164-4479
4.7	0.1	± 20%	1.6	0.061	B82462G2472M000	164-4482
6.8	0.1	± 20%	1.45	0.078	B82462G2682M000	164-4484
10	0.1	± 20%	1.25	0.106	B82462G2103M000	164-4472
33	0.1	± 20%	0.68	0.345	B82462G2333M000	164-4480
47	0.1	± 20%	0.62	0.42	B82462G2473M000	164-4483
68	0.1	± 20%	0.48	0.635	B82462G2683M000	164-4485
100	0.1	± 20%	0.41	0.95	B82462G2104M000	164-4473
150	0.1	± 20%	0.33	1.48	B82462G2154M000	164-4475
220	0.1	± 20%	0.28	2.1	B82462G2224M000	164-4478
330	0.1	± 20%	0.22	3.25	B82462G2334M000	164-4481
Unshielded						
1	0.1	± 20%	3	0.024	B82462A2102M000	164-4454
1.5	0.1	± 20%	2.55	0.032	B82462A2152M000	164-4457
2.2	0.1	± 20%	2.1	0.048	B82462A2222M000	164-4460
3.3	0.1	± 20%	1.8	0.065	B82462A2332M000	164-4463
3.3	0.1	± 20%	2	0.06	B82462A4332M000	164-4471
4.7	0.1	± 20%	1.55	0.084	B82462A2472M000	164-4467
6.8	0.1	± 20%	1.28	0.125	B82462A2682M000	164-4469
10	0.1	± 20%	1.03	0.18	B82462A2103M000	164-4455
33	0.1	± 10%	0.6	0.47	B82462A2333K000	164-4465
47	0.1	± 10%	0.49	0.69	B82462A2473K000	164-4468
68	0.1	± 10%	0.39	1.1	B82462A2683K000	164-4470
100	0.1	± 10%	0.3	1.6	B82462A2104K000	164-4456
150	0.1	± 10%	0.25	2.55	B82462A2154K000	164-4459
220	0.1	± 10%	0.21	3.8	B82462A2224K000	164-4462
330	0.1	± 10%	0.17	5.05	B82462A2334K000	164-4466

Price Each

Order Code	1+	10+	50+	250+	2K5+
Shielded					
All Values	1.19	1.04	0.99	0.87	0.76
Unshielded					
All Values	1.05	0.89	0.79	0.70	0.61

Power Inductors 6x6mm

B82462 Series



- Size: 6x6mm
- Choice of shielded or unshielded
- Shielded is better for high density population as can be placed closer to other components
- Winding: enamel copper wire, welded to terminals
- Wide temperature range
- Very high rated current, low DC resistance
- Suitable for reflow soldering

Rated Inductance L_R Measured with HP4294A, measuring voltage 100mV
 Rated Current I_R Max permissible DC with temperature increase of $\leq 40k @ 85^\circ C$
 Saturation Current I_{sat} Max permissible DC with inductance decrease $\Delta L/L_0 = 10\%$
 Self-resonance frequency f_{res} Measured with network analyser HP8753
 Climatic category In accordance with IEC 60068-1 55/125/56
 (-55°C/+125°C/56 days damp heat test)

Solderability 5d, 235°C, wetting >90%
 Resistance to soldering heat acc. o IEC 60068-2-58, leadfree reflow soldering profile
 DC resistance R_{max} Measured at 20 ambient temperature
 Weight Unshielded: 0.75g, shielded: 1.5g

Inductance (μH)	Freq _L (MHz)	Tolerance (%)	I_{sat} (A)	I_R (A)	R_{max} (Ω)	f_{res} (MHz)	Mfrs. List No.	Order Code
Shielded								
1	0.1	20	4.40	3.4	0.016	180	B82462G4102M	742-9967
1.5	0.1	20	3.60	3.1	0.02	100	B82462G4152M	742-9975
2.2	0.1	20	2.60	2.55	0.025	75	B82462G4222M	742-9983
3.3	0.1	20	2.15	2.3	0.031	60	B82462G4332M	742-9991
4.7	0.1	20	1.80	2	0.04	55	B82462G4472M	743-0000
6.8	0.1	20	1.50	1.65	0.05	40	B82462G4682M	743-0019
10	0.1	20	1.30	1.5	0.062	31	B82462G4103M	743-0027
15	0.1	20	1.05	1.25	0.097	23	B82462G4153M	743-0035
22	0.1	20	0.85	1.05	0.15	20	B82462G4223M	743-0043
33	0.1	20	0.72	0.85	0.23	16	B82462G4333M	743-0051
47	0.1	20	0.60	0.75	0.34	13	B82462G4473M	743-0060
68	0.1	20	0.50	0.65	0.42	10	B82462G4683M	743-0078
100	0.1	20	0.42	0.53	0.58	8.5	B82462G4104M	743-0086
150	0.1	20	0.33	0.38	0.96	6.5	B82462G4154M	743-0094
220	0.1	20	0.28	0.35	1.35	5.5	B82462G4224M	743-0108
330	0.1	20	0.24	0.27	2.3	4.5	B82462G4334M	743-0116
Unshielded								
2.2	0.1	20	3.8	2.3	0.042	76	B82462A4222M	742-9797
4.7	0.1	20	2.8	1.65	0.08	50	B82462A4472M	742-9819
6.8	0.1	20	2.3	1.4	0.1	40	B82462A4682M	742-9827
10	0.1	20	1.8	1.15	0.14	32	B82462A4103M	742-9835
47	0.1	10	0.82	0.54	0.64	12	B82462A4473K	742-9878
68	0.1	10	0.69	0.43	0.86	10	B82462A4683K	742-9886
100	0.1	10	0.57	0.35	1.28	9	B82462A4104K	742-9894
330	0.1	10	0.34	0.2	3.9	5	B82462A4334K	742-9924
470	0.1	10	0.28	0.17	5.6	4	B82462A4474K	742-9932
680	0.1	10	0.23	0.14	8	3.2	B82462A4684K	742-9940
1000	0.1	10	0.18	0.11	13	2.8	B82462A4105K	742-9959

349820

Order Multiple=5

Order Code	5+	10+	50+	250+	2K5+
Shielded					
All Values	1.13	1.00	0.62	0.55	0.47
Unshielded					
All Values	0.96	0.74	0.63	0.56	0.53

Power Inductor Kit

B82462 Series



- Suitable for development and research (R&D)
- Values refillable from stock

Kit contains 5 each of 1, 1.5, 2.2, 3.3, 4.7, 6.8, 10, 15, 22, 33, 47, 68, 100, 150, 220 and 330 μH

423493

Order Code	1+	3+
111-2822	94.61	92.18

Power Inductors 10x10mm

B82464 Series



- Size: 10x10mm
- Choice of shielded or unshielded
- Shielded is better for high density population as can be placed closer to other components
- Wide temperature range
- Very high rated current, low DC resistance
- Suitable for reflow soldering

Rated Inductance L_R Measured with HP4294A, measuring voltage 100mV
 Rated Current I_R Max permissible DC with temperature increase of $\leq 40k @ 85^\circ C$
 Saturation Current I_{sat} Max permissible DC with inductance decrease $\Delta L/L_0 = 10\%$
 Self-resonance frequency f_{res} Typical self-resonance frequency measured with network analyser HP8753
 Climatic category In accordance with IEC 60068-1 55/125/56 (-55°C/+125°C/56 days damp heat test)

Solderability acc. o IEC 60068-2-58, leadfree reflow soldering profile
 Resistance to soldering heat Measured at 20 ambient temperature
 DC resistance R_{max} Unshielded: 1.5g, shielded: 2g
 Weight

Inductance (µH)	Freq _L (MHz)	Tolerance (%)	I _{sat} (A)	I _R (A)	R _{max} (Ω)	f _{res} (MHz)	Mftrs. List No.	Order Code
Shielded								
1	0.1	20	10	7.5	0.007	135	B82464G4102M	742-9380
2.2	0.1	20	7.00	6.5	0.01	72	B82464G4222M	742-9401
3.3	0.1	20	5.90	5.5	0.012	50	B82464G4332M	742-9410
4.7	0.1	20	5.20	4.9	0.015	37	B82464G4472M	742-9428
6.8	0.1	20	4.60	4.3	0.02	28	B82464G4682M	742-9436
10	0.1	20	3.50	3.4	0.03	22	B82464G4103M	742-9444
15	0.1	20	3.10	2.75	0.04	15	B82464G4153M	742-9452
22	0.1	20	2.50	2.25	0.052	13	B82464G4223M	742-9460
33	0.1	20	2.10	1.85	0.075	10	B82464G4333M	742-9479
47	0.1	20	1.80	1.55	0.095	9	B82464G4473M	742-9487
68	0.1	20	1.45	1.3	0.13	8	B82464G4683M	742-9495
100	0.1	20	1.15	1.05	0.22	6.5	B82464G4104M	742-9509
220	0.1	20	0.75	0.7	0.44	4	B82464G4224M	742-9525
330	0.1	20	0.65	0.59	0.65	3.2	B82464G4334M	742-9533
470	0.1	20	0.55	0.5	0.93	2.6	B82464G4474M	742-9541
680	0.1	20	0.46	0.42	1.3	2	B82464G4684M	742-9550
1000	0.1	20	0.35	0.34	2.2	1.8	B82464G4105M	742-9568
Unshielded								
1	0.1	20	11	7	0.009	120	B82464A4102M	742-9576
1.5	0.1	20	9.8	6.5	0.01	80	B82464A4152M	742-9584
4.7	0.1	20	5.6	4.3	0.018	42	B82464A4472M	742-9614
10	0.1	20	3.9	2.9	0.038	24	B82464A4103M	742-9630
15	0.1	10	3.2	2.5	0.046	18	B82464A4153K	742-9649
22	0.1	10	2.6	2.1	0.085	15	B82464A4223K	742-9657
33	0.1	10	2.2	1.8	0.1	13	B82464A4333K	742-9665
47	0.1	10	1.8	1.5	0.14	11	B82464A4473K	742-9673
68	0.1	10	1.5	1.25	0.2	9	B82464A4683K	742-9681
100	0.1	10	1.2	1.03	0.28	8	B82464A4104K	742-9690
150	0.1	10	1.0	0.86	0.4	6	B82464A4154K	742-9703
220	0.1	10	0.85	0.69	0.61	5	B82464A4224K	742-9711
330	0.1	10	0.70	0.58	1	4	B82464A4334K	742-9720
470	0.1	10	0.55	0.5	1.27	3.2	B82464A4474K	742-9738
1000	0.1	10	0.38	0.33	3	2	B82464A4105K	742-9762

Order Code	Price Each				
	1+	10+	50+	250+	750+
Shielded					
All Values ●	2.33	1.97	1.28	1.08	0.84
Unshielded					
All Values ●	1.99	1.68	1.49	1.29	1.01

Power Inductor Kit B82464 Series



- B82464 shielded
- Shielded is better for high density population as can be placed closer to other components
- Inductance range: 1-1000µH
- 3 pieces for each value



Kit contains 3 each of 10x10mm 1, 1.5, 2.2, 3.3, 4.7, 6.8, 10, 15, 22, 33, 47, 68, 100, 150, 220, 330, 470, 680 and 1000µH in both shielded and unshielded.

Order Code	Price Each			
	1+	3+	5+	
742-9371 ●	155.30	151.12	146.43	

Power Inductors 12x12mm B82477 Series



- Size: 12x12mm
- Magnetically shielded - better for high density population as can be placed closer to other components
- Winding: enamel copper wire, welded to terminals
- Wide temperature range
- Very high rated current, low DC resistance
- Suitable for reflow soldering



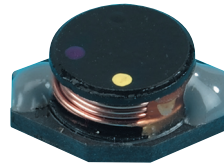
Rated Inductance L_R Measured with HP4284A, measuring voltage 100mV
 Rated Current I_R Max permissible DC with temperature increase of $\leq 40k @ 85^\circ C$
 Saturation Current I_{sat} Max permissible DC with inductance decrease $\Delta L/L_0 = 10\%$
 Self-resonance frequency f_{res} Measured with network analyser HP8753
 Climatic category In accordance with IEC 60068-1 55/125/56 (-55°C/+125°C/56 days damp heat test)

Solderability acc. o IEC 60068-2-58, leadfree reflow soldering profile
 Resistance to soldering heat Measured at 20 ambient temperature
 DC resistance R_{max} 4g
 Weight

Inductance (µH)	Freq _L (MHz)	Tolerance (%)	I _R (A)	R _{max} (Ω)	Mftrs. List No.	Order Code
1	100	20	9.8	0.007	B82477G4102M	743-0299
2.2	100	20	8	0.01	B82477G4222M	743-0302
3.3	100	20	7.5	0.0125	B82477G4392M	743-0310
4.7	100	20	6.8	0.014	B82477G4472M	743-0329
6.8	100	20	6.5	0.0185	B82477G4682M	743-0345
10	100	20	5.4	0.022	B82477G4103M	743-0353
15	100	20	4.5	0.027	B82477G4153M	743-0370
22	100	20	3.6	0.038	B82477G4223M	743-0388
33	100	20	3	0.053	B82477G4333M	743-0396
47	100	20	2.5	0.082	B82477G4473M	743-0400
82	100	20	1.9	0.145	B82477G4823M	743-0426
100	100	20	1.7	0.165	B82477G4104M	743-0434
150	100	20	1.42	0.225	B82477G4154M	743-0442
220	100	20	1.16	0.38	B82477G4224M	743-0450
330	100	20	0.95	0.6	B82477G4334M	743-0469
470	100	20	0.8	0.79	B82477G4474M	743-0477
1000	100	20	0.55	1.68	B82477G4105M	743-0493

Order Code	Price Each			
	1+	10+	50+	400+
All Values ●	2.12	1.64	1.41	0.93

Power Inductors - B82476/8/9 Series



A range of surface mount power inductors designed for filtering supply voltages, coupling/decoupling, dc/dc converters, telecommunications and automotive electronics

- High current rating
- Low dc resistance
- Suitable for reflow soldering (IR and vapour phase)

B82476 - L = 9.4mm, W = 12.9mm, H = 5.08mm
 B82478 - L = 11.6mm, W = 12.6mm, H = 8.5mm
 B82479 - L = 15.24mm, W = 18.54mm, H = 7.11mm

Inductance µH	Inductance Tolerance %	DC Resistance Max. (Ω)	Max dc Current mA	Test Frequency MHz	Self Res. Frequency MHz	Order Code
B82476						
10	20	0.025	3800	100	20	387-7486
22	20	0.05	2600	100	20	387-7498
47	20	0.12	1600	100	20	387-7504
100	20	0.23	1200	100	20	387-7516
220	20	0.53	800	100	20	387-7528
330	20	0.81	600	100	20	387-7530
470	20	1.1	500	100	20	387-7541
B82478						
22	20	0.1	2600	10	20	387-7577
33	20	0.12	2300	10	20	387-7589
47	20	0.17	1950	10	20	387-7590
220	20	0.73	950	10	20	387-7619
330	20	1.15	800	10	20	387-7620
1000	20	3	460	10	20	387-7644
B82479						
10	20	0.032	4300	100	20	387-7656
22	20	0.047	3500	100	20	387-7668
33	20	0.066	3000	100	20	387-7670
47	20	0.087	2600	100	20	387-7681
100	20	0.19	1800	100	20	387-7693
220	20	0.38	1200	100	20	387-7700
330	20	0.56	1000	100	20	387-7711
470	20	0.85	820	100	20	387-7723
1000	20	1.8	560	100	20	387-7735

Order Code	Price Each			
	5+	100+	500+	1K+
B82476 All Values ●	2.31	2.20	2.07	1.83
B82478 All Values ●	2.21	1.82	1.68	1.59
B82479 All Values ●	3.31	3.17	2.90	2.64

Helically wound power inductor HPI B82559 Series



- Very high rated current
- Extremely low DC resistance
- Suitable for pick and place processes
- Applications includes energy storage chokes for DC/DC & POL converter

DC resistance Measured at 20°C ambient temperature
 Operating temperature -40°C to 130°C
 Tolerance ±10%
 Weight 2.2g



Inductors - SMD Power Coil - Epcos - continued

Helically wound power inductor - continued

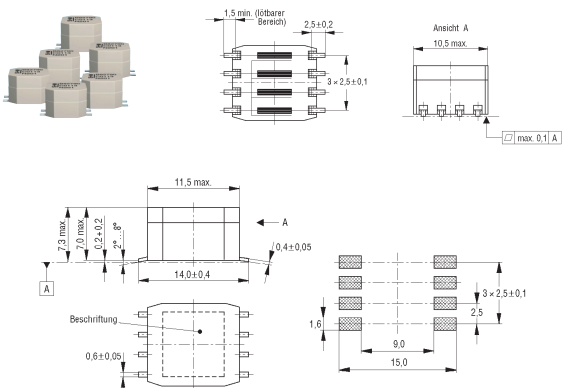
HPI B82559 Series - continued

Inductance (μH)	Current max. (I dc)	Dimensions (mm)			R _{max} (Ω)	Mfrs. List No.	Order Code
		L	W	H			
0.5	30	13.1	11	4.95	1.1	B82559A0501A013	111-2809
0.95	25	13.1	11	5.95	1.4	B82559A0951A013	111-2810
1.1	20	13.1	11	4.95	2.2	B82559A0112A013	111-2811
1.4	22	13.1	11	5.95	1.8	B82559A0142A013	111-2812
2.2	15	13.1	11	4.95	4.2	B82559A0222A013	111-2813
3.9	12	13.1	11	5.95	6	B82559A0392A013	111-2816

423468

Order Code	Price Each				
	5+	+	+	+	+
All Values	1.47	--	--	--	--

Data and Signal Line Chokes



- Ring core double and Quad chokes in a **UL94V-0** flame retardant case
- Applications include CAN-BUS and telecom systems



Voltage rating		80Vdc/42Vac			
IEC climatic category		40/125/56			
L _N (mH)	I _N (A)	L _S (μH)	Application	Mfrs. List No.	Order Code
Double Chokes					
0.011	0.5	0.05	4 CAN-Bus	B82790C113N201	975-2234
0.051	0.5	1.5	4 CAN-Bus	B82790S513N201	975-2250
1	0.5	0.2	4 Telecom	B82790C105N240	975-2277
4.7	0.5	0.25	4 Telecom	B82790C475N265	975-2285
4.7	0.2	0.25	8 Telecom	B82792C475N365	524-657
10	0.2	0.4	8 Telecom	B82792C106N365	524-840
Quad Chokes					
0.47	0.5	0.15	8 ISDN	B82792C2474N315	524-852
1	0.5	0.2	8 ISDN	B82792C2105N365	524-876
4.7	0.2	0.3	8 ISDN	B82792C2475N365	524-943

204146

Mfrs. List No.	Order Code	Price Each				
		5+	10+	25+	50+	100+
Double chokes						
B82790C113N201	SMD 975-2234	1.87	1.81	1.77	1.65	1.53
B82790S513N201	SMD 975-2250	2.19	2.15	2.09	1.99	1.82
B82790C105N240	SMD 975-2277	2.18	2.14	2.09	1.98	1.80
B82790C475N265	SMD 975-2285	2.51	2.47	2.38	2.27	2.07
B82792C475N365	SMD 524-657	2.02	1.97	1.92	1.78	1.74
B82792C106N365	SMD 524-840	2.74	2.63	2.53	2.30	2.22
Quad chokes						
B82792C2474N315	SMD 524-852	3.18	3.11	3.03	2.85	2.64
B82792C2105N365	SMD 524-876	3.36	--	--	--	--
B82792C2475N365	SMD 524-943	4.40	4.32	4.19	3.99	3.66

Data Line Choke

B82789 Series



- Current compensated double choke with ferrite core
- Suitable for automatic placement
- Suitable for reflow soldering
- Suppression of asymmetrical interference coupled in on lines, whereas data signals up to several MHz can pass unaffected
- Tinned terminals



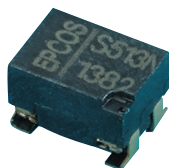
Rated Voltage	42V (50/60 Hz), 80V DC
Rated Current	Referred to 50Hz and 85°C ambient temperature
Rated Inductance	Measured with HP4275A at 100kHz, 0.1A
Inductance Tolerance	-30%/+50%
Stray Inductance	typical value measured with HP4275A at 100kHz, 5mA
DC resistance	typical value measured at 20°C ambient temperature
Operating Temperature	-40°C to +125°C
Test Voltage	250V-, 2s

Inductance (μH)	Leakage Inductance (nH)	Current (mA)	RMS Test Voltage (V-, 2s)	Resistance max (mΩ)	Mfrs. List No.	Order Code
11	60	300	250	200	B82789C113N2	743-0507
22	100	250	250	500	B82789C223N2	743-0515
22	3000	250	250	550	B82789S223N2	743-0523
51	100	250	250	450	B82789C513N2	743-0531
100	250	150	250	1000	B82789C104N002	743-0540

350184

Order Code	Price Each				
	5+	10+	50+	250+	2K5+
All Values	1.18	0.89	0.79	0.70	0.67

CANBus Inductors - B82799 Series



- Case flame retardant to **UL94V-0**
- Operation up to 150°C
- Suitable for reflow soldering and conductive adhesion



Voltage Rating	42 Vac, 80 Vdc
Inductive Tolerance	±30%
Climatic category	40/125/56
Rated current @ 50 Hz, 60°C	100mA

L=3.2mm, W=4.5mm, H=3.2mm

A range of current compensated ring core double choke with ferrite core devices for suppression of interference on data and signal lines. Bifilar winding (B82799C) and sector winding (B82799S) available.

B82799C - Suppression of asymmetrical interference coupled in on lines, whereas data signals up to some MHz can pass unaffectedly.

B82799S - Suppression of asymmetrical and symmetrical interference coupled in on lines. The high frequency portions of the symmetrical data signal are decreased so far that EMC problems can be significantly reduced.

Inductance (nH)	Stray inductance (nH)	DC Resistance Max. (Ω)	Mfrs. List No.	Order Code
11	45	150	B82799C113N1	387-7747
22	1300	200	B82799S223N1	387-7759
51	2700	300	B82799S513N1	387-7772

234193

Order Code	Price Each				
	5+	50+	100+	500+	1K+
All Values	2.65	2.32	1.96	1.73	1.59

Power Inductor Kit

B82799 Series



- Suitable for development and research (R&D)
- Kit contains 11, 22, 33, 51, 100, 220, 330 and 470μH

423489

Order Code	Price Each	
	1+	3+
111-2819	56.58	51.20

Inductors - SMD Power Coil - Panasonic

ELLV Series Choke Coils



ELLVEG	3x3x1mm
ELLVFG-C	3x3x1.2mm
ELLVGG	3x3x1.5mm

- Magnetically shielded structure
- Low DC resistance and large current capability
- Shock resistant
- DC-DC converter circuitry for computer peripherals and mobile phones.
- Chopper circuit decoupling chokes for DC-DC converter circuitry.

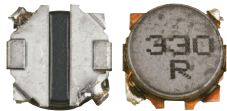
Inductance (μH)	@ Freq (kHz)	Tolerance (%)	I _R	R _{max} (mΩ)	Mfrs. List No.	Order Code
ELLVEG						
1	100	± 30%	1.9 A	61	ELLVEG1R0N	171-7396
1.5	100	± 30%	1.2 A	74	ELLVEG1R5N	171-7397
2.2	100	± 30%	1.1 A	110	ELLVEG2R2N	171-7398
3.3	100	± 30%	1 A	210	ELLVEG3R3N	171-7399
4.7	100	± 30%	750 mA	240	ELLVEG4R7N	171-7400
6.8	100	± 30%	580 mA	350	ELLVEG6R8N	171-7401
10	100	± 20%	520 mA	480	ELLVEG100M	171-7402
15	100	± 20%	430 mA	710	ELLVEG150M	171-7403
ELLVFG-C						
1	100	± 30%	1.5 A	50	ELLVFG1R0NC	171-7404
1.5	100	± 30%	1.3 A	61	ELLVFG1R5NC	171-7405
10	100	± 20%	550 mA	380	ELLVFG100MC	171-7407

Inductance (μH)	@ Freq (kHz)	Tolerance (%)	I _R	R _{max} (mΩ)	Mfrs. List No.	Order Code
ELLVFG-C						
22	100	± 20%	350 mA	710	ELLVFG220MC	171-7408
33	100	± 20%	280 mA	1.16 ohm	ELLVFG330MC	171-7409
ELLVGG						
1	100	± 30%	2.2 A	52	ELLVGG1R0N	171-7410
1.6	100	± 30%	1.8 A	73	ELLVGG1R6N	171-7411
2.2	100	± 30%	1.6 A	92	ELLVGG2R2N	171-7412
3.3	100	± 30%	1.35 A	130	ELLVGG3R3N	171-7413
4.7	100	± 30%	1.2 A	170	ELLVGG4R7N	171-7414
6.8	100	± 30%	1 A	230	ELLVGG6R8N	171-7415
10	100	± 20%	800 mA	280	ELLVGG100M	171-7416
22	100	± 20%	500 mA	800	ELLVGG220M	171-7417
33	100	± 20%	450 mA	1.33 ohm	ELLVGG330M	171-7419

539834

Order Multiple=5		Price Each				
Order Code	5+	100+	250+	500+	2K+	
ELLVEG - All Values	0.260	0.240	0.220	0.200	0.155	
ELLVFG-C - All Values	0.280	0.260	0.240	0.220	0.171	
ELLVGG - All Values	0.250	0.240	0.210	0.197	0.152	

ELL4 Series Choke Coils



ELL4FG-A	3.8x3.8x1.2mm
ELL4GG	3.8x3.8x1.4mm
ELL4LG-A	3.8x3.8x1.8mm



- Magnetically shielded structure
- Low DC resistance and large current capability
- Shock resistant
- DC-DC converter circuitry for computer peripherals and mobile phones.
- Chopper circuit decoupling chokes for DC-DC converter circuitry.

Inductance (μH)	@ Freq (kHz)	Tolerance (%)	I _R	R _{max} (mΩ)	Mfrs. List No.	Order Code
ELL4FG-A						
1		± 30%	1.9 A	45	ELL4FG1R0NA	171-7421
2		± 30%	1.3 A	70	ELL4FG2R0NA	171-7422
3.3		± 30%	1.1 A	110	ELL4FG3R3NA	171-7423
4.7		± 30%	1 A	160	ELL4FG4R7NA	171-7424
6.8		± 30%	800 mA	220	ELL4FG6R8NA	171-7425
10		± 20%	700 mA	290	ELL4FG100MA	171-7426
15		± 20%	600 mA	480	ELL4FG150MA	171-7427
22		± 20%	420 mA	620	ELL4FG220MA	171-7428
ELL4GG						
1.2		± 30%	2.4 A	50	ELL4GG1R2N	171-7429
1.8		± 30%	1.9 A	71	ELL4GG1R8N	171-7430
2.2		± 30%	1.7 A	88	ELL4GG2R2N	171-7432
3.3		± 30%	1.5 A	110	ELL4GG3R3N	171-7433
4.7		± 30%	1.2 A	160	ELL4GG4R7N	171-7434
6.8		± 30%	1.05 A	200	ELL4GG6R8N	171-7435
10		± 20%	900 mA	250	ELL4GG100M	171-7436
15		± 20%	700 mA	500	ELL4GG150M	171-7437
22		± 20%	600 mA	640	ELL4GG220M	171-7438
33		± 20%	450 mA	980	ELL4GG330M	171-7439
47		± 20%	400 mA	1.25 ohm	ELL4GG470M	171-7440
100		± 20%	290 mA	2.4 ohm	ELL4GG101M	171-7441
ELL4LG-A						
4.7		± 30%	1.1 A	90	ELL4LG4R7NA	171-7442
10		± 20%	800 mA	200	ELL4LG100MA	171-7444
22		± 20%	550 mA	390	ELL4LG220MA	171-7445

540275

Order Multiple=5		Price Each				
Order Code	5+	100+	250+	500+	2K+	
ELL4FG-A - All Values	0.370	0.330	0.310	0.290	0.220	
ELL4GG - All Values	0.320	0.290	0.270	0.250	0.191	
ELL4LG-A - All Values	0.330	0.300	0.280	0.250	0.198	

ELL5PS Series Choke Coils



ELL5PS	5x5x2mm
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- Magnetically shielded structure
- Low DC resistance and large current capability
- Available on tape and reel for automatic insertion
- DC-DC converter circuitry for computer peripherals and mobile phones.
- Chopper circuit decoupling chokes for DC-DC converter circuitry

Inductance (μH)	@ Freq (kHz)	Tolerance (%)	I _R	R _{max} (mΩ)	Mfrs. List No.	Order Code
1.2	100	± 30%	2.5 A	22	ELL5PS1R2N	171-7446
1.5	100	± 30%	2.4 A	28	ELL5PS1R5N	171-7447
2.2	100	± 30%	2.1 A	34	ELL5PS2R2N	171-7448
2.7	100	± 30%	2 A	40	ELL5PS2R7N	171-7449
3.3	100	± 30%	1.9 A	46	ELL5PS3R3N	171-7450
4.7	100	± 30%	1.5 A	61	ELL5PS4R7N	171-7451
10	100	± 20%	1 A	120	ELL5PS100M	171-7452
15	100	± 20%	790 mA	170	ELL5PS150M	171-7453
22	100	± 20%	650 mA	290	ELL5PS220M	171-7454

Inductance (μH)	@ Freq (kHz)	Tolerance (%)	I _R	R _{max} (mΩ)	Mfrs. List No.	Order Code
33	100	± 20%	490 mA	470	ELL5PS330M	171-7456
47	100	± 20%	450 mA	620	ELL5PS470M	171-7457
56	100	± 20%	430 mA	680	ELL5PS560M	171-7458
68	100	± 20%	380 mA	750	ELL5PS680M	171-7459
100	100	± 20%	300 mA	1.32 ohm	ELL5PS101M	171-7460

540344

Order Multiple=5		Price Each				
Order Code	5+	100+	250+	500+	2K+	
All Values	0.39	0.34	0.32	0.30	0.23	

ELL6 Series Choke Coils

Magnetic shielded type



- Separated terminal and internal connection provides high reliability
- Small physical dimensions
- Capable of handling large currents
- 105°C max. operating temperature (including self-temperature rise)



Suitable for in dc/dc converter circuits and choke coils in chopper circuit decoupling. Applications include videos, audio, mobile communications and electric battery driving equipment.

L = 6mm, W = 6.4mm

Inductance (μH)	Device Marking	Tolerance	DC resistance Max. (Ω)	DC Current Max.	Mfrs. List No.	Order Code
ELL6GG (H=1.6mm)						
1.5	1R5	± 30%	36	2.3 A	ELL6GG1R5N	171-7461
10	100	± 20%	170	900 mA	ELL6GG100M	171-7462
22	220	± 20%	300	620 mA	ELL6GG220M	171-7463
47	470	± 20%	610	400 mA	ELL6GG470M	171-7464
ELL6PG (H=2mm)						
0.8	R08	± 30%	24	3.8 A	ELL6PGR08N	171-7465
1.5	1R5	± 30%	30	2.5 A	ELL6PG1R5N	171-7466
2.2	2R2	± 30%	37	2.2 A	ELL6PG2R2N	171-7468
3.3	3R3	± 30%	44	1.7 A	ELL6PG3R3N	171-7469
4.7	4R7	± 30%	58	1.5 A	ELL6PG4R7N	171-7470
5.6	5R6	± 30%	65	1.45 A	ELL6PG5R6N	171-7471
10	100	± 20%	110	1.3 A	ELL6PG100M	171-7472
15	150	± 20%	150	1 A	ELL6PG150M	171-7473
22	220	± 20%	230	800 mA	ELL6PG220M	171-7474
27	270	± 20%	260	730 mA	ELL6PG270M	171-7475
33	330	± 20%	300	700 mA	ELL6PG330M	171-7476
47	470	± 20%	470	550 mA	ELL6PG470M	171-7477
56	560	± 20%	520	500 mA	ELL6PG560M	171-7478
68	680	± 20%	700	420 mA	ELL6PG680M	171-7481
100	101	± 20%	1	380 mA	ELL6PG101M	171-7482
ELL6RH (H=2.5mm)						
1	1R0	± 20%	0.019	3 A	ELL6RH1R0M	119-8589
2.7	2R7	± 20%	0.039	1.8 A	ELL6RH2R7M	119-8590
3.3	3R3	± 20%	0.044	1.6 A	ELL6RH3R3M	119-8591
6.2	6R2	± 20%	0.062	1.4 A	ELL6RH6R2M	119-8593
8.2	8R2	± 20%	0.087	1.2 A	ELL6RH8R2M	119-8594
10	100	± 20%	0.095	1.1 A	ELL6RH100M	119-8595
15	150	± 20%	0.15	850 mA	ELL6RH150M	119-8596
18	180	± 20%	0.17	800 mA	ELL6RH180M	119-8597
22	220	± 20%	0.22	700 mA	ELL6RH220M	119-8598
33	330	± 20%	0.38	600 mA	ELL6RH330M	119-8599
47	470	± 20%	0.48	500 mA	ELL6RH470M	119-8601
68	680	± 20%	0.77	400 mA	ELL6RH680M	119-8602
82	820	± 20%	0.87	350 mA	ELL6RH820M	119-8603
100	101	± 20%	1	300 mA	ELL6RH101M	119-8604
150	151	± 20%	1.8	250 mA	ELL6RH151M	119-8605
220	221	± 20%	2.3	200 mA	ELL6RH221M	119-8606
ELL6SH (H=3mm)						
1.5	1R5	± 20%	0.024	3.2 A	ELL6SH1R5M	153-9562
2.7	2R7	± 20%	0.031	2.4 A	ELL6SH2R7M	153-9558
3.3	3R3	± 20%	0.034	2.2 A	ELL6SH3R3M	153-9564
4.7	4R7	± 20%	0.042	2 A	ELL6SH4R7M	153-9545
6.8	6R8	± 20%	0.052	1.5 A	ELL6SH6R8M	153-9557
8.2	8R2	± 20%	0.061	1.4 A	ELL6SH8R2M	153-9574
10	100	± 20%	0.065	1.3 A	ELL6SH100M	153-9555
12	120	± 20%	0.071	1.2 A	ELL6SH120M	153-9561
15	150	± 20%	0.096	1.1 A	ELL6SH150M	153-9547
22	220	± 20%	0.14	300 mA	ELL6SH220M	153-9554
27	270	± 20%	0.26	800 mA	ELL6SH270M	153-9570
33	330	± 20%	0.18	700 mA	ELL6SH330M	153-9559
47	470	± 20%	0.27	600 mA	ELL6SH470M	153-9551
68	680	± 20%	0.52	500 mA	ELL6SH680M	153-9568
100	101	± 20%	0.68	400 mA	ELL6SH101M	153-9552
120	121	± 20%	0.75	350 mA	ELL6SH121M	153-9566
150	151	± 20%	0.86	365 mA	ELL6SH151M	153-9569
220	221	± 20%	1.4	280 mA	ELL6SH221M	153-9563
330	331	± 20%	2.7	240 mA	ELL6SH331M	153-9567
470	471	± 20%	3.2	200 mA	ELL6SH471M	153-9573
ELL6UH (H=5mm)						
10	100	± 20%	63	1.8 A	ELL6UH100M	171-7483
12	120	± 20%	71	1.7 A	ELL6UH120M	171-7484
15	150	± 20%	79	1.6 A	ELL6UH150M	171-7485
18	180	± 20%	88	1.4 A	ELL6UH180M	171-7486
22	220	± 20%	98	1.3 A	ELL6UH220M	171-7487
27	270	± 20%	110	1.2 A	ELL6UH270M	171-7488
33	330	± 20%	130	1.1 A	ELL6UH330M	171-7489
39	390	± 20%	150	1 A	ELL6UH390M	171-7490
47	470	± 20%	160	900 mA	ELL6UH470M	171-7491
56	560	± 20%	210	800 mA	ELL6UH560M	171-7493
68	680	± 20%	230	700 mA	ELL6UH680M	171-7494
82	820	±				



Inductors - SMD Power Coil - Panasonic - continued

ELL6 Series Choke Coils - continued

Magnetic shielded type - continued

Inductance (µH)	Device Marking	Tolerance	DC resistance Max. (Ω)	DC Current Max.	Mfrs. List No.	Order Code
270	271	± 20%	1.2	370 mA	ELL6UH271M	171-7501
330	331	± 20%	1.36	330 mA	ELL6UH331M	171-7502
390	391	± 20%	1.5	300 mA	ELL6UH391M	171-7503
470	471	± 20%	1.68	270 mA	ELL6UH471M	171-7504
560	561	± 20%	2.53	260 mA	ELL6UH561M	171-7505
680	681	± 20%	2.83	240 mA	ELL6UH681M	171-7506
820	821	± 20%	3.14	200 mA	ELL6UH821M	171-7507
1000	102	± 20%	3.67	180 mA	ELL6UH102M	171-7508

Price Each

Order Code	1+	50+	100+	500+	1K+
ELL6RH - All Values	1.13	0.82	0.59	0.49	0.45
ELL6SH - All Values	0.43	0.36	0.33	0.28	0.26
NEW ELL6GG - All Values	0.51	0.47	0.43	0.41	0.31
NEW ELL6PG - All Values	0.40	0.35	0.33	0.31	0.24
NEW ELL6UH - All Values	0.52	0.48	0.43	0.41	0.31

ELLTV Series Choke Coils

Magnetic shielded structure



- Low DC resistance and large current capability
- Small physical dimensions

Applications

- DC-DC converter circuitry for computer peripherals and mobile phones
- Chopper circuit decoupling chokes for DC-DC converter circuitry

L = 6mm, W = 6.4mm

Inductance (µH)	Tolerance	DC resistance (mΩ)	DC Current Max. (A)	Mfrs. List No.	Order Code
3.3	± 30%	8.8	5.35	ELLATV3R3N	153-9532
5.1	± 30%	14	4.35	ELLATV5R1N	153-9537
6.8	± 30%	16	4	ELLATV6R8N	153-9539
8.2	± 30%	18	3.7	ELLATV8R2N	153-9542
10	± 20%	23	3.3	ELLATV100M	153-9522
12	± 20%	25	2.3	ELLATV120M	153-9524
22	± 20%	45	2.2	ELLATV220M	153-9525
47	± 20%	94	1.53	ELLATV470M	153-9535
100	± 20%	18	1	ELLATV101M	153-9523
220	± 20%	360	0.7	ELLATV221M	153-9527

Price Each

Order Code	1+	50+	100+	500+	1K+
All Values	1.27	1.08	0.96	0.85	0.75

ELLCTV Series Choke Coils



- Magnetically shielded structure
- Low DC resistance and large current capability
- DC-DC converter circuitry for computer peripherals and mobile phones.

- Chopper circuit decoupling chokes for DC-DC converter circuitry

ELLCTV 12x12x4.5mm

Inductance (µH)	@ Freq (kHz)	Tolerance (%)	I _R	R _{max} (mΩ)	Mfrs. List No.	Order Code
1.2	100	± 30%	6.5 A	4.6	ELLCTV1R2N	171-7511
2	100	± 30%	6.3 A	5.6	ELLCTV2R0N	171-7512
2.7	100	± 30%	5.7 A	7	ELLCTV2R7N	171-7513
3.9	100	± 30%	5.6 A	8.5	ELLCTV3R9N	171-7514
4.7	100	± 30%	5.2 A	9.9	ELLCTV4R7N	171-7515
5.6	100	± 30%	4.9 A	11	ELLCTV5R6N	171-7516
6.8	100	± 30%	4.5 A	14	ELLCTV6R8N	171-7517
8.2	100	± 30%	4.4 A	15	ELLCTV8R2N	171-7518
10	100	± 20%	3.9 A	17	ELLCTV100M	171-7519
12	100	± 20%	3.7 A	22	ELLCTV120M	171-7520
15	100	± 20%	3.1 A	25	ELLCTV150M	171-7521
18	100	± 20%	3 A	30	ELLCTV180M	171-7523
22	100	± 20%	2.7 A	37	ELLCTV220M	171-7524
27	100	± 20%	2.3 A	43	ELLCTV270M	171-7525
33	100	± 20%	2.2 A	50	ELLCTV330M	171-7526
39	100	± 20%	2.1 A	61	ELLCTV390M	171-7527
47	100	± 20%	1.9 A	69	ELLCTV470M	171-7528
56	100	± 20%	1.6 A	87	ELLCTV560M	171-7529
68	100	± 20%	1.5 A	100	ELLCTV680M	171-7530
82	100	± 20%	1.4 A	120	ELLCTV820M	171-7531
100	100	± 20%	1.2 A	150	ELLCTV101M	171-7532
120	100	± 20%	1.1 A	190	ELLCTV121M	171-7533
150	100	± 20%	1 A	220	ELLCTV151M	171-7535
180	100	± 20%	930 mA	270	ELLCTV181M	171-7536
220	100	± 20%	840 mA	310	ELLCTV221M	171-7537
270	100	± 20%	810 mA	400	ELLCTV271M	171-7538
330	100	± 20%	660 mA	500	ELLCTV331M	171-7539
390	100	± 20%	630 mA	560	ELLCTV391M	171-7540

Inductance (µH)	@ Freq (kHz)	Tolerance (%)	I _R	R _{max} (mΩ)	Mfrs. List No.	Order Code
470	100	± 20%	580 mA	690	ELLCTV471M	171-7541
560	100	± 20%	540 mA	810	ELLCTV561M	171-7542
680	100	± 20%	470 mA	1.01 ohm	ELLCTV681M	171-7543
820	100	± 20%	440 mA	1.14 ohm	ELLCTV821M	171-7544
1000	100	± 20%	410 mA	1.5 ohm	ELLCTV102M	171-7545

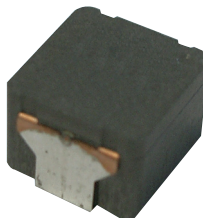
540386

Order Multiple=5

Price Each

Order Code	5+	100+	250+	500+	1K+
All Values	1.01	0.91	0.80	0.71	0.58

ETQP3 Series



- Downsize circuit space due to small and low profile package size
- Excellent DC bias performance and high reliability under high humidity
- Reduce number of components by high power and low loss
- Realize excellent performance by capability to high frequency range
- Low buzz noise



L=6, W=6.5, H=3

ETQP3LR33XFN - L=6.5, W=7.5, H=3

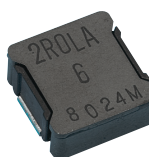
Inductance (µH)	DC Res. (mΩ)	Rated current (A)	Mfrs. List No.	Order Code
0.33	2	17	ETQP3LR33XFN	177-1850
0.68	6.3	7.4	ETQP3MR68YFN	177-1852
1	7.9	6.6	ETQP3M1R0YFN	177-1853
1.5	11	5.6	ETQP3M1R5YFN	177-1854

549287

Price Each

Order Code	1+	10+	50+	100+	250+
SMD All Values	1.30	1.18	1.08	0.93	0.79

Power Choke Coils - ETQP



Supplied on 24mm embossed tape (reel=500pcs)

- Surface mount high power choke coils
- Variety of different case sizes
- Moulded resin construction



Inductance (µH)	Tolerance	DC Current Max. (A)	Max. DC resistance @ 20°C (mΩ)	Dimensions			Mfrs. List No.	Order Code
				H	W	D		
0.2	± 20%	28	0.7	11.5	10	4	ETQP4LR19WFC	153-9575
0.37	± 20%	24	1.1	11.5	10	4	ETQP4LR36WFC	153-9576
0.5	± 20%	27	0.8	14.5	12.5	5	ETQP5LR50XFA	153-9579
0.58	± 20%	19	1.44	12.5	12.5	6	ETQP6FOR6BFA	153-9581
0.6	± 20%	21	1.56	11.5	10	4	ETQP4LR56WFC	153-9578
0.6	± 20%	30	1.1	14.5	12.5	5	ETQP5LR60XFA	153-9580
0.7	± 30%	22.6	1	17.2	16.8	9	ETQPAF0R7EFA	153-9588
1.06	± 20%	16	2.24	12.5	12.5	6	ETQP6F1R1BFA	153-9582
1.2	± 30%	22.6	1	17.2	16.8	9	ETQPAF1R2HFA	153-9591
1.2	± 30%	14.3	2.24	12.5	12.5	5.7	ETQP6F1R2HFA	969-4145
1.3	± 25%	17.5	1.56	17.2	16.8	9	ETQPAF1R3EFA	153-9592
1.71	± 20%	14	3.3	12.5	12.5	6	ETQP6F1R8BFA	153-9583
2	± 30%	10.7	3.3	12.5	12.5	5.7	ETQP6F2R0HFA	969-4153
2.45	± 20%	12	4.92	12.5	12.5	6	ETQP6F2R5BFA	153-9584
2.45	± 20%	4.5	7.6	8.5	8	5.4	ETQP5M2R5YFK	153-9596
2.5	± 20%	5.6	7.73	10	10	4.95	ETQP5M2R5YFC	153-9600
2.5	± 30%	11.3	4.92	12.5	12.5	5.7	ETQP6F2R5SFA	969-4161
2.7	± 30%	17.5	1.56	17.2	16.8	9	ETQPAF2R7HFA	153-9587
3.2	± 25%	8.6	4.92	12.5	12.5	5.7	ETQP6F3R2HFA	969-4170
3.3	± 20%	8.6	7.1	10	10.7	5.4	ETQP5M3R3YFC	179-8549
3.32	± 20%	10	6.48	12.5	12.5	6	ETQP6F3R4BFA	153-9585
4.6	± 25%	7.3	6.48	12.5	12.5	5.7	ETQP6F4R6HFA	969-4188
4.7	± 20%	2.8	20.4	7	7.5	5.4	ETQP5M4R7YFM	179-8550
4.7	± 20%	4.4	10.2	10	10.7	5.4	ETQP5M4R7YFC	179-8551
4.8	± 30%	14.4	2.29	17.2	16.8	9	ETQPAF4R8HFA	153-9586
6.4	± 25%	6.2	8.64	12.5	12.5	5.7	ETQP6F6R4HFA	969-4196
7.2	± 30%	12	3.31	17.2	16.8	9	ETQPAF7R2HFA	153-9593
10.2	± 25%	4.7	13.3	12.5	12.5	5.7	ETQP6F102HFA	969-4200
22	± 20%	1.6		8.5	8	5.4	ETQP5M220YFK	153-9597
47	± 20%	1.1	127	8.5	8	5.4	ETQP5M470YFK	153-9599
48	± 20%	1	156	7.5	7	5.4	ETQP5M470YFM	153-9595
100	± 20%	1	208	10	10.7	5	ETQP5M101YGC	179-8552

204187

Inductance (µH)	Order Code	Price Each				
		1+	5+	10+	50+	100+
0.2	SMD 153-9575 RL	2.38	2.24	2.18	2.13	2.07
0.37	SMD 153-9576 RL	2.69	2.43	2.36	2.13	2.07
0.5	SMD 153-9579 RL	0.84	0.81	0.78	0.76	0.74
0.58	SMD 153-9581 RL	1.12	1.04	0.97	0.87	0.83
0.6	SMD 153-9578 RL	2.96	2.68	2.61	2.28	2.15
0.6	SMD 153-9580 RL	1.05	0.98	0.92	0.82	0.77
0.7	153-9588 RL	5.31	4.95	4.62	4.16	3.92
1.06	SMD 153-9582 RL	1.56	1.45	1.34	1.20	1.11

Inductance μH	Order Code	Price Each				
		1+	5+	10+	50+	100+
1.2	SMD 153-9591 ● RL	5.84	5.44	5.08	4.58	4.32
1.2	SMD 969-4145 ●	3.10	2.35	2.14	1.92	1.80
1.3	153-9592 ● RL	3.98	3.76	3.70	3.60	3.51
1.71	SMD 153-9583 ● RL	1.09	1.06	1.03	1.00	0.98
2	SMD 969-4153 ●	3.08	2.84	2.59	2.33	2.17
2.45	SMD 153-9584 ●	1.26	1.15	1.07	0.96	0.89
2.45	SMD 153-9596 ● RL	1.64	1.51	1.40	1.25	1.15
2.5	SMD 153-9600 ●	1.24	1.17	1.15	1.12	1.10
2.5	SMD 969-4161 ●	2.50	2.31	2.10	1.88	1.77
2.7	SMD 153-9587 ●	3.96	3.80	3.64	3.54	3.46
3.2	SMD 969-4170 ●	3.10	2.35	2.14	1.90	1.85
3.3	NEW 179-8549 ●	3.17	2.74	2.40	2.12	1.92
3.32	SMD 153-9585 ●	1.16	1.07	1.00	0.90	0.85
4.6	SMD 969-4188 ●	3.10	2.35	2.14	1.90	1.85
4.7	NEW 179-8550 ●	2.06	1.78	1.56	1.38	1.25
4.7	NEW 179-8551 ●	3.17	2.74	2.40	2.12	1.92
4.8	SMD 153-9586 ●	6.69	6.17	5.71	5.11	4.78
6.4	SMD 969-4196 ●	3.10	2.56	2.35	2.14	1.99
7.2	SMD 153-9593 ●	4.68	4.32	3.99	3.58	3.35
10.2	SMD 969-4200 ●	3.10	2.35	2.14	1.90	1.85
22	SMD 153-9597 ● RL	1.00	0.94	0.87	0.79	0.74
47	SMD 153-9599 ●	1.12	1.04	0.98	0.88	0.83
48	SMD 153-9595 ●	1.33	1.23	1.14	1.01	0.94
100	NEW 179-8552 ●	3.17	2.74	2.40	2.12	1.92

Inductors - SMD Power Coil - TDK

VLF Series

Inductor Coils for Power Lines



- Miniature size
- Generic use for portable DC to DC converter line
- High magnetic shield construction should actualize high resolution for EMC protection
- Available for automatic mounting in tape and reel package



VLF3010A = L 2.8 mm, W 2.6mm, H 1mm
 VLF3012A = L 2.8 mm, W 2.6mm, H 1mm
 VLF4012A = L 3.7mm, W 3.5mm, H 1.2mm

Inductance (μH)	Tolerance ±%	DC resistance Max. (Ω)	DC Current Max. (A)	Mfrs. List No.	Order Code
VLF3010A					
1.5	30	0.068	1.2	VLF3010AT-1R5M1R2	NEW 167-0115
2.2	20	0.1	1	VLF3010AT-2R2M1R0	NEW 167-0118
3.3	20	0.15	0.87	VLF3010AT-3R3MR87	NEW 167-0119
4.7	20	0.24	0.7	VLF3010AT-4R7MR70	NEW 167-0120
10	20	0.58	0.49	VLF3010AT-100MR49	NEW 167-0114
22	20	1.3	0.33	VLF3010AT-220MR33	NEW 167-0117
VLF3012A					
2.2	20	0.088	1	VLF3012AT-2R2M1R0	NEW 167-0123
3.3	20	0.11	0.87	VLF3012AT-3R3MR87	NEW 167-0124
4.7	20	0.16	0.74	VLF3012AT-4R7MR74	NEW 167-0125
10	20	0.36	0.49	VLF3012AT-100MR49	NEW 167-0121
22	20	0.66	0.33	VLF3012AT-220MR33	NEW 167-0122
VLF4012A					
1.5	20	0.09	1.8	VLF4012AT-1R5M1R6	130-1682
2.2	20	0.076	1.5	VLF4012AT-2R2M1R5	NEW 167-0126
3.3	20	0.1	1.3	VLF4012AT-3R3M1R3	130-1686
4.7	20	0.14	1.1	VLF4012AT-4R7M1R1	130-1689
6.8	20	0.2	0.96	VLF4012AT-6R8MR96	130-1691
10	20	0.3	0.8	VLF4012AT-100MR79	130-1680
15	20	0.46	0.63	VLF4012AT-150MR63	130-1681
22	20	0.71	0.52	VLF4012AT-220MR51	130-1683
33	20	1.2	0.44	VLF4012AT-330MR39	130-1685
47	20	2	0.36	VLF4012AT-470MR30	130-1687

Order Code	Price Each				
	1+	10+	50+	100+	250+
All Values ●	0.82	0.67	0.57	0.50	0.44

VLCF Series Inductors

Power Line



Dimensions (LxWxD)
 VLCF4018-2 4 x 4.3 x 1.8mm
 VLCF4020 4 x 4.3 x 2mm
 VLCF5020 5 x 5.3 x 2mm

Features:

- Miniature size
- Mount area: 4 x 4mm (VLCF5020 5 x 5mm)
- Height: 2.0mm max.
- Generic use for portable DC to DC converter line
- High magnetic shield construction should actualize high resolution for EMC protection.

Applications:

DC to DC converters for DVC, DSC, PDA, MD, LCD displays, HDDs, etc.

Inductance (μH)	Tolerance	DC resistance Typ. Ω	Rated Current Max. A	Order Code
VLCF4018-2 Type				
1.6	± 30%	0.044	1.72	167-0072
2.2	± 30%	0.052	1.44	167-0073
4.7	± 30%	0.088	1.07	167-0076
6.8	± 30%	0.108	0.94	167-0077
10	± 20%	0.163	0.74	167-0071
47	± 20%	0.661	0.34	167-0075
VLCF4020 Type				
1.8	± 30%	0.046	1.97	167-0081
2.2	± 30%	0.054	1.72	167-0084
3.3	± 30%	0.071	1.52	167-0087
4.7	± 30%	0.089	1.24	167-0089
6.8	± 30%	0.119	1.05	167-0090
10	± 20%	0.168	0.85	167-0078
15	± 20%	0.275	0.68	167-0080
22	± 20%	0.391	0.56	167-0082
27	± 20%	0.451	0.48	167-0083
33	± 20%	0.571	0.47	167-0085
47	± 20%	0.849	0.39	167-0088
100	± 20%	1.308	0.26	167-0079
VLCF5020 Type				
1.8	± 30%	0.049	2.07	167-0096
2.2	± 30%	0.058	2.62	167-0100
2.7	± 30%	0.058	1.76	167-0101
2.7	± 30%	0.069	2.28	167-0102
3.3	± 30%	0.069	1.6	167-0106
3.3	± 30%	0.079	2.02	167-0107
4.7	± 30%	0.079	1.4	167-0110
4.7	± 30%	0.102	1.7	167-0111
6.8	± 30%	0.102	1.11	167-0112
6.8	± 30%	0.138	1.39	167-0113
10	± 20%	0.198	1.13	167-0091
10	± 20%	0.151	0.87	167-0092
15	± 20%	0.214	0.71	167-0094
15	± 20%	0.292	0.9	167-0095
22	± 20%	0.311	0.58	167-0097
22	± 20%	0.413	0.75	167-0099
33	± 20%	0.435	0.48	167-0103
33	± 20%	0.597	0.62	167-0105
47	± 20%	0.623	0.4	167-0108
47	± 20%	0.875	0.51	167-0109
100	± 20%	1.375	0.27	167-0093

Inductance (μH)	Order Code	Price Each				
		1+	10+	100+	500+	1K+
VLCF4018-2 Type						
1.6	167-0072 ●	0.44	0.34	0.31	0.28	0.26
2.2	167-0073 ●	0.44	0.34	0.31	0.28	0.26
4.7	167-0076 ●	0.44	0.34	0.31	0.28	0.26
6.8	167-0077 ●	0.44	0.34	0.31	0.28	0.26
10	167-0071 ●	0.44	0.34	0.31	0.28	0.26
47	167-0075 ●	0.44	0.34	0.31	0.28	0.26
VLCF4020 Type						
1.8	167-0081 ●	0.34	0.28	0.25	0.22	0.21
2.2	167-0084 ●	0.34	0.28	0.25	0.23	0.21
3.3	167-0087 ●	0.34	0.28	0.25	0.22	0.21
4.7	167-0089 ●	0.34	0.28	0.25	0.22	0.21
6.8	167-0090 ●	0.34	0.28	0.25	0.22	0.21
10	167-0078 ●	0.39	0.30	0.27	0.25	0.23
15	167-0080 ●	0.34	0.28	0.25	0.22	0.21
22	167-0082 ●	0.34	0.28	0.25	0.22	0.21
27	167-0083 ●	0.34	0.28	0.25	0.22	0.21
33	167-0085 ●	0.34	0.28	0.25	0.22	0.21
47	167-0088 ●	0.34	0.28	0.25	0.22	0.21
100	167-0079 ●	0.34	0.28	0.25	0.22	0.21
VLCF5020 Type						
1.8	167-0096 ●	0.39	0.30	0.27	0.25	0.23
2.2	167-0100 ●	0.34	0.30	0.26	0.23	0.21
2.7	167-0101 ●	0.39	0.30	0.27	0.25	0.23
2.7	167-0102 ●	0.46	0.36	0.32	0.30	0.27
3.3	167-0106 ●	0.39	0.30	0.27	0.25	0.23
3.3	167-0107 ●	0.46	0.36	0.32	0.30	0.27
4.7	167-0110 ●	0.39	0.30	0.27	0.25	0.23
4.7	167-0111 ●	0.46	0.36	0.32	0.30	0.27
6.8	167-0112 ●	0.39	0.30	0.27	0.25	0.23
6.8	167-0113 ●	0.46	0.36	0.32	0.30	0.27
10	167-0091 ●	0.46	0.36	0.32	0.30	0.27
10	167-0092 ●	0.39	0.30	0.27	0.25	0.23
15	167-0094 ●	0.39	0.30	0.27	0.25	0.23
15	167-0095 ●	0.46	0.36	0.32	0.30	0.27
22	167-0097 ●	0.39	0.30	0.27	0.25	0.23
22	167-0099 ●	0.46	0.36	0.32	0.30	0.27
33	167-0103 ●	0.39	0.30	0.27	0.25	0.23
33	167-0105 ●	0.46	0.36	0.32	0.30	0.27
47	167-0108 ●	0.40	0.30	0.28	0.25	0.24
47	167-0109 ●	0.46	0.36	0.32	0.30	0.27
100	167-0093 ●	0.39	0.30	0.27	0.25	0.23

Over half a million products available online



Inductors - SMD Power Coil - TDK - continued

RLF Series Inductors Power Line



Dimensions (LxWxT)

RLF12545	12.5 x 12.8 x 4.5mm
RLF12560	12.5 x 12.8 x 6.0mm
RLF7030	7.3 x 6.8 x 3.2mm

Applications:

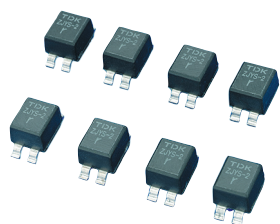
RLF12545 / RLF12560
Choke coils in power circuit of note book computers, LCD, DVD, STB, PDP, amusement equipments, etc.
RLF7030
Notebook type and mobile computers, amusement equipments, VRMs, automotive equipments, etc.

Inductance (μH)	Tolerance	DC resistance Typ. mΩ	Rated Current Max. A	Order Code
RLF12545 Type				
1.9	± 30%	3.6	13	166-9971
2.7	± 30%	4.5	12	166-9972
4.2	± 30%	7.4	9.5	166-9973
5.6	± 30%	8.5	8	166-9974
7.8	± 30%	10.2	7	166-9975
10	± 20%	12.4	6	166-9970
RLF12560 Type				
10	± 20%	12.4	7.5	166-9976
1	± 30%	2.8	18.5	166-9978
1.9	± 30%	3.6	15.6	166-9979
2.7	± 30%	4.5	14.4	166-9980
4.2	± 30%	7.4	10.2	166-9981
5.6	± 30%	8.5	9.7	166-9982
7.8	± 30%	10.2	8.2	166-9983
RLF7030 Type				
1	± 30%	7.3	7.9	166-9984
1.5	± 30%	8	6.5	166-9985
2.2	± 20%	10	5.5	166-9986
3.3	± 20%	17.4	4.4	166-9987
4.7	± 20%	26	3.5	166-9988
6.8	± 20%	37.3	3	166-9991

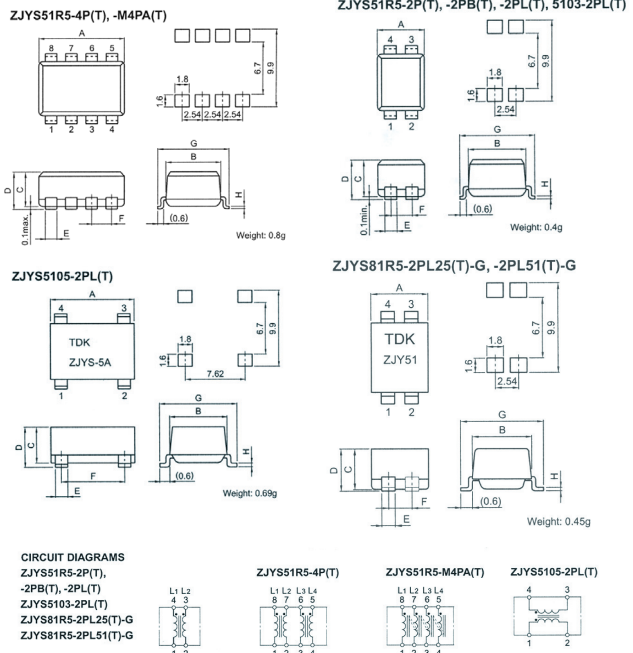
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Inductance (μH)	Order Code	Price Each				
		1+	10+	100+	500+	1K+
RLF12545 Type						
1.9	166-9971	1.73	1.34	1.22	1.12	1.03
2.7	166-9972	1.73	1.34	1.22	1.12	1.03
4.2	166-9973	1.73	1.34	1.22	1.12	1.03
5.6	166-9974	1.73	1.34	1.22	1.12	1.03
7.8	166-9975	1.73	1.34	1.22	1.12	1.03
10	166-9970	1.73	1.34	1.22	1.12	1.03
RLF12545 Type						
1	166-9978	1.84	1.44	1.30	1.20	1.10
1.9	166-9979	1.84	1.44	1.30	1.20	1.10
2.7	166-9980	1.84	1.44	1.30	1.20	1.10
4.2	166-9981	1.84	1.44	1.30	1.20	1.10
5.6	166-9982	1.84	1.44	1.30	1.20	1.10
7.8	166-9983	1.84	1.44	1.30	1.20	1.10
10	166-9976	1.84	1.44	1.30	1.20	1.10
RLF12545 Type						
1	166-9984	1.52	1.19	1.07	0.99	0.91
1.5	166-9985	1.52	1.19	1.07	0.99	0.91
2.2	166-9986	1.52	1.19	1.07	0.99	0.91
3.3	166-9987	1.52	1.19	1.07	0.99	0.91
4.7	166-9988	1.52	1.19	1.07	0.99	0.91
6.8	166-9991	1.52	1.19	1.07	0.99	0.91

ZJYS Series - Common Mode Choke Coils for Signal Lines



- Common-mode filters for distortion free noise removal from transmitted signals
- Optimised for the transmission of high quality signals
- Ideal for countering common mode noise resulting from data signal processing
- Surface mount packages for miniaturisation in portable applications
- High current handling of up to 5A allows use in power line noise reduction
- Key applications include, PC's, Telephones, LAN's, ISDN, Digital PBX, electronics games and portable electronic equipment
- ZJYS81R5 is a high inductance version for CANBus applications



A	B	C	D	E	F	G	H	Style
max	max	max	max	max	max	max	max	
5.5	6.86	4.57	5.08	1.3	2.54	9	0.25	ZJYS1R5-2P/5103
10.56	8.6	4.57	5.08	1.3	2.54	9	0.25	ZJYS1R5-4P
10.5	7.5	4.57	5.08	1.3	7.62	9	0.25	ZJYS105
6	7.1	4.5	5	1.3	2.54	9	0.25	ZJYS81R5

Voltage (V) dc	Current (A)	Test	Insulation Res. (MΩ)	DC Res. (Ω)	Impedance (Ω)	Oper. Temp. (°C)	Mfrs. List No.	Order Code
50	2	125	100	0.06	200	-25 to +85	ZJYS1R5-2PT-01	962-1261
50	2	125	100	0.06	200	-25 to +85	ZJYS1R5-4PT-01	962-1326
50	0.5	125	100	0.2	200	-25 to +85	ZJYS1R5-M4PAT-01	962-1334
80	0.5	200	100	0.25	600	-40 to +125	ZJYS81R5-2PL25T-G01	962-1300
80	0.5	200	100	0.3	1000	-40 to +125	ZJYS81R5-2PL51T-G01	962-1318

*1 Enhanced low frequency impedance characteristics
*2 Separate windings for communications

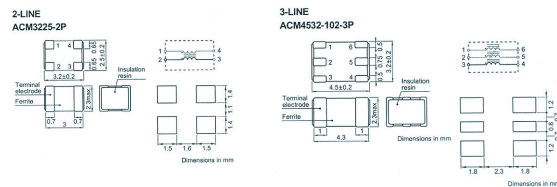
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Mfrs. List No.	Order Code	Price Each				
		1+	50+	100+	250+	500+
ZJYS1R5-2PT-01	SMD962-1261	1.82	1.41	1.28	1.18	1.08
ZJYS1R5-4PT-01	SMD962-1326	2.25	1.90	1.69	1.49	1.32
ZJYS1R5-M4PAT-01	SMD962-1334	3.80	2.94	2.66	2.45	1.67
ZJYS81R5-2PL25T-G01	SMD962-1300	1.88	1.47	1.32	1.22	1.12
ZJYS81R5-2PL51T-G01	SMD962-1318	1.88	1.47	1.32	1.22	1.12

ACM Series- Common Mode Choke Coils for Signal Lines



- Ultra-miniature wire wound chip filters with performance levels usually associated with much larger devices
- Common mode inductance >1000Ω @ 100MHz
- Virtually no effect upon high speed signal shape due to ultra low differential mode impedance
- Ideally suited to suppression of both radiated and common mode emissions
- Applications include USB, IEEE1394 and LVDS link lines for LCD panels

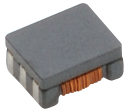


Impedance (typ) (Ω) @ 100MHz	DC resistance (Ω) max.	Voltage (V) dc	Current (A)	Mfrs. List No.	Order Code	
2 Line	1000	0.5	20	0.2	ACM3225-102-2P-T001	962-1350
3 Line	1000	0.6	20	0.2	ACM4532-102-3P-T001	962-1369

243230

Mfrs. List No.	Order Code	Price Each				
		1+	50+	100+	250+	500+
ACM3225-102-2P-T001	SMD962-1350	1.51	1.17	1.11	1.08	1.05
ACM4532-102-3P-T001	SMD962-1369	1.15	1.01	0.89	0.79	0.71

ACM Series Common Mode Chokes
High-speed Differential Signal Line / General Signal Line



Operating temperature -25°C to +85°C

Features:

- Although greatly miniaturised, this wire-wound chip-type filter maintains the characteristics needed for a common-mode filter.
- Common-mode impedance is 1000Ω [at 100MHz], so this filter is greatly effective in supporting noise.
- Almost no affect upon even high speed signals since differential mode impedance is kept low.
- This series includes both 2-line and 3-line types. They are used for various types of circuits and noise.

Applications

- Used for radiation noise suppression for any electronic devices.
- Used to counter common-mode noise affecting signals within high speed lines.
- USB line for personal computers and peripheral equipment.
- IEEE1394 line for personal computers, DVC, STB, etc.
- LVDS, panel link line for liquid crystal display panels.

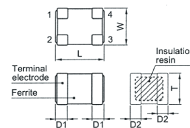
Current Max. (A)	Resistance (Ω)	Impedance (Ω)	Dimensions (mm)			Mftrs. List No.	Order Code
0.15	0.4	450	1.2	2.5	2	ACM2520-451-2P	166-9301
0.15	0.45	600	1.2	2.5	2	ACM2520-601-2P	166-9302
0.15	1.6	800	1.2	2.5	2	ACM2520-801-3P	166-9303
0.2	0.9	1000	1.2	2.5	2	ACM2520-102-2P	166-9299
0.2	0.35	300	1.2	2.5	2	ACM2520-301-2P	166-9300
0.35	0.25	200	1.3	2	0.5	ACM2012-201-2P	166-9294
0.36	0.2	160	2.3	3	2.5	ACM3225-161-2P	166-9304
0.36	0.3	270	2.3	3	2.5	ACM3225-271-2P	166-9305
0.36	0.15	80	2.3	3	2.5	ACM3225-800-2P	166-9306
0.37	0.22	120	1.3	2	0.5	ACM2012-121-2P	166-9293
0.37	0.5	360	1.3	2	0.5	ACM2012-361-2P	166-9295
0.4	0.19	90	1.3	2	0.5	ACM2012-900-2P	166-9296

Current Max. (A)	Order Code	1+	50+	100+	500+	1K+
0.15	166-9301	1.31	1.02	0.93	0.85	0.78
0.15	166-9302	1.31	1.02	0.93	0.85	0.78
0.15	166-9303	1.31	1.02	0.93	0.85	0.78
0.2	166-9299	1.31	1.02	0.93	0.85	0.78
0.2	166-9300	1.31	1.02	0.93	0.85	0.78
0.35	166-9294	0.77	0.59	0.54	0.50	0.46
0.36	166-9304	0.68	0.52	0.48	0.44	0.41
0.36	166-9305	0.68	0.52	0.48	0.44	0.41
0.36	166-9306	0.68	0.52	0.48	0.44	0.41
0.37	166-9293	0.77	0.59	0.54	0.50	0.46
0.37	166-9295	1.83	1.43	1.29	1.19	1.09
0.4	166-9296	1.83	1.43	1.29	1.19	1.09

ACM Series - Common Mode Choke Coils for DC Power Lines



SHAPES AND DIMENSIONS
ACM3225, 4532 TYPES



CIRCUIT DIAGRAM



- Common mode chip filters for high current applications
- Common mode impedance >600 to 800Ω at 100MHz
- Exceptional noise suppression in a small package ideally suited for miniaturised or portable equipment
- Perform extremely well in countering adaptor/battery noise
- Ideal for power line noise suppression in any electronic device

Impedance (typ) (Ω) @100MHz	DC resistance (Ω) max	Voltage (V) dc	Current (A)	Mftrs. List No.	Order Code
600	0.2	50	1	ACM3225-601-2P-T001	962-1377
600	0.1	50	1.5	ACM4532-601-2P-T001	962-1385
800	0.1	50	1	ACM4532-801-2P-T001	962-1393

Mftrs. List No.	Order Code	1+	50+	100+	250+	500+
ACM3225-601-2P-T001	SMD 962-1377	1.54	1.20	1.08	1.00	0.92
ACM4532-601-2P-T001	SMD 962-1385	1.97	1.72	1.50	1.34	1.21
ACM4532-801-2P-T001	SMD 962-1393	1.79	1.57	1.37	1.22	1.09

Over half a million products available online



ACM Series Common Mode Chokes
For DVI / HDMI



Operating temperature -25°C to +85°C

Features:

- These are a series of broadband common mode filters developed for high-speed differential signal interfaces, such as DVI and HDMI.
- The cutoff frequencies in differential mode for ACM2012D and ACM2012H are 3.5GHz and 6.0GHz respectively, so they do not interfere with high-speed differential signals.
- The characteristic impedance is approximated to 100Ω, conforming to the TDR standard for HDMI.

Applications

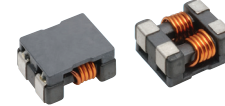
- For new HDMI interfaces used in digital video devices: ACM2012H is suited for use on the transmission side (Source) of digital TVs, DVD recorders and liquid crystal projectors. ACM2012D is suited for use on the receiving side (Sink).
- For digital video signal interfaces DVI (UXGA) used in PCs and other devices/High-speed differential signal interfaces for USB 2.0, IEEE1394 and Serial-ATA.

Current Max. (A)	Impedance (Ω)	Dimensions (mm)			Mftrs. List No.	Order Code
0.4	90	L	W	D	ACM2012D-900-2P	166-9297
0.4	90	L	W	D	ACM2012H-900-2P	166-9298

ACM Series Common Mode Filters



2 Line



Features

- A chip-type common mode filter for large current applications
- Capable of handling the highest current (up to 10A) of any chip-type common mode filter



- Applicable for the miniaturization required to reduce the size and weight of portable equipment

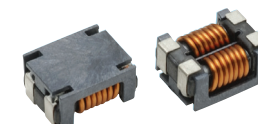
Applications

- Used for power line noise suppression for any electrical devices.
- Used to counter adaptor/battery line noise for relatively large electronic devices such as notebook PCs

Impedance Ω @ 100 MHz	Current Max. (A)	Resistance m(Ω)	Dimensions (mm)			Mftrs. List No.	Order Code
300	5	10	L	W	H	ACM7060-301-2PL	150-3723
550	10	4	15	13	6	ACM1513-551-2PL	150-3729
700	4	15	7	6	3.5	ACM7060-701-2PL	150-3724
700	5	10	9	7	4.5	ACM9070-701-2PL	150-3725
700	8	6	9	7	6	ACM1211-701-2PL	150-3726
900	2	0.06	4.5	4.7	2	ACM4520-901-2P	166-9309
1000	6	14	12	11	6	ACM1211-102-2PL	150-3727
1400	2	0.08	4.5	4.7	2	ACM4520-142-2P	166-9307

Order Code	1+	10+	100+	500+	1K+
150-3723	1.98	1.71	1.50	1.41	1.32
150-3724	1.59	1.31	1.27	1.24	1.21
150-3725	1.59	1.39	1.35	1.31	1.28
150-3726	2.40	1.92	1.68	1.59	1.47
150-3727	2.24	1.66	1.46	1.32	1.28
150-3729	2.66	1.96	1.73	1.44	1.28
NEW 166-9307	0.62	0.49	0.44	0.41	0.37
NEW 166-9309	1.41	1.10	1.00	0.92	0.84

ACM-V Series Common Mode Chokes



Operating temperature -40°C to +125°C

Features:

- Have achieved miniaturization while keeping characteristics by adoption of exclusive square type closed magnetic cores.
- Due to the low profile design, it is suitable for a surface mount.
- High impedance characteristic has been achieved a superior effect for common mode noise suppression.

Applications

Common mode noise countermeasures for DC power lines of electronic control equipment, multi-media equipment for automobiles and various electronic equipment power supply lines.

Inductors - SMD Power Coil - TDK - continued

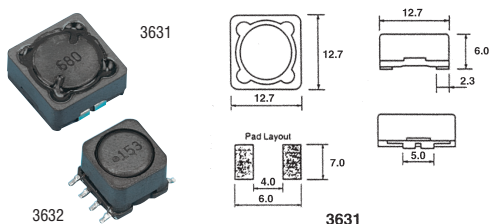
ACM-V Series Common Mode Chokes - continued

Current Max. (A)	Resistance (Ω)	Impedance (Ω)	Dimensions (mm)			Mfrs. List No.	Order Code
			L	W	D		
4	15	700	7	6	3.5	ACM70V-701-2PL	166-9311
5	10	700	9	7	4.5	ACM90V-701-2PL	166-9312
8	6	700	12	11	6	ACM12V-701-2PL	166-9292

Current Max. (A)	Order Code	Price Each				
		1+	50+	100+	500+	1K+
4	166-9311	2.60	2.02	1.83	1.69	1.54
5	166-9312	2.60	2.02	1.83	1.69	1.54
8	166-9292	2.49	1.92	1.75	1.60	1.48

Inductors - SMD Power Coil - Tyc Electronics

3631/3632 Series - Shielded Signal Line Chokes



- High power, ferrite cored surface mount inductors
- Fully shielded moulded construction
- Suitable for switching regulators, filter and power line applications and power decoupling

Inductance (μH)	Tolerance %	L Test Frequency	DC resistance Max. (Ω)	DC Current Max. (A)	Mfrs. List No.	Order Code	Price Each			
							1+	25+	100+	500+
2.5	20	1kHz	0.016	6.2	3631B2R5ML	117-4023				
10	20	1kHz	0.035	3.3	3631B100ML	117-4025				
22	20	1kHz	0.062	2.3	3631B220ML	117-4026				
33	15	1kHz	0.09	1.9	3631B330LL	117-4027				
47	15	1kHz	0.13	1.6	3631B470LL	117-4028				
100	15	1kHz	0.22	1.1	3631B101LL	117-4029				
220	15	1kHz	0.46	0.7	3631B221KL	117-4030				
330	15	1kHz	0.66	0.6	3631B331KL	117-4031				
470	15	1kHz	0.97	0.5	3631B471KL	117-4032				
820	15	1kHz	1.7	0.35	3631B821KL	117-4035				
1000	15	0.252MHz	2.5	0.3	3632B102LL	117-4036				
2200	15	0.252MHz	5	0.2	3632B222LL	117-4037				
10000	15	79.6MHz	26	0.095	3632B103LL	117-4038				

Order Code	All Values	Price Each			
		1+	25+	100+	500+
3631 Series	All Values	1.77	1.46	1.28	0.99
3632 Series	All Values	2.11	1.81	1.51	1.24

Inductors - SMD Power Coil - Vishay

IHLP-1616 Series

IHLP-1616AB-01/11 & IHLP-1616BZ-01/11 Models



- Shielded construction
- Frequency range up to 5.0 MHz & 1MHz
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Reel Qty: 4000

Operating temperature -55°C to +125°C
 Self resonant frequency ± 20%
 IHLP-1616AB-01/11 L=4.06, W=4.45, H=1.2mm
 IHLP-1616BZ-01/11 L=4.06, W=4.45, H=2mm

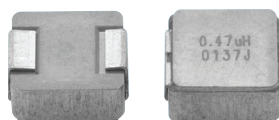
Inductance (μH)	DC Res. (mΩ @ 25°C)	Saturation Current. DC (A)	Heat Rating Current. DC (A)	Mfrs. List No.	Order Code
IHLP1616AB-01 (5MHz)					
0.047	3.25	32	13	IHLP1616ABER47NM01	174-1280
0.1	5.5	25	11.5	IHLP1616ABERR10M01	174-1281
0.22	11	20	8.5	IHLP1616ABERR22M01	174-1282
0.47	20	13	5	IHLP1616ABERR47M01	174-1283
1	50	8.5	4	IHLP1616ABERR1R0M01	174-1284
IHLP1616AB-11 (1MHz)					
0.047	3	15	15	IHLP1616ABER47NM11	174-1285
0.1	5	12	12	IHLP1616ABERR10M11	174-1286
0.22	9.5	9.5	9.5	IHLP1616ABERR22M11	174-1288
0.47	19	6	6	IHLP1616ABERR47M11	174-1289

Inductance (μH)	DC Res. (mΩ @ 25°C)	Saturation Current. DC (A)	Heat Rating Current. DC (A)	Mfrs. List No.	Order Code
IHLP1616AB-11 (1MHz)					
1	43	4.5	4.5	IHLP1616ABER1R0M11	174-1290
1.2	55.6	3.75	3.75	IHLP1616ABER1R2M11	174-1291
1.5	68	3.25	3.25	IHLP1616ABER1R5M11	174-1292
2.2	90	3	2.75	IHLP1616ABER2R2M11	174-1293
IHLP1616BZ-01 (5MHz)					
0.1	4.5	35	11	IHLP1616BZERR10M01	174-1294
0.22	7.3	24	13	IHLP1616BZERR22M01	174-1295
0.47	16	11.5	5.6	IHLP1616BZERR47M01	174-1296
1	33	8.5	3.75	IHLP1616BZERR1R0M01	174-1297
2.2	80	6	2.85	IHLP1616BZERR2R2M01	174-1298
IHLP1616BZ-11 (1MHz)					
0.1	4.1	12	12	IHLP1616BZERR10M11	174-1300
0.22	6.5	9	9	IHLP1616BZERR22M11	174-1301
0.47	14.5	7	7	IHLP1616BZERR47M11	174-1302
1	24	5	4.5	IHLP1616BZER1R0M11	174-1303
2.2	61	3.25	3.25	IHLP1616BZER2R2M11	174-1304
4.7	95	1.75	1.7	IHLP1616BZER4R7M11	174-1306

Model	Order Code	1+	10+	50+	100+	500+
IHLP-1616AB	All Values	1.54	1.38	1.23	1.10	1.00
IHLP-1616BZ	All Values	2.54	2.29	2.12	1.95	1.79

IHLP-2020 Series

Low Profile - High Current



(HxWxD) 2 x 5.49 x 5.18mm



Features:

- Shielded construction
- Frequency range up to 5.0 MHz
- Handles high transient current spikes without saturation

Applications:

- PDA/Notebook/Desktop/Server applications
- Low profile, high current power supplies
- Battery powered devices
- DC/DC converters

Inductance (μH)	DC Res. (mΩ @ 25°C)	Saturation Current. DC (A)	Heat Rating Current. DC (A)	Mfrs. List No.	Order Code
0.1	3.6	45	17	IHLP2020BZERR10M01	169-8002
0.1	2.7	25	21	IHLP2020BZERR10M11	174-1307
0.1	2.6	25	21	IHLP2020CZERR10M11	174-1318
0.22	4.9	22	15	IHLP2020BZERR22M01	169-8003
0.22	4.1	13	17	IHLP2020BZERR22M11	174-1308
0.22	3.5	14.5	21	IHLP2020CZERR22M11	174-1319
0.33	7.6	25	12	IHLP2020BZERR33M01	169-8004
0.33	5.5	7.5	13	IHLP2020BZERR33M11	174-1309
0.33	4.5	9	16.5	IHLP2020CZERR33M11	174-1320
0.47	8.9	21	11.5	IHLP2020BZERR47M01	169-8005
0.47	7.1	8	12.5	IHLP2020BZERR47M11	174-1310
0.47	5.4	9	14	IHLP2020CZERR47M11	174-1321
0.68	11.2	15	10	IHLP2020BZERR68M01	169-8006
1	18.9	16	7	IHLP2020CZERR1R0M01	169-8007
1	16.8	7	7.5	IHLP2020BZER1R0M11	174-1311
1	10	6.5	10	IHLP2020CZER1R0M11	174-1322
1.5	17.1	7	7.5	IHLP2020CZER1R5M11	174-1323
2.2	45.6	12.5	4.2	IHLP2020BZER2R2M01	169-8008
2.2	34.9	5.5	5	IHLP2020BZER2R2M11	174-1312
2.2	22.5	5.5	6.75	IHLP2020CZER2R2M11	174-1324
3.3	79.2	8.5	3.3	IHLP2020BZER3R3M01	169-8009
3.3	53.5	4.7	4.1	IHLP2020BZER3R3M11	174-1313
3.3	36.4	7	5.5	IHLP2020CZER3R3M11	174-1325
4.7	108	5	2.8	IHLP2020BZER4R7M01	169-8010
4.7	75.3	3	3.2	IHLP2020BZER4R7M11	174-1314
4.7	54	5.2	4.5	IHLP2020CZER4R7M11	174-1326
5.6	113	4.5	2.5	IHLP2020BZER5R6M01	169-8012
5.6	85.2	2.2	3	IHLP2020BZER5R6M11	174-1315
5.6	63	3.5	4.25	IHLP2020CZER5R6M11	174-1327
6.8	139	4.3	2.4	IHLP2020BZER6R8M01	169-8013
10	184	4	2.3	IHLP2020BZER100M01	169-8014
10	169.3	2	2.2	IHLP2020BZER100M11	174-1316
10	122.1	2.25	2.75	IHLP2020CZER100M11	174-1328
22	250	1.7	1.9	IHLP2020CZER220M11	174-1331

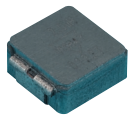
Inductance (μH)	Order Code	1+	10+	50+	100+	500+
0.1	169-8002	1.50	1.35	1.26	1.13	0.99
0.1	NEW 174-1307	1.72	1.55	1.44	1.29	1.13
0.1	NEW 174-1318	1.18	1.06	0.99	0.88	0.78
0.22	169-8003	1.50	1.35	1.26	1.13	0.99
0.22	NEW 174-1308	1.72	1.55	1.44	1.29	1.13
0.22	NEW 174-1319	1.18	1.06	0.99	0.88	0.78
0.33	169-8004	1.50	1.35	1.26	1.13	0.99
0.33	NEW 174-1309	1.72	1.55	1.44	1.29	1.13
0.33	NEW 174-1320	1.18	1.06	0.99	0.88	0.78
0.47	169-8005	1.50	1.35	1.26	1.13	0.99
0.47	NEW 174-1310	1.72	1.55	1.44	1.29	1.13
0.47	NEW 174-1321	1.18	1.06	0.99	0.88	0.78
0.68	169-8006	1.50	1.35	1.26	1.13	0.99
1	169-8007	1.50	1.35	1.26	1.13	0.99
1	NEW 174-1311	1.72	1.55	1.44	1.29	1.13
1	NEW 174-1322	1.18	1.06	0.99	0.88	0.78
1.5	NEW 174-1323	1.18	1.06	0.99	0.88	0.78

Inductance μH	Order Code	Price Each				
		1+	10+	50+	100+	500+
2.2	169-8008	1.50	1.35	1.26	1.13	0.99
2.2	NEW 174-1312	1.72	1.55	1.44	1.29	1.13
2.2	NEW 174-1324	1.18	1.06	0.99	0.88	0.78
3.3	169-8009	1.50	1.35	1.26	1.13	0.99
3.3	NEW 174-1313	1.72	1.55	1.44	1.29	1.13
3.3	NEW 174-1325	1.18	1.06	0.99	0.88	0.78
4.7	169-8010	1.50	1.35	1.26	1.13	0.99
4.7	NEW 174-1314	1.72	1.55	1.44	1.29	1.13
4.7	NEW 174-1326	1.18	1.06	0.99	0.88	0.78
5.6	169-8012	1.50	1.35	1.26	1.13	0.99
5.6	NEW 174-1315	1.72	1.55	1.44	1.29	1.13
5.6	NEW 174-1327	1.18	1.06	0.99	0.88	0.78
6.8	169-8013	1.50	1.35	1.26	1.13	0.99
10	169-8014	1.50	1.35	1.26	1.13	0.99
10	NEW 174-1316	1.72	1.55	1.44	1.29	1.13
10	NEW 174-1328	1.18	1.06	0.99	0.88	0.78
22	NEW 174-1331	1.18	1.06	0.99	0.88	0.78

RL FREE Re-reeling service. Only buy what you need and improve assembly efficiency. For more information visit www.farnell.com

IHLP-2525 Series

Low profile - High Current



- Ferrite cored wound surface mount inductors
- Shielded construction
- Low profile, high current rating
- Low loss and dc resistance up to 5MHz

● Applications include DC/DC converters and energy storage in mobile phones, computers, digital cameras and other handheld electronic devices

Operating temperature Tolerance: -55°C to +125°C ± 20%
 BD Dimensions (HxWxD): 0.095 x 6.86 x 6.47mm
 CZ Dimensions (HxWxD): 0.118 x 6.86 x 6.47mm
 AH Dimensions (HxWxD): 1.8 x 6.86 x 6.47mm
 EZ Dimensions (HxWxD): 5 x 6.86 x 6.47mm

Inductance μH	DC Res mΩ @ 25°C	Saturation Current, DC (A)	Heat Rating Current, DC (A)	Mfrs. List No.	Order Code
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CZ (5MHz)					
0.1	1.7	60	32.5	IHLP2525CZERR10M01	118-7058
0.2	3	41	24	IHLP2525CZERR20M01	118-7059
0.47	4	26	17.5	IHLP2525CZERR47M01	118-7060
0.68	5.2	25	15.5	IHLP2525CZERR68M01	118-7061
1	10	22	11	IHLP2525CZER1R0M01	118-7062
1.5	15	18	9	IHLP2525CZER1R5M01	118-7063
2.2	20	14	8	IHLP2525CZER2R2M01	118-7064
3.3	30	13.5	6	IHLP2525CZER3R3M01	118-7066
4.7	40	10	5.5	IHLP2525CZER4R7M01	118-7067

CZ (1MHz)					
1	7.6	9.5	12.5	IHLP2525CZER1R0M11	NEW 174-1361
2.2	15.7	7	9	IHLP2525CZER2R2M11	NEW 174-1362
3.3	24.8	6.5	7	IHLP2525CZER3R3M11	NEW 174-1363
4.7	31.8	4	6	IHLP2525CZER4R7M11	NEW 174-1364
6.8	44.6	4	5.5	IHLP2525CZER6R8M11	NEW 174-1365
8.2	52.3	4	5	IHLP2525CZER8R2M11	NEW 174-1367
10	67.8	3.5	4	IHLP2525CZER100M11	NEW 174-1368
22	128.9	2.5	2.9	IHLP2525CZER220M11	NEW 174-1369

AH (5MHz)					
0.1	3	40	18	IHLP2525AHERR10M01	NEW 174-1332
0.15	4.7	38	15	IHLP2525AHERR15M01	NEW 174-1333
0.22	5.3	26	14	IHLP2525AHERR22M01	NEW 174-1334
0.33	6.6	18	12	IHLP2525AHERR33M01	NEW 174-1335
0.47	8.4	18	11	IHLP2525AHERR47M01	NEW 174-1336
0.68	12.7	17	9	IHLP2525AHERR68M01	NEW 174-1337
0.82	13.8	17	8	IHLP2525AHERR82M01	NEW 174-1338
1	17.5	14	7	IHLP2525AHER1R0M01	NEW 174-1339
1.5	32.6	11.5	4	IHLP2525AHER1R5M01	NEW 174-1340
2.2	40.3	13	3.75	IHLP2525AHER2R2M01	NEW 174-1341
2.5	49.9	10.4	3.5	IHLP2525AHER2R5M01	NEW 174-1343
3.3	56.2	10	3.25	IHLP2525AHER3R3M01	NEW 174-1344
4.7	76.6	8	3	IHLP2525AHER4R7M01	NEW 174-1345

BD (5MHz)					
0.1	1.5	50	30	IHLP2525BDERR10M01	NEW 174-1346
0.22	2.9	34	21	IHLP2525BDERR22M01	NEW 174-1347
0.33	3.7	22	18	IHLP2525BDERR33M01	NEW 174-1348
0.47	6	21	13.5	IHLP2525BDERR47M01	NEW 174-1349
0.68	8.7	18	11	IHLP2525BDERR68M01	NEW 174-1350
0.82	10.6	17	10	IHLP2525BDERR82M01	NEW 174-1351
1	13.1	16	9	IHLP2525BDER1R0M01	NEW 174-1352
1.5	18.5	15	7.5	IHLP2525BDER1R5M01	NEW 174-1353
2.2	28	14	6.5	IHLP2525BDER2R2M01	NEW 174-1355
3.3	36.5	13	5	IHLP2525BDER3R3M01	NEW 174-1356
4.7	45.2	10	4.5	IHLP2525BDER4R7M01	NEW 174-1357
6.8	72.5	9	3.5	IHLP2525BDER6R8M01	NEW 174-1358
8.2	84.2	8	3	IHLP2525BDER8R2M01	NEW 174-1359
10	115.6	7	2.5	IHLP2525BDER100M01	NEW 174-1360

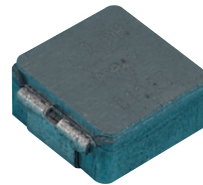
EZ (5MHz)					
0.56	3.4	12	20	IHLP2525EZERR56M01	NEW 174-1370
0.68	4.2	11.5	18	IHLP2525EZERR68M01	NEW 174-1371
0.82	4.6	13	16.5	IHLP2525EZERR82M01	NEW 174-1372
1	5.6	15	13	IHLP2525EZER1R0M01	NEW 174-1373
1.5	8.6	12	12	IHLP2525EZER1R5M01	NEW 174-1374
2.2	13	10	10	IHLP2525EZER2R2M01	NEW 174-1375
3.3	19.9	8	8	IHLP2525EZER3R3M01	NEW 174-1376

Inductance μH	DC Res mΩ @ 25°C	Saturation Current, DC (A)	Heat Rating Current, DC (A)	Mfrs. List No.	Order Code
EZ (5MHz)					
4.7	28.9	7	6.5	IHLP2525EZER4R7M01	NEW 174-1377
5.6	32.7	7	6	IHLP2525EZER5R6M01	NEW 174-1379
6.8	42.5	5.5	5.5	IHLP2525EZER6R8M01	NEW 174-1381
8.2	48.3	5	5	IHLP2525EZER8R2M01	NEW 174-1382
10	67.9	4.5	4.5	IHLP2525EZER100M01	NEW 174-1383

Inductance	Order Code	Price Each				
		1+	10+	50+	100+	250+
0.1μH to 1μH	All Values	1.85	0.80	0.74	0.69	0.62
1.5μH to 4.7μH	All Values	1.06	0.97	0.87	0.81	0.73
6.8μH to 10μH	All Values	1.39	1.26	1.18	1.05	0.93

IHLP-4040 Series

IHLP-4040DZ-01 and IHLP-4040DZ-11 Models



- Low profile high current inductors,
- Shielded construction
- Lowest DCR/μH, in this package size
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction

Operating temperature Tolerance: -55°C to +125°C ± 20%

L=11.5, W=10.3, H=4

Inductance (μH)	DC Res. (mΩ @ 25°C)	Saturation Current DC (A)	Heat Rating Current DC (A)	Mfrs. List No.	Order Code
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IHLP-4040DZ-11 (1MHz)					
0.19	0.7	46	40	IHLP4040DZERR19M11	154-7042
0.24	0.85	44	33	IHLP4040DZERR24M11	154-7043
0.36	1.05	30	32	IHLP4040DZERR36M11	154-7044
0.47	1.53	30	30	IHLP4040DZERR47M11	154-7046
0.56	1.6	22	32	IHLP4040DZERR56M11	154-7047
0.78	1.8	22	27	IHLP4040DZERR78M11	154-7048
1	2.3	20	25	IHLP4040DZERR1R0M11	154-7050
1.8	4.5	16	17	IHLP4040DZER1R8M11	154-7051
2	5.2	14	16	IHLP4040DZER2R0M11	154-7052
4.7	12.9	7.6	9.5	IHLP4040DZER4R7M11	154-7053
6.8	17.5	7.5	9	IHLP4040DZER6R8M11	154-7054
10	27.8	7.1	7.5	IHLP4040DZER1R0M11	154-7055
15	40.9	6	6.25	IHLP4040DZER150M11	154-7056
22	60.4	4.5	5	IHLP4040DZER220M11	154-7058
47	132	3	3.3	IHLP4040DZER470M11	154-7059
100	249	2.25	2.5	IHLP4040DZER101M11	154-7060

IHLP-4040DZ-01 (5MHz)					
0.19	0.875	90	40	IHLP4040DZERR19M01	154-7030
0.36	1.3	60	31.5	IHLP4040DZERR36M01	154-7031
0.56	1.7	49	27.5	IHLP4040DZERR56M01	154-7032
1	3.7	36	17.5	IHLP4040DZER1R0M01	154-7034
1.5	5.3	27.5	15	IHLP4040DZER1R5M01	154-7035
2.2	8.2	25.6	12	IHLP4040DZER2R2M01	154-7036
3.3	13.7	18.6	10	IHLP4040DZER3R3M01	154-7037
4.7	15	17	9.5	IHLP4040DZER4R7M01	154-7038
5.6	17.6	16	8.5	IHLP4040DZER5R6M01	154-7039
6.8	21.2	13.5	8	IHLP4040DZER6R8M01	154-7040
10	33.2	12	6.8	IHLP4040DZER100M01	154-7041

Order Code	Price Each				
	1+	10+	50+	100+	250+
All Values	0.89	0.80	0.73	0.70	0.68

IHLP-5050 Series

IHLP-5050CE / FD & EZ Models



- Low profile high current inductor
- Shielded construction
- Frequency range up to 5.0 MHz
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Choice of two case sizes

Operating temperature Self resonant frequency: -55°C to +125°C 20%

IHLP-5050CE-01 L=13.2, W=12.9, H=3.5
 IHLP-5050FD-01 L=13.2, W=12.9, H=6.5

Inductance (μH)	DC Res. (mΩ @ 25°C)	Saturation Current, DC (A)	Heat Rating Current, DC (A)	Mfrs. List No.	Order Code
--------------------	------------------------	-------------------------------	--------------------------------	----------------	------------

IHLP-5050CE-01 (5MHz)					
0.22	1.1	65	38.5	IHLP5050CEERR22M01	128-9479
0.33	1.3	62	36.5	IHLP5050CEERR33M01	128-9480
0.6	1.8	51	29	IHLP5050CEERR60M01	128-9485
1.8	6.5	30	16.5	IHLP5050CEER1R8M01	128-9467
2.2	7.2	29	16	IHLP5050CEER2R2M01	128-9468
3.3	11	27	12	IHLP5050CEER3R3M01	128-9472
4.7	14.3	24	10	IHLP5050CEER4R7M01	128-9473
5.6	18.3	19	9.5	IHLP5050CEER5R6M01	128-9474
6.8	19.8	18	9	IHLP5050CEER6R8M01	128-9475
8.2	24.8	16	8.5	IHLP5050CEER8R2M01	128-9476
10	30.4	14	7	IHLP5050CEER100M01	128-9465



Inductors - SMD Power Coil - Vishay - continued

IHLP-5050 Series - continued

IHLP-5050CE / FD & EZ Models - continued

Inductance (µH)	DC Res. (mΩ @ 25°C)	Saturation Current. DC (A)	Heat Rating Current. DC (A)	Mftrs. List No.	Order Code
IHLP-5050FD-01 (5MHz)					
0.1	0.47	120	60	IHLP5050FDERR10M01	128-9454
0.22	0.63	112	53	IHLP5050FDERR22M01	128-9456
0.33	0.83	65	46	IHLP5050FDERR33M01	128-9459
0.4	0.9	64	44	IHLP5050FDERR40M01	128-9460
0.68	1.4	60	35	IHLP5050FDERR68M01	128-9463
0.82	1.6	50	33	IHLP5050FDERR82M01	128-9464
1.2	2.1	48	30	IHLP5050FDER1R2M01	128-9443
1.5	2.5	45	27	IHLP5050FDER1R5M01	128-9444
2.2	3.5	40	22	IHLP5050FDER2R2M01	128-9447
3.3	5.7	35	18	IHLP5050FDER3R3M01	128-9448
4.7	9.3	30	13.5	IHLP5050FDER4R7M01	128-9449
5.6	9.3	26.5	13.5	IHLP5050FDER5R6M01	128-9450
6.8	13.1	16.5	11.5	IHLP5050FDER6R8M01	128-9452
8.2	14.5	16	10.5	IHLP5050FDER8R2M01	128-9453
10	15.8	15.5		IHLP5050FDER100M01	128-9442
IHLP-5050EZ-01 (5MHz)					
0.1	0.53	118	55	IHLP5050EZERR10M01	174-1384
0.22	0.64	110	51	IHLP5050EZERR22M01	174-1385
0.56	1.3	55	36	IHLP5050EZERR56M01	174-1388
0.68	1.5	54	34	IHLP5050EZERR68M01	174-1389
0.82	2	53	31	IHLP5050EZERR82M01	174-1390
1	2.1	50	29	IHLP5050EZERR1R0M01	174-1392
1.5	3.4	48	23	IHLP5050EZERR1R5M01	174-1393
1.8	4.2	40	19	IHLP5050EZERR1R8M01	174-1394
2.2	4.6	32	20	IHLP5050EZERR2R2M01	174-1395
3.3	7.7	32	15	IHLP5050EZERR3R3M01	174-1396
4.7	12.8	27	12	IHLP5050EZERR4R7M01	174-1397
5.6	14	22	11.5	IHLP5050EZERR5R6M01	174-1398
6.8	15.4	21	11	IHLP5050EZERR6R8M01	174-1399
7.8	17.2	18	10	IHLP5050EZERR7R8M01	174-1400
8.2	18.9	18	9.5	IHLP5050EZERR8R2M01	174-1401
10	21.4	16	9	IHLP5050EZERR100M01	174-1402

Price Each

Model	Order Code	1+	10+	50+	100+	250+
IHLP-5050CE-01	All Values	2.21	1.96	1.75	1.57	1.43
IHLP-5050FD-01	All Values	2.54	2.29	2.12	1.95	1.79
IHLP-5050EZ-01	All Values	4.23	3.93	3.67	3.11	2.54

IHLP-6767 Series

Low Profile - High Current



IHLP-6767GZ L=17.15, W=17.15, H=7mm

- Shielded construction
- Frequency range up to 2.0 MHz
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Reel Qty: 200



Inductance (µH)	DC Res. (mΩ @ 25°C)	Saturation Current. DC (A)	Heat Rating Current. DC (A)	Mftrs. List No.	Order Code
0.22	0.63	129	80	IHLP6767GZERR22M01	174-1403
0.33	0.71	126	65	IHLP6767GZERR33M01	174-1404
0.47	0.84	123	62	IHLP6767GZERR47M01	174-1405
0.56	0.91	88	56	IHLP6767GZERR56M01	174-1406
0.82	1.17	73	50	IHLP6767GZERR82M01	174-1407
1	1.28	73	48	IHLP6767GZERR1R0M01	174-1409
1.5	1.78	65	42	IHLP6767GZERR1R5M01	174-1411
1.8	1.96	65	38	IHLP6767GZERR1R8M01	174-1412
2.2	2.4	62	35	IHLP6767GZERR2R2M01	174-1413
3.3	3.68	54	28	IHLP6767GZERR3R3M01	174-1414
4.7	4.84	41	25	IHLP6767GZERR4R7M01	174-1415
5.6	6.68	40	21	IHLP6767GZERR5R6M01	174-1416
6.8	8.37	32	19	IHLP6767GZERR6R8M01	174-1417
8.2	10.1	25	18	IHLP6767GZERR8R2M01	174-1418
10	11.6	25	16.5	IHLP6767GZERR100M01	174-1419
15	18.8	25	12.5	IHLP6767GZERR15M01	174-1420
22	25.1	23	11	IHLP6767GZERR220M01	174-1422

Price Each

Order Code	1+	10+	50+	200+	+
All Values	4.77	4.42	3.98	3.18	--

Inductors - SMD Power Coil - Würth Elektronik

Flat Wire Inductors

WE-HC series, High Current



- Low stray field, extremely low profile design
- Current capability up to 40 A
- Operating temperature: -40°C to +150°C/155°C
- Recommended soldering profile: reflow
- 30% less deficit compared to standard material at 500kHz, no thermal aging
- For graphic cards, Laptops, Industrial computers, Motherboards, High current switching regulators, High temperature electronics, Polyphase-switching regulators
- Recommended for applications with ICs of National, Linear Tech., TI, Fairchild and STM

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} typ. (mΩ)	Current rating (A)	Mftrs. List No.	Order Code
0.21	± 20%	275	1.86	18	744312025	163-6180
0.58	± 20%	150	7.2	12	744312072	163-6183
0.75	± 20%	110	8.11	11	744312100	163-6184
1.17	± 20%	87	9.57	9	744312150	163-6186
0.11	± 20%	400	0.91	22	744310013	163-6187
0.22	± 20%	220	1.6	18	744310024	163-6188
0.52	± 20%	105	3.1	17	744311068	163-6190
1.75	± 20%	52	11.4	9	744311220	163-6192
2.75	± 20%	43	17.2	6.5	744311330	163-6193
4.7	± 20%	33	19.5	6	744311470	163-6195
3.3	± 20%	65	9	9	744314330	163-6196
4.9	± 20%	56	14.5	6.5	744314490	163-6197
0.14	± 20%	363	0.62	24	744324015	163-6199
0.3	± 20%	174	1.36	22	744324033	163-6201
1	± 20%	77	4.48	14	744324100	163-6203
1.5	± 20%	54	5.35	13	744324140	163-6204
1.8	± 20%	n.D.	4.6	14	744325240	163-6205
2.4	± 20%	n.D.	5.9	12	744325330	163-6206
3.3	± 20%	33	7.1	11	744325420	163-6207
1.45	± 20%	48	5.6	14	744313180	163-6209
1.75	± 20%	40	5.7	14	744313220	163-6210
2.45	± 20%	30	8.1	12	744313330	163-6211
1	± 20%	87	3	18	744315120	163-6214
0.9	± 20%	64	1.79	22	744318120	163-6215
1.4	± 20%	68	3.19	18	744318180	163-6216
2.15	± 20%	39	4	16	744318270	163-6217

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Inductance (µH)	Order Code	1+	10+	50+	100+	250+
0.21	163-6180	2.40	2.23	2.07	1.94	1.83
0.58	163-6183	2.40	2.23	2.07	1.94	1.83
0.75	163-6184	2.40	2.23	2.07	1.94	1.83
1.17	163-6186	2.21	2.07	1.94	1.83	1.74
0.11	163-6187	2.24	2.09	1.96	1.85	1.75
0.22	163-6188	2.40	2.23	2.07	1.94	1.83
0.52	163-6190	2.30	2.16	2.03	1.92	1.81
1.75	163-6192	2.48	2.31	2.15	2.02	1.90
2.75	163-6193	2.30	2.16	2.03	1.92	1.81
4.7	163-6195	2.48	2.31	2.15	2.02	1.90
3.3	163-6196	2.48	2.31	2.15	2.02	1.90
4.9	163-6197	2.48	2.31	2.15	2.02	1.90
0.14	163-6199	2.39	2.25	2.11	2.00	1.89
0.3	163-6201	2.39	2.25	2.11	2.00	1.89
1	163-6203	2.56	2.40	2.23	2.10	1.97
1.5	163-6204	2.37	2.22	2.06	1.94	1.82
1.8	163-6205	2.47	2.33	2.19	2.07	1.95
2.4	163-6206	2.64	2.48	2.31	2.17	2.04
3.3	163-6207	2.64	2.48	2.31	2.17	2.04
1.45	163-6209	2.46	2.32	2.18	2.06	1.95
1.75	163-6210	2.44	2.29	2.14	2.01	1.89
2.45	163-6211	2.44	2.29	2.14	2.01	1.89
1	163-6214	2.56	2.48	2.31	2.17	2.04
0.9	163-6215	1.99	1.95	1.86	1.79	1.72
1.4	163-6216	2.37	2.29	2.14	2.01	1.89
2.15	163-6217	2.56	2.48	2.31	2.17	2.04

High Current Inductors

WE-HCA Series, Shielded



- New core material WE-Perm: 50% less deficit compared to Superflux 200 at 500 kHz and 0.5T, no thermal aging
- Optimized for high ripple current because of extremely low core losses
- Flat wire coil for lower losses at high frequency ranges

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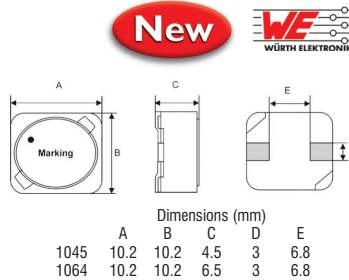
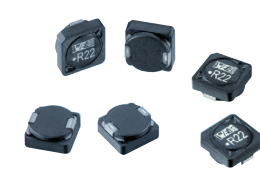


- Low leakage field and extremely low profile design
- Current capability up to 60A
- Operating temperature: -40°C to +155°C
- Recommended soldering profile: Reflow
- For graphic cards, laptops, industrial computers, motherboards, high current switching regulators, high temperature electronics, polyphase-switching regulators recommended for applications with ICs of National, Linear Tech., TI, Fairchild and STM

Inductance (μH)	Tolerance	Selfres. frequency (MHz)	R _{DC} typ. (mΩ)	Current rating (A)	Mftrs. List No.	Order Code
0.19	± 20%	225	0.5	29	744355019	163-6227
0.47	± 20%	95	0.9	26	744355047	163-6228
0.9	± 20%	72	1.65	24	744355090	163-6229
1.4	± 20%	60	2.4	22	7443550140	163-6230
2.3	± 20%	N/A	3.7	17.5	7443550230	163-6231
3.2	± 20%	34	5.3	16	7443550320	163-6232
0.2	± 20%	230	0.35	32	744355122	163-6234
0.47	± 20%	100	0.67	30	744355147	163-6235
0.82	± 20%	72	0.9	27	744355182	163-6237
3.7	± 20%	26	4.9	17	7443551370	163-6239
9.2	± 20%	N/A	7.8	12	7443551920	163-6242
15.4	± 20%	15	14.8	9	7443551151	163-6243
0.15	± 30%	N/A	N/A	N/A	744355215	163-6244
0.3	± 20%	170	1.1	22	744355230	163-6245
0.56	± 20%	100	1.61	20	744355256	163-6246
1	± 20%	80	3.3	16	7443552100	163-6247
1.5	± 20%	63	5.3	14	7443552150	163-6249
2.8	± 20%	46	10.6	9.5	7443552280	163-6251
4.3	± 20%	33	14	8	7443552430	163-6252

Inductance (μH)	Order Code	Price Each				
		1+	10+	50+	100+	250+
0.19	163-6227	2.21	2.07	1.94	1.83	1.74
0.47	163-6228	2.21	2.07	1.94	1.83	1.74
0.9	163-6229	2.22	2.06	1.92	1.79	1.69
1.4	163-6230	2.22	2.06	1.92	1.79	1.69
2.3	163-6231	1.79	1.71	1.63	1.57	1.51
3.2	163-6232	2.22	2.06	1.92	1.79	1.69
0.2	163-6234	2.21	2.07	1.94	1.83	1.74
0.47	163-6235	2.40	2.23	2.07	1.94	1.83
0.82	163-6237	2.21	2.07	1.94	1.83	1.74
3.7	163-6239	2.40	2.23	2.07	1.94	1.83
9.2	163-6242	2.40	2.23	2.07	1.94	1.83
15.4	163-6243	2.40	2.23	2.07	1.94	1.83
0.15	163-6244	2.02	1.89	1.76	1.66	1.58
0.3	163-6245	2.23	2.07	1.90	1.78	1.68
0.56	163-6246	2.06	1.92	1.76	1.65	1.55
1	163-6247	2.23	2.07	1.90	1.78	1.68
1.5	163-6249	2.06	1.92	1.76	1.65	1.55
2.8	163-6251	2.06	1.92	1.76	1.65	1.55
4.3	163-6252	2.06	1.92	1.76	1.65	1.55

Power Chokes
WE-PDF Series



- Core material: NiZn
- Flat power inductor
- High storage capability
- Magnetically shielded which results in a low leakage field
- High saturation current
- Flat wire coil for lower losses at high frequency ranges
- High Self Resonance Frequency
- Operating temperature: -40°C up to +150°C
- Recommended solder profile: Reflow

Inductance (μH)	Tolerance	Selfres. frequency (MHz)	R _{DC} (Ω)	Current rating (A)	Mftrs. List No.	Order Code
1045						
0.22	± 30%	350	0.01	8.8	7447797022	180-0262
0.5	± 30%	200	0.0125	8.5	7447797050	180-0263
1.1	± 30%	127	0.014	7.6	7447797110	180-0264
1.8	± 20%	90	0.016	7.3	7447797180	180-0266
3	± 20%	70	0.018	7	7447797300	180-0268
3.6	± 20%	56	0.02	6.8	7447797360	180-0269
4.7	± 20%	52	0.027	5.8	7447797470	180-0270
6.2	± 20%	43	0.03	5.5	7447797620	180-0271
8.2	± 20%	31	0.035	4.8	7447797820	180-0272
1064						
0.22	± 30%	380	0.007	10.3	7447798022	180-0273
0.5	± 30%	180	0.0075	9.5	7447798050	180-0274
1.1	± 30%	115	0.0086	9.25	7447798110	180-0275
1.8	± 30%	78	0.0096	9	7447798180	180-0276
2.5	± 30%	63	0.013	8.6	7447798250	180-0277
3.6	± 30%	50	0.0111	7.9	7447798360	180-0278
4.7	± 30%	43	0.0132	7.5	7447798470	180-0281
6.2	± 30%	40	0.0147	7	7447798620	180-0282
7.2	± 30%	34	0.0159	6.5	7447798720	180-0283

Inductance (μH)	Tolerance	Selfres. frequency (MHz)	R _{DC} (Ω)	Current rating (A)	Mftrs. List No.	Order Code
1064						
10	± 30%	30	0.0194	6.2	7447798910	180-0284
11	± 20%	27	0.0214	5.8	7447798111	180-0285
13	± 20%	24	0.0271	5.2	7447798131	180-0286
15	± 20%	22	0.0289	4.9	7447798151	180-0287
18	± 20%	20	0.0311	4.7	7447798181	180-0288
22	± 20%	18	0.0402	4.1	7447798221	180-0289
24	± 20%	17	0.0429	4	7447798241	180-0290
27	± 20%	16	0.0458	3.9	7447798271	180-0291
30	± 20%	14	0.0492	3.7	7447798301	180-0293

	Order Code	Price Each				
		1+	10+	50+	100+	250+
1045	All Values	2.04	1.84	1.70	1.56	1.36
1064	All Values	2.28	2.05	1.90	1.75	1.52

High current choke assortment
WE-HC & WE-HCA series

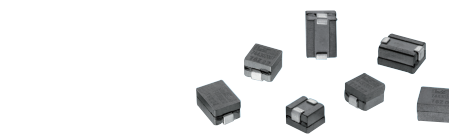


- Assortment of shielded flat WE-HC & WE-HCA high current chokes

Mftrs. List No.	dimensions (mm)
744355	7 x 6.9 x 3 / 6.6 x 7.3 x 3.4 / 7 x 6.9 x 4 / 10.5 x 10 x 3.9 / 10.2 x 10.2 x 4
744356	14.2 x 12.8 x 6.5 / 14 x 12.8 x 5 / 12.9 x 12.8 x 3.5 / 14 x 12.8 x 4.8 / 14 x 12.8 x 5.3

Mftrs. List No.	Order Code	Price Each
744355	163-6338	106.55
744356	163-6341	106.55

High Current Inductors
WE-HCM Series



- Low core losses (MnZn)
- Higher Saturation current up to 60A
- Extrem low RDC, low RDC Tolerance
- Operating Temperature Range -40°C to +125°C
- Recommended soldering profile: Reflow
- For Polyphase/ Multipase Switching Regulators, CPU/ RAM Power supply or Power PC's

Inductance (μH)	Tolerance	Selfres. frequency (MHz)	R _{DC} ±7% (mΩ)	Current rating (A)	Mftrs. List No.	Order Code
72	± 20%	155	0.235	30	744302007	163-6257
105	± 20%	105	0.235	30	744302010	163-6258
150	± 20%	75	0.235	30	744302015	163-6259
120	± 20%	125	0.325	31	744303012	163-6260
155	± 20%	110	0.325	31	744303015	163-6262

Inductance (μH)	Order Code	Price Each				
		1+	10+	50+	100+	250+
72	163-6257	1.22	1.09	0.94	0.89	0.85
105	163-6258	1.32	1.16	0.99	0.93	0.88
150	163-6259	1.22	1.09	0.94	0.89	0.85
120	163-6260	1.00	0.92	0.83	0.80	0.77
155	163-6262	1.22	1.07	0.92	0.86	0.81

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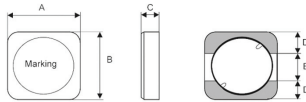
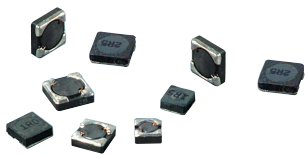
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Inductors - SMD Power Coil - Würth Elektronik - continued

Shielded Power Inductors

WE-TPC Series, Extremely Flat



- Extremely flat power inductor
- High current capability
- High reliability and perfect soldering characteristics because of an integrated soldering pad
- Magnetically shielded which results in a low leakage field
- Operating temperature range: -40°C up to +125°C
- For portable applications like PDA, digital camera, PCMCIA-cards, displays or DC/DC-converter
- Recommended for switching regulator IC's from Linear Techn., National Semiconductor, TI and Fairchild Semiconductor

Dimensions (mm)

	A	B	C	D	E
Type T	2.8	2.8	1.1	0.9	0.9
Type TH	2.8	2.8	1.35	0.9	0.9
Type XS	3.3	3.5	0.95	1.1	0.5
Type S	3.8	3.8	1.65	1.3	1.2
Type M	4.8	4.8	1.8	1.6	1.6
Type MH	4.8	4.8	2.8	1.6	1.6
Type L	5.8	5.8	1.8	1.9	2
Type LH	5.8	5.8	2.8	1.9	2
Type X	6.8	6.8	2.3	2.3	2.2
Type 8x8x1.2	8	8	1.1	3.2	2.4
Type 8x8x1.5	8	8	1.35	3.2	2.4
Type 8x8x2	8	8	1.8	3.2	2.4
Type XMH	8	8	2	3.2	2.4
Type XL	10	10	2.8	3.2	7.4
Type XLH	10	10	3.8	3.2	7.4

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} (Ω)	Current rating (A)	Mftrs. List No.	Order Code
Type T						
0.33	± 35%	550	0.027	3	74402800033	NEW 174-8583
0.47	± 35%	350	0.036	2.5	74402800047	163-5819
0.82	± 35%	180	0.053	2.2	74402800082	NEW 174-8584
2.2	± 30%	100	0.125	1.5	744028002	NEW 174-8585
3.3	± 30%	80	0.185	1.1	744028003	NEW 174-8586
4.7	± 30%	70	0.265	0.9	744028004	163-5821
6.8	± 30%	60	0.325	0.83	744028006	NEW 174-8587
10	± 30%	45	0.55	0.63	744028100	163-5822
22	± 30%	25	1.22	0.4	744028220	NEW 174-8588
Type TH						
0.11	± 35%	1000	0.011	4.8	74402900011	163-5823
0.33	± 35%	500	0.023	3.2	74402900033	NEW 174-8589
0.82	± 35%	200	0.036	2.6	74402900082	NEW 174-8590
1	± 30%	150	0.045	2.5	744029001	163-5825
2.2	± 30%	90	0.088	1.7	744029002	NEW 174-8591
3.3	± 30%	70	0.11	1.4	744029003	NEW 174-8593
4.7	± 30%	65	0.17	1.2	744029004	163-5826
6.8	± 30%	55	0.25	0.95	744029006	NEW 174-8594
10	± 30%	40	0.39	0.75	744029100	163-5828
22	± 30%	25	0.9	0.48	744029220	NEW 174-8595
Type XS						
1.2	+20%, -35%	210	0.095	1	744030001	163-5829
4.7	± 30%	100	0.252	0.48	744030004	163-5830
10	± 30%	60	0.58	0.28	744030100	163-5831
22	± 30%	40	1.39	0.22	744030220	163-5832
Type S						
1.5	± 30%	125	0.04	1.75	744031001	163-5833
4.7	± 30%	75	0.09	1.2	744031004	163-5834
10	± 30%	45	0.185	0.74	744031100	163-5835
47	± 30%	20	0.94	0.39	744031470	163-5836
100	± 30%	10	1.93	0.25	744031101	163-5837
Type M						
1	± 30%	177	0.028	2.7	744042001	163-5838
4.7	± 30%	70	0.07	1.72	744042004	163-5841
10	± 30%	45	0.12	1.3	744042100	163-5842
22	± 30%	26	0.255	0.88	744042220	163-5843
100	± 30%	10	1.06	0.4	744042101	163-5844
Type MH						
4.7	± 30%	60	0.052	1.55	744043004	163-5846
10	± 30%	40	0.095	1.19	744043100	163-5847
22	± 30%	20	0.155	0.925	744043220	163-5848
100	± 30%	11	0.52	0.51	744043101	163-5849
470	± 30%	3	2.31	0.24	744043471	163-5850
Type L						
1.2	± 30%	120	0.02	3	7440520012	163-5851
5	± 30%	55	0.047	1.65	744052005	163-5853
10	± 30%	40	0.106	1.1	744052100	163-5854
22	± 30%	25	0.21	0.8	744052220	163-5855
47	± 30%	18	0.47	0.77	744052470	163-5856
68	± 30%	14	0.66	0.64	744052680	163-5857
220	± 30%	7	1.89	0.23	744052221	163-5858
470	± 30%	N/A	4.175	0.14	744052471	163-5859
Type LH						
2.6	± 30%	55	0.022	3	744053002	163-5860
4.7	± 30%	40	0.03	2.4	7440530047	163-5861
10	± 30%	35	0.05	1.5	744053100	163-5862
22	± 30%	20	0.095	1.15	744053220	163-5863

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} (Ω)	Current rating (A)	Mftrs. List No.	Order Code
Type LH						
47	± 30%	13	0.22	0.82	744053470	163-5865
100	± 30%	10	0.36	0.45	744053101	163-5866
220	± 30%	20	0.92	0.3	744053221	163-5867
Type X						
5	± 30%	50	0.038	2.15	744062005	163-5869
10	± 30%	35	0.053	1.6	744062100	163-5870
22	± 30%	20	0.09	1.22	744062220	163-5871
100	± 30%	10	0.44	0.55	744062101	163-5873
Type 8x8x1.2						
1	± 30%	110	0.032	2.8	7440680010	NEW 174-8596
2.7	± 20%	80	0.052	2.2	7440680027	NEW 174-8597
4.7	± 20%	55	0.072	1.85	7440680047	NEW 174-8598
10	± 20%	25	0.177	1.2	7440680100	NEW 174-8599
15	± 20%	20	0.213	1.1	7440680150	NEW 174-8600
22	± 20%	10	0.35	0.85	7440680220	NEW 174-8601
Type 8x8x1.5						
1	± 20%	90	0.021	3.6	7440690010	NEW 174-8602
2.2	± 20%	50	0.035	2.8	7440690022	NEW 174-8603
4.7	± 20%	30	0.056	2.2	7440690047	NEW 174-8604
10	± 20%	10	0.112	1.55	7440690100	NEW 174-8605
12	± 20%	9	0.148	1.35	7440690120	NEW 174-8606
18	± 20%	7	0.225	1.1	7440690180	NEW 174-8607
Type 8x8x2						
3.3	± 30%	80	0.03	3.2	7440700033	NEW 174-8608
5.6	± 30%	60	0.047	2.6	7440700056	NEW 174-8611
15	± 30%	25	0.117	1.65	7440700150	NEW 174-8612
Type XMH						
0.18	± 30%	600	0.00351	8.5	74407000018	163-5875
1.2	± 30%	150	0.0125	4.6	7440700012	163-5878
4.7	± 30%	65	0.037	3	7440700047	163-5879
10	± 30%	30	0.078	2	7440700100	163-5880
Type XL						
1	± 30%	100	0.0058	8	744065001	163-5882
4.7	± 30%	40	0.02	4.6	7440650047	163-5883
10	± 30%	25	0.045	3	744065100	163-5884
22	± 30%	16	0.11	1.8	744065220	163-5885
47	± 30%	11	0.18	1.4	744065470	163-5886
100	± 30%	7	0.33	1	744065101	163-5887
150	± 30%	5	0.53	0.85	744065151	163-5889
Type XLH						
5	± 30%	30	0.0165	4.9	744066005	163-5892
10	± 30%	20	0.028	3.6	744066100	163-5893
22	± 30%	12	0.06	2.5	744066220	163-5894
47	± 30%	8	0.132	1.75	744066470	163-5896
100	± 30%	6	0.255	1.2	744066101	163-5897
220	± 30%	6	0.57	0.75	744066221	163-5898
680	± 30%	2	1.65	0.46	744066681	163-5899

Price Each

Order Code	Order Code	1+	10+	50+	100+	250+
Type T	All Values	0.85	0.82	0.79	0.77	0.75
Type TH	All Values	0.79	0.76	0.73	0.71	0.69
Type XS	All Values	0.85	0.82	0.79	0.77	0.75
Type S	All Values	0.85	0.82	0.79	0.77	0.75
Type M	All Values	0.80	0.78	0.74	0.72	0.71
Type MH	All Values	0.80	0.78	0.74	0.72	0.71
Type L	All Values	0.80	0.78	0.74	0.72	0.71
Type LH	All Values	0.85	0.82	0.79	0.77	0.75
Type X	All Values	0.85	0.82	0.79	0.77	0.75
Type 8x8x1.2	All Values	1.12	1.01	0.96	0.91	0.84
Type 8x8x1.5	All Values	1.12	1.01	0.96	0.91	0.84
Type 8x8x2	All Values	1.29	1.16	1.10	1.05	0.97
Type XMH	All Values	0.98	0.96	0.92	0.89	0.88
Type XL	All Values	0.89	0.87	0.83	0.81	0.80
Type XLH	All Values	0.89	0.87	0.83	0.81	0.80

Choke Assortment

WE-TPC Series



- Assortment of WE-TPC SMD chokes in small, medium and large case sizes
- Small kit: 35 values, 10 pieces of each
- Medium kit: 35 values, 10 pieces of each
- Large kit: 35 values, 5 pieces of each

Price Each

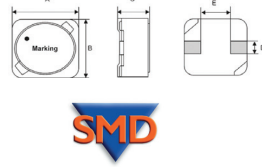
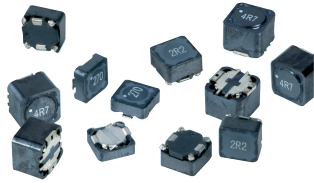
Kit	Case Size	Order Code	1+
WE-TPC Kit	Small	163-6332	75.64
WE-TPC Kit	Medium	163-6333	75.64
WE-TPC Kit	Large	163-6334	81.77

Over half a million products available online



Shielded Power Inductors

WE-PD Series



- Magnetically shielded version which results in a low leakage field
- High storage capacity, low self-losses
- Highest possible current loading for SMD-Inductors
- Operating temperature: -40°C to +85°C
- For switching regulators with low operating voltages (computer, laptop, mobile phones, pagers) or extremely high efficiency
- For integrated DC-/DC-converter and graphics cards
- Perfectly suitable for switching regulators e.g. National Semiconductor, Linear Technology, Texas Instruments, STMicroelectronics, Maxim, Micrel, Semtech

		Dimensions (mm)						
		A	B	C	D	E		
Type L		12	12	6	8	5		
Type XL		12	12	8	8	5		
Type XXL		12	12	10	7.6	5		
Type XS		5.9	6.2	3.3	1.5	2.8		
Type S		7.3	3.2	1.5	1.5	4		
Type M		7.3	4.5	1.5	1.5	4		

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} (mΩ)	Current rating (mA)	Mftrs. List No.	Order Code
Type L						
1.5	± 20%	60	4	10.5	744771001	163-5900
2.2	± 20%	50	5	10	744771002	163-5901
8.2	± 20%	25	14	6.25	744771008	163-5905
10	± 20%	21.5	18	5	74477110	163-5907
15	± 20%	16.6	25	3.75	744771115	163-5908
22	± 20%	13	31	3.37	744771122	163-5909
47	± 20%	8	72	2.21	744771147	163-5910
68	± 20%	6	96	1.91	744771168	163-5911
100	± 20%	4.9	150	1.53	74477120	163-5912
150	± 20%	4.4	185	1.21	744771215	163-5913
220	± 20%	3.8	290	0.96	744771220	163-5914
470	± 20%	2.6	660	0.64	74477124	163-5915
680	± 20%	2.3	880	0.55	74477126	163-5916
1000	± 20%	1.9	1430	0.43	74477130	163-5917
Type XL						
1.2	+40%, -20%	45	5	12	74477001	163-5921
2.4	+40%, -20%	41	9	10.1	74477002	163-5922
4.7	+40%, -20%	31.2	12	8.5	74477004	163-5923
6.1	+40%, -20%	25	15	7.6	74477006	163-5924
10	± 20%	18	19	6.2	74477010	163-5925
15	± 20%	14.5	24	5	744770115	163-5926
22	± 20%	12	33	4.1	744770122	163-5927
47	± 20%	7.9	76	2.7	744770147	163-5928
68	± 20%	6.4	90	2.3	744770168	163-5929
100	± 20%	5.2	102	2.2	74477020	163-5930
180	± 20%	4.2	188	1.4	744770218	163-5932
220	± 20%	3.8	247	1.3	744770222	163-5933
470	± 20%	2.6	496	0.9	744770247	163-5935
680	± 20%	2.2	840	0.7	744770268	163-5936
1000	± 20%	1.8	1040	0.6	74477030	163-5937
Type XXL						
1	± 20%	120	3.86	13	7447709001	163-5938
2.2	+40%, -20%	65	4.94	11.5	7447709002	163-5939
4.7	± 20%	38	7.42	9.3	7447709004	163-5940
6.8	± 20%	23	9.1	8.4	7447709006	163-5941
10	± 20%	21	12.94	7.1	7447709100	163-5942
15	± 20%	17	20.75	6.5	7447709150	163-5944
22	± 20%	10	23.3	5.3	7447709220	163-5945
47	± 20%	6.5	45.93	3.8	7447709470	163-5946
68	± 20%	6	68.64	3.2	7447709680	163-5947
100	± 20%	6	100	2.5	7447709101	163-5948
150	± 20%	5.5	151	2.1	7447709151	163-5949
220	± 20%	2.2	193	1.8	7447709221	163-5950
470	± 20%	2	437	1.4	7447709471	163-5951
680	± 20%	1.5	660	1.1	7447709681	163-5952
1000	± 20%	N/A	930	0.9	7447709102	163-5953
1500	± 20%	0.9	1800	0.9	7447709152	163-5956
Type XS						
2.2	± 25%	93	43	2.9	7447785002	163-5958
4.7	± 25%	60	60	2.2	7447785004	163-5959
10	± 25%	37	100	1.9	744778510	163-5961
15	± 25%	28	165	1.6	7447785115	163-5962
22	± 25%	23	210	1.35	7447785122	163-5963
47	± 25%	16.5	500	0.85	7447785147	163-5964
100	± 25%	11	950	0.65	744778520	163-5965
Type S						
2.2	± 20%	36	19	4.02	7447789002	163-5968
4.7	± 20%	30	33	2.9	7447789004	163-5969
6.8	± 20%	26	41.5	2.5	7447789006	163-5970
10	± 20%	23	64	1.83	744778910	163-5971
15	± 20%	20.8	100	1.51	7447789115	163-5972
22	± 20%	18	119	1.38	7447789122	163-5973
47	± 20%	13	315	0.85	7447789147	163-5974
68	± 20%	10.2	427	0.74	7447789168	163-5975
100	± 20%	7	585	0.62	744778920	163-5976
150	± 20%	6.5	720	0.56	7447789215	163-5977
470	± 20%	3.8	2600	0.3	744778924	163-5981
680	± 20%	3	4500	0.22	744778926	163-5982
1000	± 20%	2	5570	0.2	744778930	163-5983

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} (mΩ)	Current rating (mA)	Mftrs. List No.	Order Code
Type M						
1	± 20%	49	10	5.3	7447779001	163-5984
2.2	± 20%	43	16	4.2	7447779002	163-5985
4.7	± 20%	35	28	3.16	7447779004	163-5986
6.8	± 20%	30	33	2.91	7447779006	163-5987
10	± 20%	23	45	2	744777910	163-5988
15	± 20%	19	70	1.6	7447779115	163-5989
22	± 20%	15	90	1.41	7447779122	163-5991
47	± 20%	10	190	1.03	7447779147	163-5993
68	± 20%	9	239	0.87	7447779168	163-5994
100	± 20%	7	290	0.79	744777920	163-5995
150	± 20%	6.3	529	0.52	7447779215	163-5996
220	± 20%	4.8	920	0.44	7447779222	163-5997
470	± 20%	3.8	1600	0.29	744777924	163-5998
680	± 20%	3.2	2600	0.23	744777926	163-5999
1000	± 20%	2.3	3270	0.2	744777930	163-6000

		Price Each				
		1+	10+	50+	100+	250+
Type L	All Values	1.61	1.53	1.45	1.36	1.28
Type XL	All Values	1.82	1.74	1.65	1.55	1.46
Type XXL	All Values	1.98	1.90	1.82	1.71	1.60
Type XS	All Values	1.61	1.53	1.45	1.36	1.28
Type S	All Values	1.74	1.65	1.57	1.48	1.39
Type M	All Values	1.57	1.49	1.40	1.32	1.24

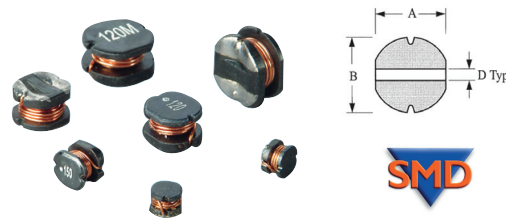
Choke Assortment WE-PD Series, Shielded



- Assortment of shielded WE-PD SMD chokes in small, medium and large case sizes
- Small kit: 35 values, 10 pieces of each
- Medium kit: 35 values, 5 pieces of each
- Large kit: 35 values, 5 pieces of each

		Price Each		
		1+		
WE-PD Kit	Small	163-6335	90.92	
WE-PD Kit	Medium	163-6336	98.29	
WE-PD Kit	Large	163-6337	85.64	

Unshielded Power Inductors WE-PD2 Series



- Non magnetically shielded
- Operating temperature: -40°C to +85°C
- 1kHz test frequency
- For switching regulators with low operating voltage (computer, laptop, mobiles, pagers)
- For integrated DC/DC-converter
- Perfectly suitable for switching regulators e.g. from National Semiconductor, Linear Technology, Texas Instruments, STMicroelectronics, Maxim, Micrel, Semtech
- Perfectly suitable for switching regulators with extremely high efficiency or graphics cards

		Dimensions (mm)					
		A	B	C	D		
Type S		4	4.5	3.2	1		
Type M		5.2	5.8	4.5	2		
Type MS		5.2	5.8	2	2		
Type L		7	7.8	5	3		
Type XL		9	10	5.4	3.5		

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} (mΩ)	Current-rating (A)	Mftrs. List No.	Order Code
Type S						
1	± 20%	110	14	4	7447730	163-6001
2.2	± 20%	74	34	2.5	744773022	163-6002
4.7	± 20%	45	59	1.82	744773047	163-6003
6.8	± 20%	35	76	1.54	744773068	163-6004
10	± 20%	30	118	1.45	74477310	163-6006
15	± 20%	27	204	1.2	744773115	163-6007
22	± 20%	20	261	1	744773122	163-6008
47	± 10%	12	523	0.68	744773147	163-6009
68	± 10%	11	754	0.56	744773168	163-6010
Type M						
10	± 20%	26	78	2.2	74477410	163-6014
15	± 20%	20	89	1.53	744774115	163-6015
22	± 20%	16	109	1.28	744774122	163-6016
47	± 15%	10	260	0.86	744774147	163-6018



Inductors - SMD Power Coil - Würth Elektronik - continued

Unshielded Power Inductors - continued

WE-PD2 Series - continued

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} (mΩ)	Current-rating (A)	Mfrs. List No.	Order Code
Type M						
100	± 10%	7	510	0.57	74477420	163-6020
150	± 10%	6	720	0.46	744774215	163-6021
220	± 10%	5	945	0.42	744774222	163-6023
Type MS						
0.12	± 20%	250	2.5	10	74477450012	163-6024
0.27	± 20%	180	4.4	8.2	74477450027	163-6025
1.2	± 20%	96	17	4.8	7447745012	163-6027
4.7	± 20%	42	57	2.5	7447745047	163-6031
6.2	± 20%	30	80	2.1	7447745062	163-6032
10	± 20%	28	120	1.7	7447745100	163-6033
33	± 20%	10	480	0.9	7447745330	163-6034
Type L						
10	± 20%	23	44	2.3	74477510	163-6035
15	± 10%	18	44	1.93	744775115	163-6036
22	± 10%	15	65	1.76	744775122	163-6037
47	± 10%	10	134	1.17	744775147	163-6038
68	± 10%	8	218	0.99	744775168	163-6039
100	± 10%	7	208	0.77	74477520	163-6040
150	± 10%	6	467	0.6	744775215	163-6041
220	± 10%	5	614	0.51	744775222	163-6043
Type XL						
10	± 20%	22	28	2.98	74477610	163-6045
15	± 20%	19	34	2.47	744776115	163-6046
22	± 20%	16	51	2.04	744776122	163-6047
47	± 10%	11	95	1.45	744776147	163-6048
68	± 10%	8	138	1.19	744776168	163-6049
100	± 10%	7	200	1.02	74477620	163-6050
150	± 10%	5	300	0.81	744776215	163-6051
220	± 10%	4.5	451	0.67	744776222	163-6052
680	± 10%	2.5	1245	0.36	744776268	163-6055

Price Each

Order Code	Order Code	1+	10+	50+	100+	250+
Type S	All Values	1.24	1.16	1.07	1.01	0.95
Type M	All Values	1.32	1.24	1.16	1.09	1.02
Type MS	All Values	1.32	1.24	1.16	1.09	1.02
Type L	All Values	1.40	1.32	1.24	1.17	1.10
Type XL	All Values	1.57	1.49	1.40	1.32	1.24

521973

Shielded Power Inductor

WE-PD3 Series



- Magnetically shielded version which results in a low leakage field
- Extremely low profile of type M: 2.7mm
- Low inherent losses, high storage capacity
- Operating temperature: -40°C to +125°C
- Operating frequencies up to 10 MHz
- EMI-filter, perfectly suitable for switching regulators e.g. of National Semiconductor, Linear Technology, Texas Instruments, STMicroelectronics, Maxim, Micrel, Semtech
- Perfectly suitable for switching regulators with extremely high efficiency

Dimensions (mm)

Type	A	B	C	D	E	F	G
Type S	6.6	4.45	2.92	1	4.32	3.05	1.27
Type M	12.7 ± 0.2	10.3 ± 0.2	2.7 ± 0.3	2.4 ± 0.2	7.6 ± 0.3	2.5 ± 0.2	-
Type L	12.7 ± 0.2	10.0 ± 0.2	4.9 ± 0.3	2.4 ± 0.2	7.6 ± 0.3	2.0 ref.	-
Type X	18.54	15.24	7.62	2.54	12.7	2.54	-

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} typ. (Ω)	Current rating (A)	Mfrs. List No.	Order Code
Type S						
2.2	± 20%	120	0.021	1.8	74451022	163-6058
4.7	± 20%	105	0.045	1.4	74451047	163-6060
6.8	± 20%	50	0.055	1.2	74451068	163-6061
10	± 20%	38	0.056	1	7445110	163-6062
15	± 20%	33	0.075	0.8	74451115	163-6063
22	± 20%	25	0.09	0.7	74451122	163-6064
47	± 20%	20	0.16	0.5	74451147	163-6065
68	± 20%	15	0.221	0.4	74451168	163-6067
150	± 20%	9	0.41	0.26	74451215	163-6069
220	± 20%	6	0.58	0.22	74451222	163-6070
470	± 20%	4	1.7	0.19	74451247	163-6071
Type M						
1.5	± 20%	78	0.029	3	7445301	163-6072
2.2	± 20%	68	0.037	2.76	7445302	163-6073
6.8	± 20%	43	0.064	1.6	7445306	163-6075
10	± 20%	36	0.117	1.24	74453010	163-6076
15	± 20%	29	0.17	1	74453115	163-6077
22	± 20%	21	0.248	0.8	74453122	163-6079
47	± 20%	13	0.481	0.6	74453147	163-6081

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} typ. (Ω)	Current rating (A)	Mfrs. List No.	Order Code
Type M						
100	± 20%	9.3	1.164	0.4	7445320	163-6083
Type L						
2.2	± 20%	108	0.023	3.8	7445402	163-6084
4.7	± 20%	30.4	0.034	2.7	7445404	163-6085
6.8	± 20%	23.3	0.041	2.2	74454068	163-6086
10	± 20%	20	0.048	2	74454010	163-6087
15	± 20%	14.6	0.064	1.7	74454115	163-6088
22	± 15%	13.5	0.076	1.4	74454122	163-6089
47	± 15%	9.3	0.158	1	74454147	163-6090
68	± 15%	6.9	0.285	0.82	74454168	163-6092
100	± 10%	5.9	0.373	0.68	7445420	163-6093
150	± 10%	4.8	0.456	0.55	74454215	163-6094
220	± 10%	4	0.683	0.45	74454220	163-6095
470	± 10%	2.9	1.35	0.3	74454247	163-6096
1000	± 10%	1.9	2.75	0.22	7445430	163-6098
Type X						
10	± 20%	30	0.023	3.9	74459010	163-6099
15	± 20%	20	0.03	3.5	74459115	163-6100
22	± 20%	18	0.048	3.4	74459122	163-6101
47	± 20%	10	0.085	2.8	74459147	163-6102
68	± 20%	9	0.105	2.2	74459168	163-6103
100	± 20%	7	0.151	1.7	7445920	163-6104
150	± 20%	6	0.209	1.3	74459215	163-6105
470	± 20%	3	0.661	0.8	74459247	163-6107
680	± 20%	2.5	1.059	0.7	74459268	163-6109
1000	± 20%	2	1.427	0.6	7445930	163-6111

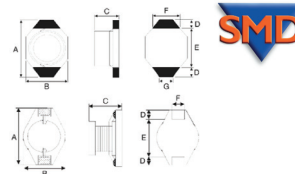
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Price Each

Order Code	Order Code	1+	10+	50+	100+	250+
Type S	All Values	1.57	1.49	1.40	1.32	1.24
Type M	All Values	1.49	1.42	1.34	1.26	1.18
Type L	All Values	1.74	1.65	1.57	1.48	1.39
Type X	All Values	1.82	1.74	1.65	1.55	1.46

35 Amp Power Inductors

WE-PD4 series



- Current loading up to 35A
- Compact size, industry standardized size
- Low-loss ferrite core and high storage capacity
- Operating temperature: -40°C to +125°C
- application frequency range up to 10MHz
- For noise suppression
- Perfectly suitable for switching regulators e.g. from National Semiconductor, Linear Technology, TI, STMicroelectronics, Maxim, Micrel, Semtech or for switching regulators with extremely high efficiency

Dimensions (mm)

Type	A	B	C	D	E	F	G
Type S	6.6	4.45	2.92	1	4.32	3.05	1.27
Type L	12.7	10	5	2.4	7.6	2	-
Type X	18.54	15.24	7.11	12.7	13.15	2.54	2.54
Type XL	22	15	7	2.3	15	8	-

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} typ. (mΩ)	Current rating (A)	Mfrs. List No.	Order Code
Type S						
1	± 20%	130	17	2.9	7445501	163-6112
2.2	± 20%	90	28	2.4	74455022	163-6113
4.7	± 20%	50	63	1.5	74455047	163-6114
6.8	± 20%	45	92	1.4	74455068	163-6115
10	± 20%	35	121	1.2	7445510	163-6116
15	± 20%	30	176	1.1	74455115	163-6117
22	± 20%	20	255	0.8	74455122	163-6118
47	± 20%	14	556	0.5	74455147	163-6119
68	± 20%	11	790	0.4	74455168	163-6120
100	± 20%	9	1080	0.3	7445520	163-6122
220	± 20%	5.5	2580	0.2	74455222	163-6124
1000	± 20%	2	11500	0.07	7445530	163-6126
Type L						
1	± 20%	170	4.1	8.6	7445601	163-6127
4.7	± 20%	45	14.6	5	74456047	163-6129
6.8	± 20%	35	26	3.8	74456068	163-6130
10	± 20%	25	34.9	3.3	7445610	163-6131
15	± 20%	23	43.2	2.9	74456115	163-6132
22	± 20%	18	71	2.6	74456122	163-6134
47	± 10%	12	142.1	1.8	74456147	163-6135
68	± 10%	10	187	1.6	74456168	163-6136
100	± 10%	8	253	1.4	7445620	163-6137
150	± 10%	6	447.6	1	74456215	163-6138
220	± 10%	5	601	0.9	74456222	163-6139
470	± 10%	3.5	1315	0.6	74456247	163-6140
680	± 10%	3	1942	0.5	74456268	163-6141
1000	± 10%	2	2940	0.4	7445630	163-6142
Type X						
1	± 20%	80	5	8.6	74458001	163-6143
2.2	± 20%	45	8	7.1	74458002	163-6144
10	± 20%	20	21	4.3	74458010	163-6147

Inductance (µH)	Tolerance	Selfres. frequency (MHz)	R _{DC} typ. (mΩ)	Current rating (A)	Mfrs. List No.	Order Code
Type X						
15	± 20%	15	30	4	74458115	163-6149
22	± 20%	14	43	3.5	74458122	163-6150
47	± 20%	9	76	2.6	74458147	163-6152
68	± 20%	7	110	2.3	74458168	163-6153
100	± 20%	6	141	1.8	7445820	163-6154
150	± 20%	4	210	1.5	74458215	163-6155
220	± 20%	3.5	326	1.2	74458220	163-6156
470	± 20%	2.5	633	0.82	74458247	163-6158
680	± 20%	2.2	954	0.72	74458268	163-6159
1000	± 20%	2	1370	0.56	7445830	163-6160
Type XL						
0.47	± 20%	134.3	1.3	18	74457006	163-6161
1	± 25%	72.7	3.1	15	74457010	163-6162
2.7	± 20%	51	7	10	74457027	163-6163
4.7	± 20%	33	8.8	8.5	74457047	163-6164
6.8	± 20%	27	14.1	7.5	74457068	163-6165
10	± 20%	20	17.2	6.5	7445710	163-6166
15	± 15%	16	28.8	5	74457115	163-6167
22	± 15%	14	39.3	4	74457122	163-6168
47	± 10%	9	91.1	2.8	74457147	163-6171
68	± 10%	7.9	112	2.4	74457168	163-6172
100	± 10%	6.2	168	2	7445720	163-6173
150	± 10%	4.87	223	1.5	74457215	163-6174
220	± 10%	3.97	323	1.2	74457222	163-6175
470	± 10%	2.55	674	0.82	74457247	163-6176
680	± 10%	2.3	1002	0.72	74457268	163-6177
1000	± 10%	1.6	1506	0.56	74457230	163-6178

Price Each					
Order Code	1+	10+	50+	100+	250+
Type S All Values	1.61	1.53	1.45	1.36	1.28
Type L All Values	1.29	1.22	1.16	1.10	1.04
Type X All Values	1.42	1.34	1.26	1.18	1.12
Type XL All Values	1.49	1.42	1.34	1.26	1.18

Max Current (A)	Impedance at Resonance (Ω)	Self Res. Frequency (MHz)	Mfrs List No	Order Code	
1	B82114RA4	900	60	B82114RA4	975-3397
1	B82114RA1	800	100	B82114RA1	975-2226

Price Each				
Order Code	1+	50+	100+	500+
975-3397	1.21	1.02	0.94	0.79
975-2226	0.79	0.66	0.58	0.47

Inductors - Ferrite Inductors & Beads - Fair-Rite

Wound EMI beads



- 6 hole wound ferrite beads
- Wire is oxygen free high conductivity copper
- Winding is 0.53mm (24AWG) dia. and tin plated

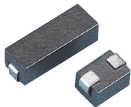


Length mm (body)	Diameter mm (A)	Weight g	Impedance Ω @ 25 MHz	Impedance Ω @ 100 MHz	Diag. No.	Mfrs List No.	Order Code
10	6	1.4	850	550	1-5	2944666631	119-1415
10	6	1.4	700	580	1-3	2944666671	119-1416
10	6	1.4	650	625	1-5	2961666631	119-1312
10	6	1.3	250	425	1-1	2961666661	119-1313
10	6	1.4	600	675	1-3	2961666671	119-1314

Order Multiple=10		Price Each			
Mfrs. List No.	Order Code	10+	100+	400+	800+
2944666631	119-1415	0.68	0.56	0.52	0.48
2944666671	119-1416	0.68	0.56	0.52	0.48
2961666631	119-1312	0.88	0.74	0.68	0.62
2961666661	119-1313	0.85	0.71	0.66	0.60
2961666671	119-1314	0.88	0.74	0.68	0.62

Inductors - Ferrite Inductors & Beads - Multicomp

Ferrite Bead Inductors



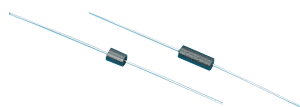
- Chip ferrite inductors
- Applications include filtering circuits in digital equipment



Impedance Min. (Ω) @ 25MHz	DC Resistance Max. (mΩ)	Dimensions L W H	Solder Pad	Distance Between Pads	Order Code
20	35	4 3 2.55	3 x 3	1.9	926-5260
45	85	8.5 3 2.55	3 x 3	6.4	926-5279

Order Multiple=5					
Price Each					
Order Code	5+	25+	100+	250+	500+
SMD 926-5260	0.34	0.31	0.28	0.22	0.20
SMD 926-5279	0.33	0.29	0.28	0.22	0.20

Ferrite Bead Inductors



- Axial ferrite bead inductors
- Applications include suppression in digital equipment and clock circuits



Min. Impedance (Ω) @ 10MHz	Bead Dimensions L Dia.	Current rating	Order Code
25	65 6 3.5	3A	926-5236
30	75 7.5 3.5	3A	926-5244
40	105 9 3.5	3A	926-5252

Order Multiple=10						
Price Each						
Bead Length (mm)	Order Code	10+	50+	100+	250+	1K+
6	926-5236	0.078	0.066	0.052	0.042	0.036
7.5	926-5244	0.078	0.072	0.066	0.058	0.051
9	926-5252	0.078	0.066	0.052	0.042	0.036

Inductors - Ferrite Inductors & Beads - Epcos

Axial Ferrite Bead



Body = 13, Dia. 6.2, Lead Length 45, Wire Gauge 0.5mm

- 6 aperture ferrite bead with wire passed through to form an RF inductor. Approved to VDE0565-2.
- Suitable for interference suppression in the HF and VHF range.



Inductors - Ferrite Inductors & Beads - Ferroxcube

MLS Series



0603 case size: L=1.6±0.15, W=0.8±0.15, H=0.74±0.15, Tape width=8.0, Reel=4000pcs
 0805 case size: L=2.0±0.2, W=0.8±0.2, H=0.74±0.2, Tape width=8.0, Reel=3000pcs
 1206 case size: L=3.2±0.2, W=1.6±0.2, H=1.1±0.2, Tape width=8.0, Reel=3000pcs
 1806 case size: L=4.5±0.25, W=1.6±0.25, H=1.6±0.25, Tape width=12, Reel=2000pcs



- Ferrite chip bead suppressors
- 0603, 0805, 1206 and 1806 case sizes
- Suitable for EMI/RFI attenuation in electronic equipment
- Applications include computers, audio/video, automotive, digital communications, mobile phones etc.

Case Size	Impedance @ 100MHz (Ω)	Operating temperature -55°C to +125°C		DC Resistance Max. (Ω)	Impedance tolerance ±25%	Mfrs. List No.	Order Code
		Rated Current Max. (mA)	DC Resistance				
0603	60	300	0.4	0.4	±25%	MLS0603-457-600	305-6491
0603	120	200	0.8	0.8	±25%	MLS0603-457-121	305-6466
0603	150	200	0.9	0.9	±25%	MLS0603-457-151	305-6478
0603	300	150	1.2	1.2	±25%	MLS0603-457-301	305-6480
0603	600	150	1.8	1.8	±25%	MLS0603-457-601	305-6508
0805	30	600	0.1	0.1	±25%	MLS0805-454-300	305-6510
0805	60	400	0.2	0.2	±25%	MLS0805-454-600	305-6521
0805	120	300	0.3	0.3	±25%	MLS0805-457-121	305-6545
0805	300	200	0.3	0.3	±25%	MLS0805-457-301	305-6557
0805	600	200	0.6	0.6	±25%	MLS0805-457-601	305-6569
0805	1000	150	0.8	0.8	±25%	MLS0805-457-102	305-6533
1206	30	600	0.1	0.1	±25%	MLS1206-454-300	305-6582
1206	70	400	0.2	0.2	±25%	MLS1206-454-700	305-6600
1206	90	400	0.2	0.2	±25%	MLS1206-454-900	305-6612
1206	120	300	0.2	0.2	±25%	MLS1206-454-121	305-6570
1206	600	200	0.4	0.4	±25%	MLS1206-454-601	305-6594
1206	1000	150	0.6	0.6	±25%	MLS1206-457-102	305-6624
1806	80	600	0.1	0.1	±25%	MLS1806-454-800	305-6648
1806	150	500	0.2	0.2	±25%	MLS1806-454-151	305-6636

Case size		Price Each				
Order Code	5+	30+	100+	300+	500+	
0603 All Values	0.330	0.300	0.260	0.200	0.138	
0805 All Values	0.310	0.270	0.260	0.220	0.186	
1206 All Values	0.310	0.270	0.260	0.220	0.186	
1806 All Values	0.560	0.490	0.440	0.350	0.230	

Over half a million products available online



Inductors - Ferrite Inductors & Beads - Kitagawa

MLB Series

High Current Ferrite Chip Beads

MEC KITAGAWA



- Combination of high frequency noise suppression with capability of handling high current
- Current ratings up to 6 Amps with low DCR
- Application fields include high current DC power lines and circuits where a stable ground is unavailable
- Reflow or Wave Soldering, suitable for lead free soldering



Operating temperature	-55°C to +125°C			Impedance tolerance	±25%
Impedance @ 100MHz (Ω)	Rated Current Max. (A)	DC Resistance Max. (Ω)	Mfrs. List No.	Order Code	

0603 Case Size		DC Resistance Max. (Ω)	Mfrs. List No.	Order Code
Impedance @ 100MHz (Ω)	Rated Current Max. (A)			
30	3	0.04	MLB-160808-0030PQ	130-8763
60	3	0.04	MLB-160808-0060PQ	130-8764
80	3	0.04	MLB-160808-0080PQ	130-8765
120	2.5	0.07	MLB-160808-0120PP	130-8766
220	2	0.09	MLB-160808-0220PN	130-8767
300	2	0.09	MLB-160808-0300PQ	130-8768
600	1	0.2	MLB-160808-0600PL	130-8770

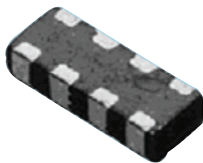
0805 Case Size		DC Resistance Max. (Ω)	Mfrs. List No.	Order Code
Impedance @ 100MHz (Ω)	Rated Current Max. (A)			
11	6	0.015	MLB-201209-0011PW	130-8771
40	4	0.03	MLB-201209-0040PR	130-8773
80	5	0.02	MLB-201209-0080PU	130-8776
120	5	0.02	MLB-201209-0120PU	130-8778
250	3	0.04	MLB-201209-0250PQ	130-8780
300	2	0.9	MLB-201209-0300PN	130-8781
600	2	0.09	MLB-201209-0600PN	130-8783

1206 Case Size		DC Resistance Max. (Ω)	Mfrs. List No.	Order Code
Impedance @ 100MHz (Ω)	Rated Current Max. (A)			
50	6	0.015	MLB-321611-0050PW	130-8784
60	3	0.04	MLB-321611-0060PQ	130-8785
75	3	0.04	MLB-321611-0075PQ	130-8787
80	4	0.03	MLB-321611-0080PR	130-8788
90	3	0.04	MLB-321611-0090PQ	130-8789
120	6	0.015	MLB-321611-0120PW	130-8790
150	2	0.09	MLB-321611-0150PN	130-8791
500	2.5	0.07	MLB-321611-0500PP	130-8792
600	2.5	0.07	MLB-321611-0600PP	130-8793
1200	1	0.2	MLB-321611-1200PL	130-8794

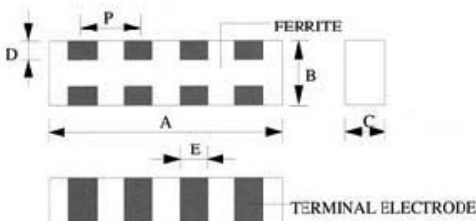
Case size	Order Code	Price Each				
		10+	100+	500+	1K+	+
0603	All Values	0.184	0.126	0.080	0.059	--
0805	All Values	0.194	0.139	0.092	0.070	--
1206	All Values	0.220	0.150	0.104	0.080	--

Ferrite Bead Array

MEC KITAGAWA



- Features include:**
- Combines 4 single ferrite beads into a 1206 package, which reduces board space and placement time
 - Wide range of impedance values from 30-1000 ohms
 - Wide operating temperature range -55 to 125 °C
 - Suitable for Re-flow or flow soldering method



L = 3.2, D = 0.9, W = 0.9 (mm)
Tol: ±0.20

- Applications include:**
- Filtering between analogue and digital circuits
 - Clock generation circuitry
 - I/O interconnects
 - Isolation between RF noisy circuits and logic devices
 - Power supply filtering to prevent RF energy from corrupting the power generation circuitry
- High frequency EMI prevention for computers, TV, mobile phone. etc

Insulation Resistance	IDC (mA) max.		Mfrs List No.	Order Code
	100MHz	350		
0.4ohm	30	350	MLB-3216-0030M4-N2	941-5980
0.4ohm	60	250	MLB-3216-0060M4-N2	941-5998
0.8ohm	120	150	MLB-3216-0120M4-N2	941-6005
0.8ohm	240	150	MLB-3216-0240M4-N2	941-6013
0.8ohm	300	150	MLB-3216-0300M4-N2	941-6021
1ohm	470	100	MLB-3216-0470M4-N2	941-6030
1.5ohm	600	100	MLB-3216-0600M4-N2	941-6048
1.7ohm	1000	50	MLB-3216-1000M4-N2	941-6056

Order Multiple=5

Mfrs List No.	Order Code	5+	25+	100+	250+	500+
MLB-3216-0030M4-N2	941-5980	0.47	0.44	0.40	0.36	0.33
MLB-3216-0060M4-N2	941-5998	0.47	0.44	0.40	0.36	0.33
MLB-3216-0120M4-N2	941-6005	0.48	0.45	0.41	0.37	0.34
MLB-3216-0240M4-N2	941-6013	0.47	0.44	0.40	0.36	0.33
MLB-3216-0300M4-N2	941-6021	0.48	0.45	0.41	0.37	0.34
MLB-3216-0470M4-N2	941-6030	0.47	0.44	0.40	0.36	0.33
MLB-3216-0600M4-N2	941-6048	0.48	0.45	0.41	0.37	0.34
MLB-3216-1000M4-N2	941-6056	0.41	0.39	0.36	0.34	0.31

Inductors - Ferrite Inductors & Beads - Murata

BLM15 Series - 0402 Case Size

Murata
Innovator in Electronics



- Miniature ferrite beads for space saving
 - 0402 case size
 - Wide variety of applications
- Operating temperature -55°C to +125°C



Impedance, typical @ 100MHz Ω	Resistance Ω	Current mA	Mfrs. List No.	Order Code
BLM15 AG Series - General Use				
10	0.05	1000	BLM15AG100SN1D	151-5758
70	0.15	500	BLM15AG700SN1D	151-5763
120	0.25	500	BLM15AG121SN1D	151-5760
220	0.35	300	BLM15AG221SN1D	151-5761
600	0.6	300	BLM15AG601SN1D	151-5762
1000	1	200	BLM15AG102SN1D	151-5759
BLM15 BB Series - High Speed Signal Lines				
5	0.08	500	BLM15BB050SN1D	151-5764
10	0.1	300	BLM15BB100SN1D	151-5765
22	0.2	300	BLM15BB220SN1D	151-5768
47	0.35	300	BLM15BB470SN1D	151-5770
75	0.4	300	BLM15BB750SN1D	151-5771
120	0.55	300	BLM15BB121SN1D	151-5766
220	0.8	200	BLM15BB221SN1D	151-5769
BLM15 BD Series - High Speed Signal Lines				
75	0.2	300	BLM15BD750SN1D	151-5778
120	0.3	300	BLM15BD121SN1D	151-5773
220	0.4	300	BLM15BD221SN1D	151-5775
600	0.65	200	BLM15BD601SN1D	151-5774
1000	0.9	200	BLM15BD102SN1D	151-5772
1800	1.4	100	BLM15BD182SN1D	151-5774
BLM15 EG Series - GHz Noise				
120	0.095	1500	BLM15EG121SN1D	151-5781
220	0.28	700	BLM15EG221SN1D	151-5782
BLM15 HB Series				
120	0.7	300	BLM15HB121SN1D	151-5783
220	1	250	BLM15HB221SN1D	151-5784
BLM15 HD Series - GHz Band High Speed Signal Line				
600	0.85	300	BLM15HD601SN1D	151-5787
1000	1.25	250	BLM15HD102SN1D	151-5785
1800	2.2	200	BLM15HD182SN1D	151-5786
BLM15 HG Series - GHz Band General Use				
600	0.7	300	BLM15HG601SN1D	151-5789
1000	1.1	250	BLM15HG102SN1D	151-5788

Impedance	Order Code	Price Each				
		5+	50+	100+	250+	500+
BLM15 AG	All Values	0.052	0.041	0.032	0.027	0.023
BLM15 BB	All Values	0.023	0.020	0.017	0.014	0.011
BLM15 BD						
75	151-5778	0.030	0.025	0.021	0.016	0.011
120	151-5773	0.030	0.025	0.021	0.016	0.011
220	151-5775	0.030	0.025	0.021	0.016	0.011
600	151-5777	0.042	0.031	0.027	0.023	0.019
1000	151-5772	0.031	0.023	0.020	0.017	0.014
1800	151-5774	0.051	0.037	0.032	0.027	0.023
BLM15 EG	All Values	0.079	0.057	0.051	0.043	0.036
BLM15 HB	All Values	0.142	0.106	0.093	0.078	0.067
BLM15 HD						
600	151-5787	0.087	0.064	0.056	0.047	0.040
1000	151-5785	0.142	0.106	0.093	0.078	0.067
1800	151-5786	0.147	0.109	0.095	0.080	0.068
BLM15 HG	All Values	0.142	0.106	0.093	0.078	0.067
		Order Code	1+	5+	10+	
BLM15 Design Kit	NEW 176-0703		70.550	63.500	56.440	

Over 100 latest technologies added online everyday



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BLM18 Series – 0603 Case Size



- Compact ferrite beads
 - 0603 case size
 - Wide variety of applications
- Operating temperature -55°C to +125°C



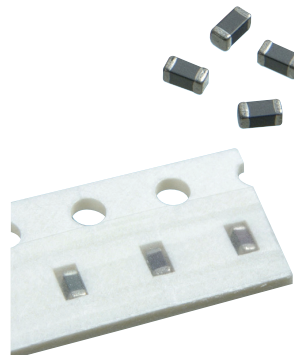
Impedance, typical @ 100MHz	Resistance Ω	Current mA	Mfts. List No.	Order Code
BLM18 AG Series – General Use				
120	0.18	500	BLM18AG121SN1D	151-5672
150	0.25	500	BLM18AG151SN1D	151-5673
220	0.25	500	BLM18AG221SN1D	151-5674
330	0.3	500	BLM18AG331SN1D	151-5675
470	0.35	500	BLM18AG471SH1D	151-5677
470	0.35	500	BLM18AG471SN1D	151-5678
600	0.38	500	BLM18AG601SN1D	151-5679
1000	0.5	400	BLM18AG102SN1D	151-5671
BLM18 BA Series – High Speed Signal Lines				
5	0.2	500	BLM18BA050SN1D	151-5680
10	0.25	500	BLM18BA100SN1D	151-5681
22	0.35	500	BLM18BA220SN1D	151-5683
47	0.55	300	BLM18BA470SN1D	151-5684
75	0.7	300	BLM18BA750SN1D	151-5685
120	0.9	200	BLM18BA121SN1D	151-5682
BLM18 BB Series – High Speed Signal Lines				
10	0.15	500	BLM18BB100SN1D	151-5687
22	0.25	500	BLM18BB220SN1D	151-5684
47	0.3	500	BLM18BB470SN1D	151-5697
60	0.35	200	BLM18BB600SN1D	151-5699
75	0.35	200	BLM18BB750SN1D	151-5700
120	0.5	200	BLM18BB121SN1D	151-5689
140	0.55	200	BLM18BB141SN1D	151-5691
150	0.55	200	BLM18BB151SN1D	151-5693
220	0.65	200	BLM18BB221SN1D	151-5695
470	1	50	BLM18BB471SN1D	151-5698
BLM18 BD Series – High Speed Signal Lines				
120	0.4	200	BLM18BD121SN1D	151-5702
150	0.4	200	BLM18BD151SN1D	151-5703
220	0.45	200	BLM18BD221SN1D	151-5707
330	0.5	200	BLM18BD331SN1D	151-5710
470	0.55	200	BLM18BD471SN1D	151-5712
600	0.65	200	BLM18BD601SN1D	151-5713
1000	0.85	100	BLM18BD102SN1D	151-5701
1500	1.2	50	BLM18BD152SN1D	151-5704
1800	1.5	50	BLM18BD182SN1D	151-5705
2200	1.5	50	BLM18BD222SN1D	151-5708
2500	1.5	50	BLM18BD252SN1D	151-5709
BLM18 EG Series – GHz Band Low Rdc Type				
100	0.045	2000	BLM18EG101TN1D	151-5714
120	0.04	2000	BLM18EG121SN1D	151-5715
220	0.05	2000	BLM18EG221SN1D	151-5716
220	0.15	1000	BLM18EG221TN1D	151-5717
330	0.21	500	BLM18EG331TN1D	151-5719
390	0.3	500	BLM18EG391TN1D	151-5721
470	0.21	500	BLM18EG471SN1D	151-5722
600	0.35	500	BLM18EG601SN1D	151-5723
BLM18 GG Series – High GHz Band General Use				
470	1.3	200	BLM18GG471SN1D	151-5724
BLM18 HB Series – GHz Band High Speed Signal Line				
120	0.5	200	BLM18HB121SN1D	151-5725
220	0.8	100	BLM18HB221SN1D	151-5726
BLM18 HD Series – GHz Band High Speed Signal Lines				
470	1.2	100	BLM18HD471SN1D	151-5728
600	1.5	100	BLM18HD601SN1D	151-5729
1000	1.8	50	BLM18HD102SN1D	151-5727
BLM18 HG Series – GHz Band General Use				
600	1	200	BLM18HG601SN1D	151-5733
1000	1.6	100	BLM18HG102SN1D	151-5730
BLM18 HK Sseries – GHz Band Digital Interface				
330	0.5	200	BLM18HK331SN1D	151-5735
470	0.7	200	BLM18HK471SN1D	151-5736
600	0.9	100	BLM18HK601SN1D	151-5737
1000	1.5	50	BLM18HK102SN1D	151-5734
BLM18 PG Series – Power Supplies				
30	0.05	1000	BLM18PG300SN1D	151-5741
33	0.025	3000	BLM18PG330SN1D	151-5742
60	0.1	500	BLM18PG600SN1D	151-5746
120	0.05	2000	BLM18PG121SN1D	151-5738
180	0.09	1500	BLM18PG181SN1D	151-5739
220	0.1	1400	BLM18PG221SN1D	151-5740
330	0.15	1200	BLM18PG331SN1D	151-5744
470	0.2	1000	BLM18PG471SN1D	151-5745
BLM18 KG Series – Power Supplies				
26	0.007	6000	BLM18KG260TN1D	178-1087
BLM18 RK Series – Digital Interface				
220	0.3	200	BLM18RK221SN1D	151-5749
470	0.5	200	BLM18RK471SN1D	151-5750
600	0.6	200	BLM18RK601SN1D	151-5751
1000	0.8	200	BLM18RK102SN1D	151-5747
BLM18 SG Series – Power Supplies				
26	0.007	6000	BLM18SG260TN1D	151-5754
70	0.02	4000	BLM18SG700TN1D	151-5757
120	0.025	3000	BLM18SG121TN1D	151-5752
220	0.04	2500	BLM18SG221TN1D	151-5753
330	0.07	1500	BLM18SG331TN1D	151-5756

496260

Impedance	Order Code	Price Each				
		5+	50+	100+	250+	500+
BLM18 AG						
120	151-5672	0.057	0.042	0.037	0.031	0.027
150	151-5673	0.034	0.025	0.022	0.019	0.016
220	151-5674	0.054	0.040	0.034	0.028	0.023
330	151-5675	0.043	0.031	0.027	0.023	0.020
470	151-5677	0.041	0.030	0.026	0.021	0.017
470	151-5678	0.025	0.019	0.017	0.011	0.007
600	151-5679	0.057	0.042	0.037	0.031	0.027
1000	151-5671	0.057	0.042	0.037	0.031	0.027
BLM18 BA	All Values	0.038	0.029	0.025	0.021	0.016
BLM18 BB	All Values	0.034	0.026	0.022	0.016	0.008
BLM18 BD						
120	151-5702	0.034	0.026	0.022	0.019	0.016
150	151-5703	0.019	0.015	0.013	0.010	0.008
220	151-5707	0.034	0.026	0.022	0.019	0.016
330	151-5710	0.024	0.019	0.016	0.011	0.008
470	151-5712	0.025	0.019	0.017	0.011	0.007
600	151-5713	0.057	0.042	0.037	0.031	0.027
1000	151-5701	0.057	0.042	0.037	0.031	0.027
1500	151-5704	0.024	0.018	0.016	0.013	0.011
1800	151-5705	0.057	0.042	0.037	0.031	0.027
2200	151-5708	0.033	0.025	0.023	0.019	0.016
2500	151-5709	0.057	0.042	0.037	0.031	0.027
BLM18 EG	All Values	0.104	0.083	0.063	0.048	0.041
BLM18 GG	All Values	0.182	0.135	0.118	0.099	0.083
BLM18 HB	All Values	0.072	0.053	0.041	0.032	0.024
BLM18 HD	All Values	0.122	0.089	0.079	0.066	0.057
BLM18 HG	All Values	0.054	0.040	0.034	0.027	0.020
BLM18 HK	All Values	0.051	0.040	0.029	0.023	0.017
BLM18 PG						
30	151-5741	0.057	0.042	0.037	0.031	0.027
33	151-5742	0.051	0.037	0.033	0.028	0.023
60	151-5746	0.057	0.042	0.037	0.031	0.027
120	151-5738	0.057	0.042	0.037	0.031	0.027
180	151-5739	0.041	0.030	0.026	0.022	0.019
220	151-5740	0.041	0.030	0.026	0.022	0.019
330	151-5744	0.040	0.029	0.026	0.022	0.018
470	151-5745	0.041	0.030	0.026	0.022	0.019
NEW BLM18 KG	All Values	0.052	0.038	0.034	0.028	0.024
BLM18 RK	All Values	0.030	0.025	0.021	0.016	0.011
BLM18 SG	All Values	0.089	0.066	0.058	0.048	0.042
Order Code		1+	5+	10+		
BLM18 Design Kit		NEW 176-0704	76.020	68.420	60.820	

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BLM18T Series - 0603 Case



The chip ferrite beads BLM series is designed to function nearly as a resistor at noise frequencies, which greatly reduces the possibility of resonance and leaves signal wave forms undistorted.

The BLM series is effective in circuits without stable ground lines because the BLM series does not need a connection to ground.

- Excellent solder heat resistance
- Effective in noise suppression in a wide frequency range (10MHz to several hundred MHz)

Impedance Ω	Tolerance %	Resistance Ω	Current A	Current A	Order Code
120		0.25	200		BLM18TG121TN1D
220		0.3	200		BLM18TG221TN1D
600		0.45	200		BLM18TG601TN1D
1000		0.6	100		BLM18TG102TN1D
423248					
Order Code		10+	50+	100+	500+
All Values		0.055	0.046	0.037	0.028
Price Each					
All Values		0.055	0.046	0.037	0.028
All Values		0.055	0.046	0.037	0.028

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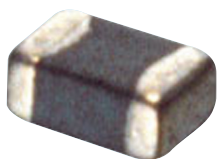
8

EMC, Filters & Suppression



Inductors - Ferrite Inductors & Beads - Murata - continued

BLM21 Series – 0805 Case Size



- Ferrite beads
- 0805 case size

Operating temperature -55°C to +125°C



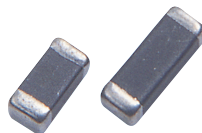
Impedance, typical @ 100MHz Ω	Resistance Ω	Current mA	Mfts. List No.	Order Code
BLM21 AG Series – General Use				
120	0.15	200	BLM21AG121SN1D	151-5617
150	0.15	200	BLM21AG151SN1D	151-5618
220	0.2	200	BLM21AG221SN1D	151-5619
330	0.25	200	BLM21AG331SN1D	151-5620
470	0.25	200	BLM21AG471SN1D	151-5621
600	0.3	200	BLM21AG601SN1D	151-5622
1000	0.45	200	BLM21AG102SN1D	151-5616
BLM21 BB Series – High Speed Signal Lines				
5	0.07	500	BLM21BB050SN1D	151-5623
60	0.2	200	BLM21BB600SN1D	151-5634
75	0.25	200	BLM21BB750SN1D	151-5635
120	0.25	200	BLM21BB121SN1D	151-5624
200	0.35	200	BLM21BB201SH1D	151-5626
200	0.35	200	BLM21BB201SN1D	151-5628
220	0.35	200	BLM21BB221SH1D	151-5629
220	0.35	200	BLM21BB221SN1D	151-5630
330	0.4	200	BLM21BB331SH1D	151-5631
330	0.4	200	BLM21BB331SN1D	151-5632
470	0.45	200	BLM21BB471SN1D	151-5633
BLM21 BD Series – High Speed Signal Lines				
120	0.25	200	BLM21BD121SN1D	151-5637
420	0.3	200	BLM21BD421SN1D	151-5651
600	0.35	200	BLM21BD601SN1D	151-5655
1000	0.4	200	BLM21BD102SN1D	151-5636
1500	0.45	200	BLM21BD152SN1D	151-5641
1800	0.5	200	BLM21BD182SN1D	151-5642
2200	0.6	200	BLM21BD222SN1L	151-5644
2200	0.6	200	BLM21BD222TN1D	151-5645
2700	0.8	200	BLM21BD272SH1L	151-5646
2700	0.8	200	BLM21BD272SN1L	151-5647
BLM21 PG Series – Power Supplies				
22	0.01	6000	BLM21PG220SH1D	151-5658
22	0.01	6000	BLM21PG220SN1D	151-5659
30	0.015	3000	BLM21PG300SN1D	151-5662
60	0.025	3000	BLM21PG600SN1D	151-5665
220	0.05	2000	BLM21PG221SH1D	151-5660
220	0.05	2000	BLM21PG221SN1D	151-5661
330	0.09	1500	BLM21PG331SN1D	151-5663
BLM21 RK Series – Digital Interface				
600	0.3	200	BLM21RK601SN1D	151-5670
1000	0.5	200	BLM21RK102SN1D	151-5666

496319

Impedance	Order Code	Price Each				
		5+	50+	100+	250+	500+
BLM21 AG						
120	151-5617	0.074	0.055	0.049	0.041	0.035
150	151-5618	0.101	0.075	0.064	0.054	0.046
220	151-5619	0.127	0.095	0.082	0.069	0.058
330	151-5620	0.171	0.059	0.042	0.030	0.024
470	151-5621	0.074	0.055	0.049	0.041	0.035
600	151-5622	0.074	0.055	0.049	0.041	0.035
1000	151-5616	0.084	0.067	0.054	0.045	0.039
BLM21 BB						
5	151-5623	0.141	0.106	0.085	0.063	0.053
60	151-5634	0.071	0.059	0.042	0.030	0.024
75	151-5635	0.101	0.075	0.064	0.054	0.046
120	151-5624	0.074	0.060	0.049	0.041	0.035
200	151-5626	0.065	0.057	0.045	0.032	0.028
200	151-5628	0.082	0.066	0.049	0.038	0.028
220	151-5629	0.077	0.059	0.047	0.035	0.030
220	151-5630	0.092	0.072	0.054	0.039	0.031
330	151-5631	0.046	0.040	0.035	0.029	0.026
330	151-5632	0.096	0.077	0.069	0.059	0.051
470	151-5633	0.040	0.033	0.024	0.021	0.020
BLM21 BD						
120	151-5637	0.077	0.057	0.051	0.042	0.036
420	151-5651	0.118	0.098	0.069	0.050	0.041
600	151-5655	0.080	0.059	0.052	0.043	0.037
1000	151-5636	0.084	0.066	0.054	0.045	0.039
1500	151-5641	0.080	0.061	0.049	0.036	0.032
1800	151-5642	0.059	0.046	0.036	0.027	0.024
2200	151-5644	0.187	0.139	0.118	0.099	0.081
2200	151-5645	0.115	0.084	0.074	0.062	0.053
2700	151-5646	0.156	0.115	0.100	0.084	0.071
2700	151-5647	0.115	0.084	0.074	0.062	0.053
BLM21 PG						
22	151-5658	0.081	0.060	0.052	0.044	0.037
22	151-5659	0.108	0.080	0.069	0.057	0.048

Impedance	Order Code	Price Each				
		5+	50+	100+	250+	500+
30	151-5662	0.072	0.053	0.046	0.039	0.033
60	151-5665	0.072	0.053	0.046	0.039	0.033
220	151-5660	0.097	0.072	0.062	0.053	0.045
220	151-5661	0.057	0.041	0.037	0.030	0.026
330	151-5663	0.107	0.079	0.069	0.058	0.049
BLM21 RK						
1000	151-5666	0.119	0.087	0.076	0.064	0.054
600	151-5670	0.148	0.109	0.096	0.080	0.068

Solid Inductor – Surface Mount



- Solid ferrite inductor, designed to reduce spurious oscillations in high frequency amplifiers.

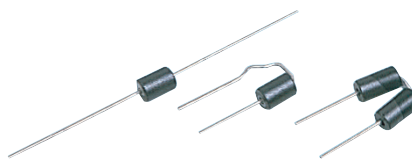


Mftrs. List No.	Impedance. Ω @ 100MHz	Rated Current (mA)	DC Resistance (Ω max.)	L	W	H
BLM31AF700SN1L	70	200	0.5	3.2	1.6	1.1
BLM31AJ601SN1L	600	200	1	3.2	1.6	1.1
BLM41AF151SN1L	150	200	0.7	4.5	1.6	1.6
BLM41PG600SN1L	60	6000	0.01	4.5	1.6	1.6
BLM41PG750SN1L	75	3000	0.03	4.5	1.6	1.6
BLM41PF800SN1L	80	1000	0.15	4.5	1.6	1.6
BLM41AF800SN1L	80	500	0.3	4.5	1.6	1.6

204044

Mftrs. List No.	Order Code	Price Each				
		10+	50+	100+	500+	1K+
BLM31AF700SN1L	SMD952-6854 RL	0.230	0.167	0.146	0.123	0.104
BLM31AJ601SN1L	SMD952-6862 RL	0.300	0.230	0.198	0.165	0.140
BLM41AF151SN1L	SMD952-6870 RL	0.400	0.290	0.260	0.220	0.181
BLM41PG600SN1L	SMD952-6900 RL	0.260	0.220	0.188	0.162	0.143
BLM41PG750SN1L	SMD952-6919 RL	0.260	0.188	0.169	0.150	0.127
BLM41PF800SN1L	SMD952-6897 RL	0.220	0.161	0.143	0.100	0.090
BLM41AF800SN1L	SMD952-6889 RL	0.370	0.270	0.240	0.200	0.168

Bead Inductors



108-267	108-268	108-269	581-124
Body L=5.0	H=7.5, W=7.1	H=7.5, W=9.0	H=6.5, W=8.3
Body dia.=3.6	∅=3.5	∅=3.4	∅=2.3
Lead L=20	Lead pitch=5.0	Lead pitch=5.0	Lead pitch=5.0
Lead dia.=0.65	Lead dia.=0.65	Lead dia.=0.65	Lead dia.=0.6

- Ferrite bead inductors available in axial or radial styles, the radial version being available with single or double bead to provide even more effective suppression.
- Typical applications include high frequency suppression in low impedance circuits, e.g. power supplies, high speed amplifier circuits, high speed digital circuits, clocks.

Mftrs. List No.	range (Z=50Ω min.)	Current rating	Mftrs. List No.	range (Z=50Ω min.)	Current rating
BL01RN1A1D2B	20MHz to 1000MHz	7A	BL02RN2R1M2B	4MHz to 1000MHz	7A
BL02RN1R2M2B	20MHz to 1000MHz	7A			

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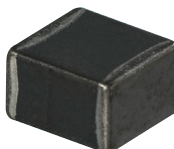
	Order Code	Price Each				
		10+	50+	100+	1K+	3K+
Axial	952-6820	0.210	0.188	0.164	0.133	0.116
Radial (Single)	952-6838	0.200	0.149	0.129	0.108	0.092
Radial (Double)	952-6846	0.156	0.136	0.116	0.097	0.080

Inductors - Ferrite Inductors & Beads - Panasonic

EXC Series Chip Bead Cores



Panasonic
ideas for life



- Effective noise suppression for power lines and high speed signal lines
- Easy pattern layout on PC Board
- For flow soldering and reflow soldering

Impedance @ 100MHz (Ω)	Impedance Tolerance %	Rated Current Max. (mA)	DC Resistance Max. (Ω)	Mfrs. List No.	Order Code
0603 Case Size					
60	25	1000	0.07	EXC3BP600H	129-2700
120	25	500	0.1	EXC3BP121H	129-2698
220	25	200	0.3	EXC3BB221H	129-2696
600	25	100	0.8	EXC3BB601H	129-2697
1000	25	50	1	EXC3BB102H	129-2695
0805 Case Size					
27	25	4000	0.006	EXCML16A270U	129-2701
39	25	4000	0.008	EXCML20A390U	129-2703
1206 Case Size					
25	25	2000	0.05	EXCCL3216U1	129-2721
68	25	3000	0.012	EXCML32A680U	129-2704
1210 Case Size					
45	25	2000	0.05	EXCCL3225U1	129-2722
1806 Case Size					
91	25	3000	0.016	EXCML45A910H	129-2706
1812 Case Size					
115	25	2000	0.1	EXCCL4532U1	129-2723

Price Each

Impedance	Order Code	1+	50+	250+	500+	1K+
0603 Case Size						
60	SMD 129-2700	RL	0.160	0.096	0.075	0.073
120	SMD 129-2698	RL	0.160	0.096	0.086	0.083
220	SMD 129-2696	RL	0.140	0.084	0.070	0.068
600	SMD 129-2697	RL	0.140	0.084	0.070	0.066
1000	SMD 129-2695	RL	0.140	0.084	0.070	0.064
0805 Case Size						
27	SMD 129-2701	RL	0.220	0.146	0.096	0.076
39	SMD 129-2703	RL	0.240	0.146	0.096	0.087
1206 Case Size						
25	SMD 129-2721	RL	0.570	0.480	0.420	0.370
68	SMD 129-2704	RL	0.240	0.145	0.107	0.099
1210 Case Size						
45	SMD 129-2722	RL	0.870	0.750	0.490	0.400
1806 Case Size						
91	SMD 129-2706	RL	0.260	0.189	0.182	0.177
1812 Case Size						
115	SMD 129-2723	RL	0.570	0.490	0.480	0.470

Inductors - Ferrite Inductors & Beads - TDK

MMZ Series

Chip Beads for Signal Lines



0603 Type (0201): H=0.6, W=0.3, L=0.3
 1005 Type (0402): H=1.0, W=0.5, L=0.5
 1608 Type (0603): H=1.6, W=0.8, L=0.28
 2012 Type (0805): H=2.0, W=1.2, L=0.8

- High reliability due to an entirely monolithic structure
- Closed magnetic circuit structure allows high-density installation while preventing cross-talk between circuits
- Low DC resistance structure of electrode prevents wasteful electric power consumption
- Size standardized for use by automatic assembly equipment - no preferred orientation

Material Code	Description
R	For wide frequency applications calling for broad impedance characteristics
S	Standard type that features impedance characteristics similar to those of a ferrite core
Y	High frequency range type intended for the 100MHz region and above
D	For applications calling for low insertion loss at low frequencies and sharply increasing impedance at high frequencies
F	Inherits the characteristic of our Dmaterial, namely its sharp impedance rise time, and its impedance peak frequency has been shifted higher into range

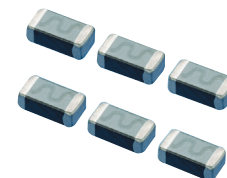
Impedance @ 100MHz (Ω)	DC Res. Max. (Ω)	Current rating (mA)	Material Code	Mfrs. List No.	Order Code
0603 Type (0201 Case Size)					
10	0.8	200	F	MMZ0603F100C	166-9652
33	1	100	D	MMZ0603D330C	166-9651
600	1.5	100	S	MMZ0603S601C	166-9653
1005 Type (0402 Case Size)					
10	0.1	500	D	MMZ1005D100C	166-9658
22	0.2	400	D	MMZ1005D220C	166-9660
33	0.35	400	D	MMZ1005D330C	166-9662
33	0.6	200	F	MMZ1005F330C	NEW 166-9664
40	0.12	550	Y	MMZ1005Y400C	NEW 166-9678
47	0.8	100	F	MMZ1005F470C	166-9665
56	0.8	100	F	MMZ1005F560C	NEW 166-9666
68	0.55	400	D	MMZ1005D680C	166-9663
80	0.2	450	B	MMZ1005B800C	NEW 166-9657
80	0.2	500	S	MMZ1005S800C	NEW 166-9672
80	0.17	450	Y	MMZ1005Y800C	NEW 166-9683

Impedance @	DC Res.	Material	Part No.	Price
120	0.75	D	MMZ1005D121C	166-9659
120	0.25	S	MMZ1005S121C	NEW 166-9669
120	0.21	Y	MMZ1005Y121C	NEW 166-9674
240	1.2	D	MMZ1005D241C	166-9661
240	0.4	S	MMZ1005S241C	NEW 166-9670
240	0.33	Y	MMZ1005Y241C	NEW 166-9676
300	0.38	Y	MMZ1005Y301C	NEW 166-9677
470	0.5	Y	MMZ1005Y471C	166-9681
600	0.85	B	MMZ1005B601C	NEW 166-9656
600	0.6	S	MMZ1005S601C	NEW 166-9671
600	0.56	Y	MMZ1005Y601C	NEW 166-9682
1000	1	S	MMZ1005S102C	NEW 166-9668
1500	1.15	Y	MMZ1005Y152C	166-9675
1500	2	A	MMZ1005A152E	NEW 166-9654
1608 Type (0603 Case Size)				
15	0.05	R	MMZ1608R150A	166-9696
15	0.05	Y	MMZ1608Y150B	166-9712
30	0.05	R	MMZ1608R300A	166-9697
30	0.05	Y	MMZ1608Y300B	166-9714
40	0.1	S	MMZ1608S400A	NEW 166-9705
50	0.3	D	MMZ1608D500C	NEW 166-9691
60	0.1	R	MMZ1608R600A	166-9699
60	0.15	Y	MMZ1608Y600B	166-9716
80	0.35	D	MMZ1608D800B	NEW 166-9693
80	0.15	S	MMZ1608S800A	NEW 166-9707
120	0.18	R	MMZ1608R121A	166-9695
120	0.2	Y	MMZ1608Y121B	166-9711
120	0.15	B	MMZ1608B121C	NEW 166-9685
120	0.45	D	MMZ1608D121B	NEW 166-9688
120	0.2	S	MMZ1608S121A	NEW 166-9702
180	0.2	S	MMZ1608S181A	NEW 166-9703
240	0.6	D	MMZ1608D241C	NEW 166-9689
300	0.25	B	MMZ1608B301C	166-9686
300	0.25	R	MMZ1608R301A	166-9698
300	0.3	Y	MMZ1608Y301B	166-9715
300	0.7	D	MMZ1608D301B	NEW 166-9690
300	0.3	S	MMZ1608S301A	NEW 166-9704
600	0.4	R	MMZ1608R601A	166-9700
600	0.4	Y	MMZ1608Y601BTA00	130-1668
600	0.4	Y	MMZ1608Y601CTA00	130-1669
600	0.4	B	MMZ1608B601C	NEW 166-9687
600	0.4	S	MMZ1608S601A	NEW 166-9706
1000	0.5	R	MMZ1608R102A	166-9694
1000	0.5	Y	MMZ1608Y102B	166-9708
1000	0.5	S	MMZ1608S102A	NEW 166-9701
1500	0.6	Y	MMZ1608Y152B	NEW 166-9713
2500	0.8	A	MMZ1608A252B	NEW 166-9684
2012 Type (0805 Case Size)				
15	0.05	R	MMZ2012R150A	166-9721
15	0.05	Y	MMZ2012Y150B	166-9729
30	0.05	R	MMZ2012R300A	166-9723
30	0.05	Y	MMZ2012Y300B	166-9731
60	0.1	Y	MMZ2012Y600B	166-9733
80	0.3	D	MMZ2012D800B	NEW 166-9718
120	0.12	R	MMZ2012R121A	166-9720
120	0.12	Y	MMZ2012Y121B	166-9728
120	0.3	D	MMZ2012D121B	NEW 166-9717
120	0.15	S	MMZ2012S121A	NEW 166-9726
300	0.5	D	MMZ2012D301BTA0C	130-1670
300	0.15	R	MMZ2012R301A	166-9724
300	0.15	Y	MMZ2012Y301B	166-9732
600	0.2	R	MMZ2012R601AT000	130-1672
600	0.3	S	MMZ2012S601AT000	130-1673
600	0.2	Y	MMZ2012Y601B	166-9735
1000	0.3	R	MMZ2012R102A	166-9719
1000	0.3	Y	MMZ2012Y102B	166-9727
1000	0.35	S	MMZ2012S102A	NEW 166-9725
1500	0.4	Y	MMZ2012Y152BTA0C	130-1674
2000	0.5	Y	MMZ2012Y202B	166-9730

Order Multiple=5	Order Code	Price Each				
		5+	50+	250+	500+	1K+
0603 Type	All Values	0.159	0.127	0.116	0.106	0.096
1005 Type	All Values	0.045	0.034	0.031	0.022	0.020
1608 Type	All Values	0.119	0.095	0.071	0.049	--
2012 Type	All Values	0.178	0.142	0.106	0.073	--

MPZ Series

Chip Beads for Power Lines



- Multilayer chip impeters for power supply line applications
- Miniaturized but parts nonetheless exhibit low DC resistance and high current handling capability
- These products are the best for energy-saving in the low DC resistance

1005 Type (0402): H=1.0, W=0.5, L=0.5
 1608 Type (0603): H=1.6, W=0.8, L=0.28
 2012 Type (0805): H=2.0, W=1.2, L=0.8

Material Code	Description
R	For wide frequency applications calling for broad impedance characteristics
S	Standard type that features impedance characteristics similar to those of a ferrite core
Y	High frequency range type intended for the 100MHz region and above
D	For applications calling for low insertion loss at low frequencies and sharply increasing impedance at high frequencies



Inductors - Ferrite Inductors & Beads - TDK - continued

MPZ Series - continued

Chip Beads for Power Lines - continued

Impedance @ 100MHz (Ω)	DC Res. Max. (Ω)	Current rating (mA)	Material Code	Mftrs. List No.	Order Code
1005 Type (0402 Case Size)					
10	0.04	2	S	MPZ1005S100C	166-9736
60	0.07	1.5	S	MPZ1005S600C	166-9739
120	0.09	1.2	S	MPZ1005S121C	166-9737
1608 Type (0603 Case Size)					
30	0.06	1.8	D	MPZ1608D300B	166-9741
30	0.01	5	S	MPZ1608S300A	166-9744
60	0.1	1.2	D	MPZ1608D600B	166-9742
60	0.02	3.5	S	MPZ1608S600A	166-9745
60	0.03	2.3	Y	MPZ1608Y600B	166-9750
100	0.15	1	D	MPZ1608D101B	166-9740
100	0.03	3	S	MPZ1608S101A	166-9743
100	0.04	2	Y	MPZ1608Y101B	166-9748
150	0.05	1.8	Y	MPZ1608Y151B	166-9749
220	0.05	2	S	MPZ1608S221ATA00	130-1677
390	0.12	1.2	R	MPZ1608R391ATA00	130-1675
600	0.15	1	S	MPZ1608S601A	166-9747
2012 Type (0805 Case Size)					
30	0.01	5	S	MPZ2012S300ATA00	130-1678
100	0.02	4	S	MPZ2012S101A	166-9751
220	0.04	0.04	S	MPZ2012S221A	166-9752
330	0.05	2.5	S	MPZ2012S331ATA00	130-1679
600	0.1		S	MPZ2012S601A	166-9753

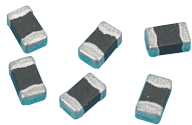
Order Multiple=5	Order Code	Price Each				
		5+	50+	250+	500+	1K+
1005 Type	All Values	0.159	0.116	0.096	0.074	0.063
1608 Type	All Values	0.183	0.111	0.089	0.069	0.055
2012 Type	All Values	0.240	0.149	0.116	0.089	0.081

Inductors - Ferrite Inductors & Beads - Tyco Electronics

BMB Series - Ferrite Chip Beads



0805 Case Size



- Surface mount ferrite noise reduction beads
- 0805 case size
- Types A and L for general use
- Type B for high frequency to minimise signal wave-form attenuation
- Type R for low frequency to prevent signal ringing in digital circuits



H=0.9, W=1.2, L=2.0
Supplied on 8mm tape (reel=500pcs)

Type	Impedance @ 100MHz (Ω)	DC Res. Max. (Ω)	Current rating (mA)	Mftrs. List No.	Order Code
A	120	0.6	200	BMB2A0120AN1	119-3413
A	120	0.3	300	BMB2A0120AN4	119-3414
A	150	0.6	200	BMB2A0150AN1	119-3415
A	220	0.5	200	BMB2A0220AN4	119-3416
A	300	1	200	BMB2A0300AN1	119-3418
L	60	0.1	700	BMB2A0060LN2	119-3419
L	300	0.2	400	BMB2A0300LN2	119-3420
L	1000	0.3	300	BMB2A1000LN2	119-3421
B	120	0.4	300	BMB2A0120BN3	119-3422
B	600	0.5	200	BMB2A0600BN3	119-3423
B	1000	0.7	200	BMB2A1000BN3	119-3424
R	600	0.5	200	BMB2A0600RS2	119-3425

Order Multiple=10	Order Code	Price Each			
		10+	100+	500+	1K+
Type A	All Values	0.119	0.095	0.071	0.049
Type L and B	All Values	0.178	0.142	0.106	0.073
Type R	All Values	0.240	0.179	0.154	0.097

RL FREE Re-reeling service. Only buy what you need and improve assembly efficiency. For more information visit www.farnell.com

BMB - Laboratory Kit



- Surface mount ring binder laboratory kit
- 0805 size ferrite beads
- Can be easily restocked
- Also contains 0603 size



Kit contains 20 of each Inductance Value (Ω)

0805 case size Type A: 120, 120, 150, 220, 330.
Type B: 5, 56, 120, 200, 300, 600, 750, 1000
Type R: 120, 430, 600
Type L: 60, 300, 1000
0603 case size Type B: 5, 70, 120, 200, 300, 420, 600,
Type R: 120, 240, 600



Price Each

Order Code	1+	3+	
Laboratory kit	119-3426	78.62	74.45

Inductors - Ferrite Inductors & Beads - Würth Elektronik

SMD Ferrites - EMI Suppression

WE-CBF series



- Reliable Ni-Sn electrodes
- Suitable for wave and reflow soldering as well as pasting
- Perfect as data lined filter and for uncoupling of distribution voltage
- High rated current up to 6A



- Highly extended spectrum

These chip bead ferrites can be put directly on the printed circuit board. They offer excellent anti-EMI properties and low DC-resistance. Placed very close next to the interference source even with smallest size 0402, maximal impedances at 660 W can be reached.

0402 Case Size

Impedance (Ω) @ 100MHz	R _{DC} (Ω)	I _N DC max. (mA)	Mftrs. List No.	Order Code
10	0.05	500	742792701	180-0338
20	0.2	300	74279273	163-5672
30	0.25	300	74279274	180-0339
40	0.3	300	74279270	163-5673
60	0.35	300	74279276	163-5674
70	0.35	300	74279277	163-5675
120	0.4	300	74279271	163-5676
220	0.35	300	742792780	180-0340
240	0.7	200	74279278	163-5677
300	0.8	200	74279272	163-5678
600	1	200	74279279	163-5679
1000	1.5	200	742792796	180-0341

0402

Price Each

Order Code	1+	10+	50+	100+	250+
NEW 180-0338	0.158	0.137	0.120	0.103	0.091
163-5672	0.124	0.107	0.091	0.083	0.074
NEW 180-0339	0.158	0.137	0.120	0.103	0.091
163-5673	0.124	0.107	0.091	0.083	0.074
163-5674	0.115	0.099	0.084	0.077	0.068
163-5675	0.124	0.107	0.091	0.083	0.074
163-5676	0.124	0.107	0.091	0.083	0.074
NEW 180-0340	0.158	0.137	0.120	0.103	0.091
163-5677	0.124	0.107	0.091	0.083	0.074
163-5678	0.124	0.107	0.091	0.083	0.074
163-5679	0.124	0.107	0.091	0.083	0.074
NEW 180-0341	0.158	0.137	0.120	0.103	0.091

0603 Case Size

Impedance (Ω) @ 100MHz	R _{DC} (Ω)	I _N DC max. (mA)	Mftrs. List No.	Order Code
15	0.1	500	74279268	163-5680
22	0.05	1000	742792604	163-5701
28	0.03	4000	742792603	163-5702
30	0.04	3000	742792609	163-5703
33	0.1	500	742792605	180-0342
40	0.15	400	74279260	180-0343
30	0.03	1000	742792601	180-0354
40	0.1	500	742792608	163-5681
60	0.3	500	74279267	163-5683
60	0.04	3000	742792602	163-5704
68	0.3	300	742792607	180-0344
80	0.3	200	74279261	163-5684
100	0.15	500	742792620	180-0350
120	0.35	200	742792606	180-0345
120	0.3	500	74279262	163-5687
80	0.2	200	742792621	180-0347
180	0.09	1500	742792624	180-0355
180	0.3	500	742792622	163-5688
220	0.3	500	74279263	163-5689
240	0.4	200	742792631	180-0351
300	0.35	200	74279264	163-5685
300	0.35	300	742792640	180-0348
300	0.15	2000	742792641	163-5705
470	0.45	200	742792642	163-5690
470	0.35	400	742792643	180-0349
600	0.2	1000	742792651	163-5706
600	0.65	300	742792653	163-5686
600	0.45	200	74279265	163-5691
750	0.35	400	742792656	163-5692
1000	0.6	200	74279266	163-5693
1000	0.85	100	742792663	180-0352
1100	0.6	300	742792664	180-0353
1200	0.7	50	74279269	163-5695
1500	0.7	50	742792691	163-5696
1800	0.8	50	742792692	163-5697
2200	0.8	50	742792693	163-5698
2500	1	50	742792695	163-5699

0603 Order Code	Price Each				
	1+	10+	50+	100+	250+
163-5680	0.107	0.091	0.083	0.074	0.066
163-5701	0.124	0.107	0.091	0.083	0.074
163-5702	0.124	0.107	0.091	0.083	0.074
163-5703	0.124	0.107	0.091	0.083	0.074
NEW 180-0342	0.132	0.114	0.100	0.086	0.076
NEW 180-0343	0.132	0.114	0.100	0.086	0.076
NEW 180-0354	0.132	0.114	0.100	0.086	0.076
163-5681	0.107	0.091	0.083	0.074	0.066
163-5683	0.107	0.091	0.083	0.074	0.066
163-5704	0.124	0.107	0.091	0.083	0.074
NEW 180-0344	0.132	0.114	0.100	0.086	0.076
163-5684	0.107	0.091	0.083	0.074	0.066
NEW 180-0350	0.132	0.114	0.100	0.086	0.076
NEW 180-0345	0.132	0.114	0.100	0.086	0.076
163-5687	0.107	0.091	0.083	0.074	0.066
NEW 180-0347	0.132	0.114	0.100	0.086	0.076
NEW 180-0355	0.185	0.160	0.140	0.120	0.106
163-5688	0.107	0.091	0.083	0.074	0.066
163-5689	0.107	0.091	0.083	0.074	0.066
NEW 180-0351	0.132	0.114	0.100	0.086	0.076
163-5685	0.107	0.091	0.083	0.074	0.066
NEW 180-0348	0.132	0.114	0.100	0.086	0.076
163-5705	0.124	0.107	0.091	0.083	0.074
163-5690	0.107	0.091	0.083	0.074	0.066
NEW 180-0349	0.132	0.114	0.100	0.086	0.076
163-5706	0.124	0.107	0.091	0.083	0.074
163-5686	0.107	0.091	0.083	0.074	0.066
163-5691	0.107	0.091	0.083	0.074	0.066
163-5692	0.107	0.091	0.083	0.074	0.066
163-5693	0.107	0.091	0.083	0.074	0.066
NEW 180-0352	0.132	0.114	0.100	0.086	0.076
NEW 180-0353	0.132	0.114	0.100	0.086	0.076
163-5695	0.107	0.091	0.083	0.074	0.066
163-5696	0.099	0.085	0.079	0.071	0.064
163-5697	0.107	0.091	0.083	0.074	0.066
163-5698	0.107	0.091	0.083	0.074	0.066
163-5699	0.107	0.091	0.083	0.074	0.066

0805 Case Size

Impedance (Ω) @ 100MHz	R _{DC} (Ω)	I _N DC max. (mA)	Mfrs. List No.	Order Code
5	0.07	700	742792005	180-0356
10	0.03	3000	742792011	163-5727
11	0.15	600	7427920	163-5707
22	0.008	6000	742792021	163-5728
30	0.025	3000	74279206	163-5729
32	0.15	500	74279201	163-5708
33	0.008	4000	742792012	180-0367
40	0.15	500	74279208	163-5709
60	0.025	3000	742792063	163-5730
75	0.2	300	742792064	163-5710
80	0.2	500	742792062	180-0359
100	0.15	1000	74279207	163-5731
120	0.03	3000	742792023	163-5732
120	0.1	500	74279202	163-5711
150	0.25	300	74279203	163-5713
220	0.3	300	742792034	163-5714
220	0.05	2000	742792022	163-5733
240	0.4	200	742792038	180-0361
300	0.3	300	742792035	163-5715
300	0.3	200	742792036	163-5718
300	0.05	3000	742792031	163-5734
330	0.08	2000	742792037	180-0368
400	0.3	300	742792032	180-0362
600	0.3	500	7427920415	180-0363
600	0.5	200	742792042	163-5716
600	0.65	200	742792043	163-5717
600	0.35	200	74279204	163-5719
600	0.4	200	742792041	163-5720
600	0.15	2000	742792040	163-5735
750	0.3	200	742792045	180-0357
1000	0.45	200	74279205	163-5721
1000	0.3	1000	742792096	163-5737
1200	0.55	200	74279209	163-5722
1500	0.55	200	742792091	163-5723
1500	0.3	1000	742792097	163-5738
1800	0.4	200	742792090	163-5725
2000	0.6	200	742792092	180-0364
2200	0.6	200	742792093	163-5726
2200	0.5	200	742792094	180-0365
2700	0.6	200	742792095	180-0366

0805 Order Code	Price Each				
	1+	10+	50+	100+	250+
180-0356	0.185	0.160	0.140	0.120	0.106
163-5727	0.165	0.140	0.116	0.107	0.099
163-5707	0.149	0.124	0.107	0.099	0.091
163-5728	0.165	0.140	0.116	0.107	0.099
163-5729	0.165	0.140	0.116	0.107	0.099
163-5708	0.149	0.124	0.107	0.099	0.091
NEW 180-0367	0.185	0.160	0.140	0.120	0.106
163-5709	0.149	0.124	0.107	0.099	0.091

0805 Order Code	Price Each				
	1+	10+	50+	100+	250+
163-5730	0.165	0.140	0.116	0.107	0.099
163-5710	0.149	0.124	0.107	0.099	0.091
NEW 180-0359	0.185	0.160	0.140	0.120	0.106
163-5731	0.165	0.140	0.116	0.107	0.099
163-5732	0.165	0.140	0.116	0.107	0.099
163-5711	0.149	0.124	0.107	0.099	0.091
163-5713	0.149	0.124	0.107	0.099	0.091
163-5714	0.149	0.124	0.107	0.099	0.091
163-5733	0.165	0.140	0.116	0.107	0.099
NEW 180-0361	0.185	0.160	0.140	0.120	0.106
163-5715	0.149	0.124	0.107	0.099	0.091
163-5718	0.149	0.124	0.107	0.099	0.091
163-5734	0.165	0.140	0.116	0.107	0.099
NEW 180-0368	0.185	0.160	0.140	0.120	0.106
NEW 180-0362	0.185	0.160	0.140	0.120	0.106
NEW 180-0363	0.185	0.160	0.140	0.120	0.106
163-5716	0.149	0.124	0.107	0.099	0.091
163-5717	0.149	0.124	0.107	0.099	0.091
163-5719	0.149	0.124	0.107	0.099	0.091
163-5720	0.149	0.124	0.107	0.099	0.091
163-5735	0.165	0.140	0.116	0.107	0.099
NEW 180-0357	0.185	0.160	0.140	0.120	0.106
163-5721	0.149	0.124	0.107	0.099	0.091
163-5737	0.165	0.140	0.116	0.107	0.099
163-5722	0.149	0.124	0.107	0.099	0.091
163-5723	0.149	0.124	0.107	0.099	0.091
163-5738	0.165	0.140	0.116	0.107	0.099
163-5725	0.149	0.124	0.107	0.099	0.091
NEW 180-0364	0.185	0.160	0.140	0.120	0.106
163-5726	0.149	0.124	0.107	0.099	0.091
NEW 180-0365	0.185	0.160	0.140	0.120	0.106
NEW 180-0366	0.185	0.160	0.140	0.120	0.106

1206 Case Size

Impedance (Ω) @ 100MHz	R _{DC} (Ω)	I _N DC max. (mA)	Mfrs. List No.	Order Code
19	0.04	3000	742792110	180-0372
26	0.04	3000	742792111	163-5752
31	0.04	3000	742792112	180-0373
32	0.2	500	7427921	163-5739
50	0.025	3000	742792114	163-5753
60	0.2	500	7427922	163-5740
70	0.3	300	742792151	163-5741
80	0.03	3000	74279215	163-5754
90	0.3	300	74279211	163-5742
120	0.03	3000	742792113	163-5755
150	0.3	300	74279212	163-5743
200	0.5	200	74279216	163-5751
220	0.3	300	742792122	163-5744
300	0.06	3000	742792121	163-5756
470	0.3	200	742792124	163-5745
500	0.06	2500	742792116	163-5757
600	0.1	2000	74279218	163-5758
600	0.3	200	74279213	163-5746
600	0.3	200	742792131	180-0369
600	0.3	500	742792133	180-0370
600	0.07	2500	742792118	180-0374
700	0.65	200	74279219	163-5747
1000	0.45	200	74279214	163-5749
1000	0.3	1000	742792141	163-5759

1206 Order Code	Price Each				
	1+	10+	50+	100+	250+
NEW 180-0372	0.211	0.182	0.160	0.138	0.122
163-5752	0.220	0.190	0.173	0.165	0.157
NEW 180-0373	0.211	0.182	0.160	0.138	0.122
163-5739	0.198	0.173	0.157	0.149	0.140
163-5753	0.220	0.190	0.173	0.165	0.157
163-5740	0.198	0.173	0.157	0.149	0.140
163-5741	0.198	0.173	0.157	0.149	0.140
163-5754	0.220	0.190	0.173	0.165	0.157
163-5742	0.198	0.173	0.157	0.149	0.140
163-5755	0.220	0.190	0.173	0.165	0.157
163-5743	0.198	0.173	0.157	0.149	0.140
163-5751	0.198	0.173	0.157	0.149	0.140
163-5744	0.198	0.173	0.157	0.149	0.140
163-5756	0.220	0.190	0.173	0.165	0.157
163-5745	0.179	0.160	0.146	0.140	0.132
163-5757	0.220	0.190	0.173	0.165	0.157
163-5758	0.220	0.190	0.173	0.165	0.157
163-5746	0.198	0.173	0.157	0.149	0.140
NEW 180-0369	0.211	0.182	0.160	0.138	0.122
NEW 180-0370	0.211	0.182	0.160	0.138	0.122
NEW 180-0374	0.211	0.182	0.160	0.138	0.122
163-5747	0.198	0.173	0.157	0.149	0.140
163-5749	0.198	0.173	0.157	0.149	0.140
163-5759	0.220	0.190	0.173	0.165	0.157



Inductors - Ferrite Inductors & Beads - Würth Elektronik - continued

SMD Ferrites - EMI Suppression - continued

WE-CBF series - continued

1210 Case Size

Impedance (Ω) @ 100MHz	R _{DC} (Ω)	I _N DC max. (mA)	Mftrs. List No.	Order Code
32	0.3	400	74279230	163-5760
60	0.3	400	74279231	163-5762
90	0.3	400	7427923	163-5763
30	0.05	3000	742792310	163-5764
65	0.03	3000	742792312	163-5765

1210		Price Each				
Order Code		1+	10+	50+	100+	250+
163-5760	0.183	0.160	0.145	0.138	0.130	
163-5762	0.198	0.173	0.157	0.149	0.140	
163-5763	0.198	0.173	0.157	0.149	0.140	
163-5764	0.220	0.190	0.173	0.165	0.157	
163-5765	0.220	0.190	0.173	0.165	0.157	

1806 Case Size

Impedance (Ω) @ 100MHz	R _{DC} (Ω)	I _N DC max. (mA)	Mftrs. List No.	Order Code
60	0.3	400	7427924	163-5766
80	0.3	400	74279241	163-5767
150	0.5	200	74279242	163-5768
60	0.01	6000	742792410	163-5769
75	0.025	3000	74279243	163-5770
80	0.04	3000	742792411	163-5771
110	0.035	4000	74279245	163-5772
850	0.1	1500	74279244	163-5774

1806		Price Each				
Order Code		1+	10+	50+	100+	250+
163-5766	0.210	0.194	0.176	0.168	0.153	
163-5767	0.160	0.152	0.144	0.140	0.131	
163-5768	0.210	0.194	0.176	0.168	0.153	
163-5769	0.250	0.220	0.210	0.198	0.182	
163-5770	0.250	0.220	0.210	0.198	0.182	
163-5771	0.250	0.220	0.210	0.198	0.182	
163-5772	0.250	0.220	0.210	0.198	0.182	
163-5774	0.250	0.220	0.210	0.198	0.182	

1812 Case Size

Impedance (Ω) @ 100MHz	R _{DC} (Ω)	I _N DC max. (mA)	Mftrs. List No.	Order Code
120	0.3	300	7427925	163-5775
70	0.3	300	74279250	163-5776
70	0.03	6000	742792510	163-5777
120	0.05	3000	742792511	163-5778
530	0.05	3000	742792515	163-5779
600	0.04	3000	742792514	163-5780
880	0.035	4000	74279252	163-5781

1812		Price Each				
Order Code		1+	10+	50+	100+	250+
163-5775	0.230	0.210	0.190	0.182	0.165	
163-5776	0.230	0.210	0.190	0.182	0.165	
163-5777	0.250	0.220	0.210	0.198	0.182	
163-5778	0.250	0.220	0.210	0.198	0.182	
163-5779	0.250	--	--	--	--	
163-5780	0.250	0.220	0.210	0.198	0.182	
163-5781	0.250	0.220	0.210	0.198	0.182	

Ferrite Bead

WE-CBF HF Series



Operating temperature -55°C to 125°C



Impedance, typical @ 100MHz Ω	Resistance Ω	Current mA	Mftrs. List No.	Order Code	
0402	220	380 mohm	500	742843122	174-8571
	600	1.6	100	742841160	174-8572
	1000	1.8	50	742841210	174-8573
0603	180	550 mohm	200	742861118	174-8574
	220	250 mohm	600	742863122	174-8575
	470	320 mohm	500	742863147	174-8576
	600	1	200	742861160	174-8577
	600	1.5	100	742862160	174-8578
	600	350 mohm	500	742863160	174-8581
	1000	1.8	50	742861210	174-8582

544517

Order Code	1+	10+	50+	100+	250+
0402 All Values	0.210	0.189	0.172	0.155	0.143
0603 All Values	0.190	0.170	0.155	0.139	0.129

SMD Noise Suppressor

WE-CNSW Series



- High common-mode noise suppression at high frequency
- Small influence for high speed signals through winding symmetry
- For USB 2.0, Firewire/IEEE 1394, LVDS, High speed data lines, common Mode Filters

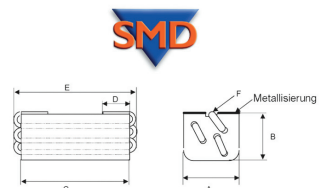
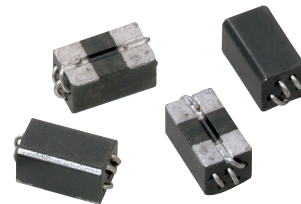
Impedance @ 100MHz (Ω)	Voltage rating (V)	R _{DC} max (Ω)	Current rating (mA)	Mftrs. List No.	Order Code
90	50	0.3	370	744231091	163-6469
180	50	0.35	0.33	744231181	163-6471
260	50	0.4	0.3	744231261	163-6472
370	50	0.45	0.28	744231371	163-6473
90	50	0.3	370	744232090	163-6474
160	50	0.4	340	744232161	163-6475
260	50	0.5	310	744232261	163-6476
600	50	0.8	260	744232601	163-6477
2.2	50	1.2	0.4	744232222	163-6481

523300

Impedance @ 100MHz (Ω)		Price Each				
Order Code		1+	10+	50+	100+	250+
90	SMD 163-6469	0.68	0.62	0.57	0.54	0.50
180	SMD 163-6471	0.68	0.62	0.57	0.54	0.50
260	SMD 163-6472	0.68	0.62	0.57	0.54	0.50
370	SMD 163-6473	0.68	0.62	0.57	0.54	0.50
90	SMD 163-6474	0.74	0.60	0.55	0.51	0.48
160	SMD 163-6475	0.74	0.60	0.55	0.51	0.48
260	SMD 163-6476	0.74	0.60	0.55	0.51	0.48
600	SMD 163-6477	0.74	0.60	0.55	0.51	0.48
2.2	SMD 163-6481	0.74	0.60	0.55	0.51	0.48

5-Hole Ferrite Beads

WE-SUKW Series



- Maximum current up to 5 Amp
- Low DC resistance with 3 mΩ
- Impedances up to 400Ω
- For SMD construction for easy installation on the PCB
- Protection against radio frequency interferences of components on PCBs of PCs, text processing and other digital devices

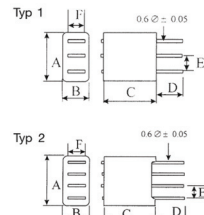
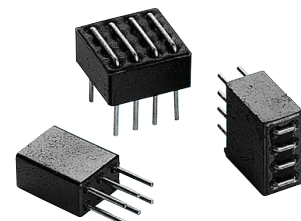
Impedance (Ω) @ 25MHz	Impedance (Ω) @ 100MHz	Dimensions (mm)					Mftrs. List No.	Order Code	
		A	B	C	D	E	F		
272	416	5	4.6	5.5	2	8	0.5	7427511	163-5782
425	580	4.65	5	8.5	2	11	0.5	7427512	163-5783

520957

		Price Each				
Order Code		1+	10+	50+	100+	250+
163-5782	0.79	0.70	0.58	0.55	0.51	
163-5783	0.79	0.70	0.58	0.55	0.51	

Multiline Ferrite

WE-MLS Series, EMI Suppression



- Filter for common mode or differential mode
- High impedance common mode inductor with 2x2 win. made by PCB line connection
- High rated current with typ. 4 A
- Broadband filtering because of the NiZn- ferrite core
- RF-common mode inductor for 2, 3 or 4 lines in one component
- Perfect suitable for EMC-absorption of common or differential mode
- For high-current DC output filters of power supplies e.g. battery chargers, industrial power supplies

Impedance (Ω)		Dimensions (mm)						Mftrs.	Order Code
@ 25MHz	@ 100MHz	A	B	C	D	E	F	List No.	
212	264	7.62	5.08	10	5.8	2.54	2.54	74273001	163-5786
209	249	10.88	5.49	10	3.19	2.54	2.54	74273002	163-5787
208	248	11.2	11.2	8	3.5	2.54	2.54	742730022	163-5788

521028

		Price Each				
Order Code		1+	10+	50+	100+	250+
3 line	163-5786	0.70	0.58	0.50	0.46	0.44
4 line	163-5787	0.70	0.58	0.50	0.46	0.44
4 line	163-5788	1.07	0.91	0.74	0.70	0.66

Inductors - Axial - Epcos

B78108S Series – RF Inductors



L=9.2, Dia=4.0 max Lead Length=25, Dia =0.63

- Ferrite drum cored inductors with flame retardant encapsulation

I _N (mA)	L _N (μH)	Tol. (%)	f _L (MHz)	Q _{min}	f ₀ (MHz)	R _{max} (Ω)	f _{res} (MHz)	Mftrs List No.	Order Code
1200	1	±10	1	55	0.0796	0.16	205	B78108S1102K	608-427
1000	2.2	±10	1	55	7.96	0.25	140	B78108S1222K	608-440
900	3.3	±10	1	60	7.96	0.29	115	B78108S1332K	608-452
820	4.7	±10	1	60	7.96	0.34	95	B78108S1472K	608-464
780	5.6	±10	1	60	7.96	0.38	85	B78108S1562K	509-929
680	10	±10	0.1	70	2.52	0.49	35	B78108S1103K	608-488
610	15	±10	0.1	60	2.52	0.6	20	B78108S1153K	608-506
560	22	±10	0.1	55	2.52	0.74	13	B78108S1223K	511-614
500	33	±10	0.1	55	2.52	0.92	9	B78108S1333K	608-518
470	39	±10	0.1	50	2.52	1.02	8	B78108S1393K	511-626
450	47	±5	0.1	45	2.52	1.1	7.5	B78108S1473J	608-520
410	68	±5	0.1	40	2.52	1.35	6.5	B78108S1683J	608-531
390	82	±5	0.1	35	2.52	1.54	6	B78108S1823J	511-638
370	100	±5	0.1	70	0.796	1.7	5	B78108S1104J	608-543
300	120	±5	0.1	70	0.796	2.4	4.5	B78108S1124J	608-555
280	150	±5	0.1	70	0.796	2.8	4.2	B78108S1154J	608-567
250	220	±5	0.1	70	0.796	3.3	3.7	B78108S1224J	511-651
190	330	±5	0.1	70	0.796	6.4	2.7	B78108S1334J	608-579
170	470	±5	0.1	70	0.796	7.9	2.2	B78108S1474J	608-580
150	680	±5	0.1	55	0.796	10	1.9	B78108S1684J	608-592
130	1000	±5	0.1	55	0.252	14	1.6	B78108S1105J	608-609
80	2200	±5	0.1	40	0.252	34.7	1.1	B78108S1225J	608-622
62	3300	±5	0.1	40	0.252	59.5	0.9	B78108S1335J	608-634
55	4700	±5	0.1	35	0.252	78	0.7	B78108S1475J	608-646

204143

Order Multiple=5

Inductance μH	Order Code	5+	10+	50+	1K+	2K5+
1.0μH to 39μH	All Values	0.170	0.159	0.149	0.116	0.084
47μH to 820μH	All Values	0.182	0.168	0.158	0.131	0.115
1000μH to 4700μH	All Values	0.250	0.220	0.194	0.148	0.126

B82144 Series – RF Inductors



Body L=14.8 max dia.=5.2 max Lead dia.=0.63

- Ferrite drum core RF inductors with flame retardant lacquer coating

I _N (mA)	L _N (μH)	Tol. (%)	f _L (MHz)	Q _{min}	f ₀ (MHz)	R _{max} (Ω)	f _{res} (MHz)	Mftrs List No.	Order Code
2200	1	±10	1	40	7.96	0.08	200	B82144A2102K	513-532
1600	4.7	±10	1	40	7.96	0.16	120	B82144A2472K	515-036
1400	10	±10	0.1	60	2.52	0.22	60	B82144A2103K	515-565
1100	22	±10	0.1	50	2.52	0.35	12	B82144A2223K	516-533
800	47	±5	0.1	40	2.52	0.5	5	B82144A2473J	516-545
600	100	±5	0.1	50	0.796	0.7	3.5	B82144A2104J	516-570
400	220	±5	0.1	50	0.796	1.6	2.4	B82144A2224J	516-995
280	470	±5	0.1	40	0.796	2.5	1.5	B82144A2474J	517-070
200	1000	±5	0.1	60	0.252	3.8	1.2	B82144A2105J	517-896
120	2200	±5	0.1	60	0.252	9	0.8	B82144A2225J	517-902
90	4700	±5	0.1	60	0.252	20	0.5	B82144A2475J	517-914
50	10000	±5	0.01	50	0.0796	42	0.35	B82144A2106J	517-926
40	22000	±5	0.01	50	0.0796	120	0.26	B82144A2226J	517-938
20	100000	±5	1	40	0.0796	360	0.12	B82144A2107J	518-300

204141

Order Multiple=5

Inductance μH	Order Code	5+	50+	100+	500+	1K+
1	513-532	0.310	0.280	0.250	0.220	0.200
4.7	515-036	0.260	0.240	0.230	0.220	0.188
10	515-565	0.340	0.320	0.300	0.210	0.180
22	516-533	0.310	0.280	0.250	0.220	0.200
47	516-545	0.310	0.280	0.250	0.220	0.200
100	516-570	0.310	0.280	0.250	0.220	0.200
220	516-995	0.310	0.280	0.250	0.220	0.200
470	517-070	0.310	0.280	0.250	0.220	0.200
1000	517-896	0.330	0.300	0.270	0.230	0.210

Order Multiple=5

Inductance μH	Order Code	5+	50+	100+	500+	1K+
2200	517-902	0.360	0.340	0.320	0.220	0.192
4700	517-914	0.290	0.270	0.240	0.210	0.191
10000	517-926	0.330	0.300	0.270	0.230	0.210
22000	517-938	0.350	0.320	0.280	0.260	0.220
100000	518-300	0.430	0.400	0.390	0.270	0.250

B82130 Series – RF Inductors



- Single layer winding on a carbonyl iron core with insulating sleeve
- Approved to VDE 565-2

Voltage rating IEC Climatic category	500Vac/dc 55/125/56	Tolerance	±20%				
L _N (μH)	Tol (%)	f _L (MHz)	Q _{min}	F _{res} (MHz)	Dimensions Dia. L	Mftrs List No.	Order Code
80	0.15	0.1	11	22	5 x 14	B82131A5151M	506-930
27	0.4	0.1	2	40	5 x 14	B82131A5401M	508-287
50	0.4	0.1	3	37	5.5 x 19	B82132A5401M	508-226
150	0.4	0.1	3.5	18	7.5 x 29	B82134A5401M	508-329
14	0.7	0.1	0.76	53	5 x 14	B82131A5701M	506-552
23	0.7	0.1	0.73	55	5.5 x 19	B82132A5701M	508-251
6	1.5	1	0.19	84	5 x 14	B82131A5152M	506-448
25	1.5	0.1	0.32	40	7.5 x 24	B82133A5152M	506-916
3	2	1	0.9	113	5 x 14	B82131A5202M	506-564
6	2	1	0.11	108	5.5 x 19	B82132A5202M	506-886
2	3	1	0.038	147	5 x 14	B82131A5302M	524-130
10	3	1	0.077	69	7.5 x 24	B82133A5302M	506-540
12	3	0.1	0.09	75	7.5 x 24	B82134A5302M	508-317
1	4	1	0.015	199	5 x 14	B82131A5402M	508-240
2	4	1	0.02	186	5.5 x 19	B82132A5402M	508-275

204140

Inductance μH	Order Code	1+	25+	100+	250+	500+	1K+
80	506-930	0.66	0.59	0.57	0.55	0.54	0.46
27	508-287	0.75	0.66	0.64	0.62	0.61	0.52
50	508-226	0.96	0.87	0.84	0.81	0.80	0.67
150	508-329	0.92	0.84	0.79	0.76	0.75	0.63
14	506-552	0.96	0.87	0.84	0.81	0.80	0.67
23	508-251	0.96	0.87	0.84	0.81	0.80	0.67
6	506-448	0.94	0.86	0.83	0.79	0.78	0.65
25	506-916	0.92	0.84	0.79	0.76	0.75	0.63
3	506-564	0.76	0.69	0.66	0.63	0.62	0.53
6	506-886	0.83	0.76	0.74	0.73	0.71	0.61
2	524-130	1.00	0.89	0.86	0.83	0.82	0.69
10	506-540	0.89	0.83	0.76	0.74	0.73	0.61
12	508-317	0.80	0.74	0.69	0.67	0.66	0.57
1	508-240	1.00	0.89	0.86	0.83	0.82	0.69
2	508-275	1.00	0.89	0.86	0.83	0.82	0.69

B82500 Series – Low Current



- Ferrite cored multilayer wound Inductors
- Voltage rating 250V ac/dc
- IEC climatic category 55/125/126.

L _N (μH)	I _N (A)	f _{res} (MHz)	R _{typ} (Ω)	Body Dimensions Dia. L	Mftrs. List No.	Order Code	
3900	0.2	1.8	20	10	32	B82500CA2	504-749
820	0.5	3	2.5	10	32	B82500CA5	976-441
330	1	4.2	0.6	10	32	B82500CA8	976-453
120	2	5.8	0.15	10	32	B82500CA10	976-465

204150

Order Code	1+	10+	50+	100+	250+
All Values	3.36	3.03	2.41	2.07	1.97

B8211E Series – Medium Current



- Single layer winding on ferrite core with insulation sleeving
- Approved to VDE 565-2
- Tolerance ±20%

Voltage rating	500 V ac/dc	IEC climatic category	55/125/126
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Inductors - Axial - Epcos - continued

B82111E Series – Medium Current - continued

L_N (μ H)	I_N (A)	f_{res} (MHz)	R_{typ} (Ω)	Body Dimensions		Mfrs. List No.	Order Code
				Dia.	L		
470	0.3	25	6.5	6	26	B82111EC27	975-4121
220	0.5	32	2.6	6.5	26	B82111EC26	975-4130
100	1	55	0.65	6.5	26	B82111EC25	975-2102
56	1.5	70	0.3	6.5	26	B82111EC24	975-3346
40	2	90	0.18	7	26	B82111EC23	975-3354
22	3	110	0.07	7	26	B82111EC22	975-3362
12	4	140	0.04	7	26	B82111EC21	975-3370
7	6	180	0.02	7.5	26	B82111EC20	975-3389

204061

Price Each					
Order Code	1+	25+	100+	250+	500+
All Values	0.76	0.68	0.59	0.53	0.45

B82111B Series – up to 10A



- Wound inductor on a ferrite core
- Approved to VDE 565-2

Voltage Rating: 500V ac/dc
Tolerance: $\pm 20\%$
IEC climatic category: 55/125/56

L_N (μ H)	I_N (A)	f_{res} (MHz)	R_{typ} (Ω)	Body Dimensions		Mfrs. List No.	Order Code	
				Dia.	L			
B82111BC14	17	2	100	0.063	7	24	B82111BC14	975-2196
B82111BC13	8	3	145	0.025	7	24	B82111BC13	975-2218
B82111BC20	20	3	125	0.054	6	29	B82111BC20	975-2153
B82111BC24	25	3	85	0.046	8.5	34	B82111BC24	975-2110
B82111BC18	11	4	150	0.02	6.5	29	B82111BC18	975-2188
B82111BC23	15	4	120	0.024	8.5	34	B82111BC23	975-2137
B82111BC11	4	6	205	0.014	7.5	24	B82111BC11	975-2200
B82111BC17	6	6	200	0.01	7	29	B82111BC17	975-2170
B82111BC22	9	6	150	0.012	9	34	B82111BC22	975-2161
B82111BC16	3	9	220	0.006	7.5	29	B82111BC16	975-4113
B82111BC21	5	10	175	0.005	9.5	34	B82111BC21	975-2129

204151

Price Each					
Inductance μ H	Order Code	1+	10+	50+	250+
17	975-2196	1.14	1.03	0.92	0.73
8	975-2218	1.03	0.91	0.71	0.62
20	975-2153	1.17	1.09	0.81	0.70
25	975-2110	1.43	1.24	1.12	0.88
11	975-2188	1.29	1.13	1.03	0.81
15	975-2137	1.74	1.56	1.09	0.97
4	975-2200	1.03	0.93	0.71	0.62
6	975-2170	1.17	1.09	0.81	0.70
9	975-2161	1.41	1.28	1.18	0.95
3	975-4113	1.24	1.12	0.88	0.78
5	975-2129	1.74	1.56	1.09	0.97

Inductors - Axial - Tyco Electronics

C30 Series – 0.25 Watt



Body L=7.0 max., Dia.=2.8 max.
Lead length=25.0 min., Lead dia.=0.6

- Popular range of miniature RF inductors encapsulated in a flame retardant resin sleeve providing protection against extremes of temperature, mechanical vibration and abrasion
- Tolerance $\pm 10\%$
- Body Colour: Yellow

Inductance μ H	Max. dc Res Ω 20°C	Max dc Current(mA) 70°C	Q factor Min	Test. Frequency MHz	Self Res Frequency MHz	Order Code
0.1	0.08	1240	35	25	625	117-3894
0.12	0.09	1240	35	25	625	117-4250
0.15	0.1	1240	35	25	625	117-4251
0.18	0.12	1240	35	25	625	117-4252
0.22	0.14	940	33	25	470	117-3895
0.27	0.16	940	33	25	430	117-4254
0.33	0.22	750	30	25	380	117-3896
0.47	0.35	590	30	25	310	117-3897
0.56	0.5	590	30	25	800	117-4256
0.68	0.6	540	28	25	275	117-4257
0.82	0.85	380	28	25	230	117-3898
1	1	395	25	25	210	117-3860
1.5	0.22	895	28	7.9	140	117-4258
2.2	0.4	550	30	7.9	105	117-3861
2.7	0.55	470	37	7.9	92	117-3899
3.3	0.85	380	45	7.9	83	117-3862
3.9	1	380	45	7.8	80	117-4259
4.7	1.2	320	45	7.9	69	117-3863
5.6	1.8	260	50	7.9	60	117-3901

Inductance μ H	Max. dc Res Ω 20°C	Max dc Current(mA) 70°C	Q factor Min	Test. Frequency MHz	Self Res Frequency MHz	Order Code
6.8	2	260	50	7.9	60	117-4260
8.2	2.7	215	55	7.9	50	117-3902
10	3.7	180	55	7.9	46	117-3864
15	2.8	210	45	2.5	32	117-3903
22	3.3	195	50	2.5	23	117-3865
33	3.4	190	45	2.5	20	117-3866
47	4.5	165	45	2.5	17	117-3867
56	5.2	148	45	2.5	15	117-3869
68	6.7	148	50	2.5	15	117-4262
100	8	124	50	2.5	11	117-3871
150	15	91	30	0.79	9	117-3872
220	21	77	30	0.79	7.5	117-3873
330	28	66	30	0.79	6	117-3875
470	42	54	30	0.79	5.1	117-3876
820	65	43	30	0.79	3.2	117-3905
1000	72	41	30	0.79	2.9	117-3878

204269

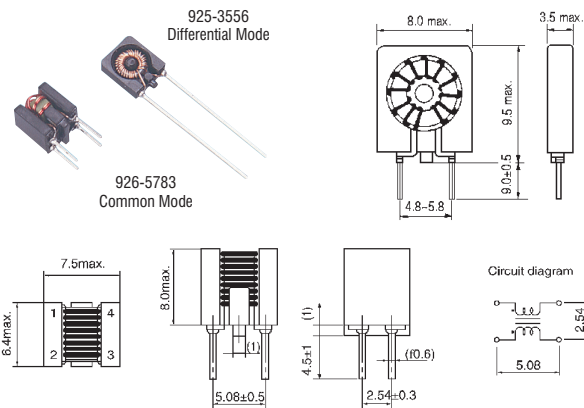
Order Multiple=5

Price Each

Inductance μ H	Order Code	5+	50+	100+	250+	500+
0.1 μ H to 100 μ H	All Values	1.03	0.77	0.54	0.44	0.43
150 μ H to 1000 μ H	All Values	1.45	1.07	0.78	0.56	0.55

Inductors - Radial - Multicomp

PCB Mounting



- A range of compact data line filters employing a high performance toroidal core
- These common mode and differential mode chokes have a plastic carrier for ease of PCB mounting.

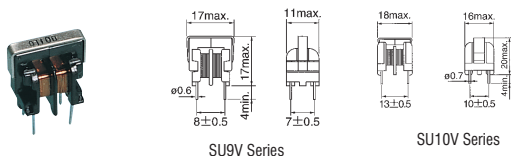
Voltage rating 50V
Operating temperature
Current rating
Differential mode chokes
Common mode chokes
500mA
25°C to +85°C
25°C to +70°C

Inductance @ 1kHz μ H	Inductance Tolerance %	Resistance m Ω	Order Code
Differential Mode			
5.6	± 50	<25	925-3556
20	± 35	<35	925-3564
56	± 35	<35	925-3548
Common Mode			
40	± 35	40	926-5783
80	± 35	55	926-5791

204017

Price Each						
Inductance μ H	Order Code	5+	50+	100+	500+	1K+
Differential Mode						
5.6	925-3556	0.56	0.45	0.39	0.33	0.30
20	925-3564	0.56	0.45	0.39	0.33	0.30
56	925-3548	0.56	0.45	0.39	0.33	0.30
Common Mode						
40	926-5783	1.21	0.92	0.77	0.62	0.58
80	926-5791	1.30	0.98	0.82	0.68	0.62

Common Mode - Low Current



- A range of compact high inductance common mode chokes to provide excellent attenuation of RFI.
- Suitable for filtering of power supply rails and use in audio/communication equipment

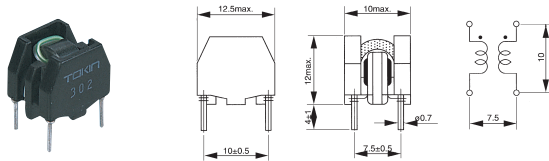
Voltage rating 250V ac/dc
Frequency range 0.1 to 10MHz
Insulation resistance 100M Ω at 500
Operating temperature -25°C to +80°C (SU10V = +65°C)
Inductance measured at 1kHz @ 20°C

Current Rating (A)	Inductance (mH) min.	DC resistance (Ω/line)	Mfrs. List No.	Order Code
0.1A	10	8	SU9V-01100	926-5813
0.5A	2	1	SU9V-05020	926-5821
0.7A	1	0.6	SU9V-07010	926-5830
1A	0.5	0.3	SU9V-10005	926-5848
0.5A	5	1.5	SU10V-05050	926-5856
1.5A	1	0.2	SU10V-15010	926-5864
2A	0.6	0.15	SU10V-20006	926-5872

204082

Current Rating	Order Code	Price Each			
		1+	10+	50+	100+
SU9V Series					
0.1A	926-5813	1.83	1.70	1.65	1.38
0.5A	926-5821	1.83	1.70	1.65	1.38
0.7A	926-5830	1.18	1.08	1.06	0.89
1A	926-5848	1.83	1.70	1.65	1.38
SU10V Series					
0.5A	926-5856	1.98	1.75	1.65	1.38
1.5A	926-5864	1.98	1.75	1.65	1.38
2A	926-5872	1.98	1.75	1.71	1.44

PCB Mounting – 3A



- Common mode chokes wound on a high performance ferrite core suitable for the attenuation of common mode noise in switch mode power supplies, AC adaptors, microprocessor systems etc

Operating temperature -25°C to +80°C Voltage Rating 150V dc
 Insulation resistance <10MΩ Test Voltage 600Vdc (2 seconds between lines)

204065

Order Code	Price Each			
	1+	50+	100+	500+
926-5805	1.77	1.53	1.37	1.11

Inductors - Radial - Epcos

B82732/3F Series Power Line Chokes



- Current-compensated double choke
- Closed magnetic circuit with frame construction
- 4-section winding with direct winding of the core
- Excellent differential-mode suppression
- High pulse-handling capability
- Tolerance = +30%, -50%



Inductance(mH)	Current (A)	Resistance Typical (Ω)	Dimensions H W D	Mfrs. List No.	Order Code
B82732F Series					
10	1.6	0.29	13.5 24.5 14.5	B82732F2162B001	164-4856
15	1.3	0.43	13.5 24.5 14.5	B82732F2132B001	164-4855
27	0.9	0.77	13.5 24.5 14.5	B82732F2901B001	164-4861
47	0.7	1.26	13.5 24.5 14.5	B82732F2701B001	164-4859
68	0.6	1.97	13.5 24.5 14.5	B82732F2601B001	164-4858
B82733F Series					
10	2.3	0.188	14 26.5 24.8	B82733F2232B001	164-4870
15	1.9	0.279	14 26.5 24.8	B82733F2192B001	164-4869
27	1.4	0.44	14 26.5 24.8	B82733F2142B001	164-4868
39	1.2	0.696	14 26.5 24.8	B82733F2122B001	164-4867
47	1.1	0.804	14 26.5 24.8	B82733F2112B001	164-4866
68	0.9	1.1	14 26.5 24.8	B82733F2901B001	164-4872

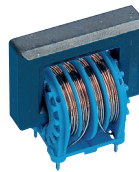
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Inductance mH	Order Code	Price Each			
		1+	50+	100+	500+
B82732F Series					
10	164-4856	1.99	1.76	1.65	1.23
15	164-4855	1.64	1.48	1.41	1.09
27	164-4861	1.99	1.76	1.65	1.23
47	164-4859	1.62	1.47	1.40	1.09
68	164-4858	1.64	1.48	1.41	1.09
B82733F Series					
10	164-4870	2.08	1.87	1.73	1.31
15	164-4869	2.08	1.87	1.73	1.31
27	164-4868	2.08	1.87	1.73	1.31
39	164-4867	1.72	1.58	1.47	1.16
47	164-4866	2.08	1.87	1.73	1.31
68	164-4872	1.70	1.56	1.46	1.16

Over half a million products available online



Common Mode - D Core - Vertical



- Common mode chokes with vertical core for reduced PCB footprint
- 4 section polycarbonate coil former flame retardant to UL94V-0
- Suitable for attenuation of RFI in switch mode power supplies in audio and computer equipment



Voltage Rating 250V ac/dc IEC climatic category 40/125/56

L ₁ (mH)	I ₁ (A)	R _{typ} (mΩ)	Dimensions			Mfrs. List No.	Order Code
			H	W	D		
88	0.4	2400	20	20.5	15	B82731M2401A30	121-9118
3.3	2.2	110	23	24	16	B82732R2222B30	121-9123
27	1.7	320	31	32.5	21	B82734R2172B30	121-9126
15	2.3	185	31	32.5	21	B82734R2232B30	121-9127
10	2.6	130	31	32.5	21	B82734R2262B30	121-9128
6.8	3.2	85	31	32.5	21	B82734R2322B30	121-9129
3.3	4.6	46	31	32.5	21	B82734R2462B30	121-9130

204118

Inductance mH	Order Code	Price Each		
		1+	10+	50+
88	121-9118	2.58	--	--
3.3	121-9123	2.16	1.49	1.35
27	121-9126	3.35	--	--
15	121-9127	3.54	3.34	3.04
10	121-9128	3.44	--	--
6.8	121-9129	1.85	1.32	1.18
3.3	121-9130	2.64	1.87	1.67

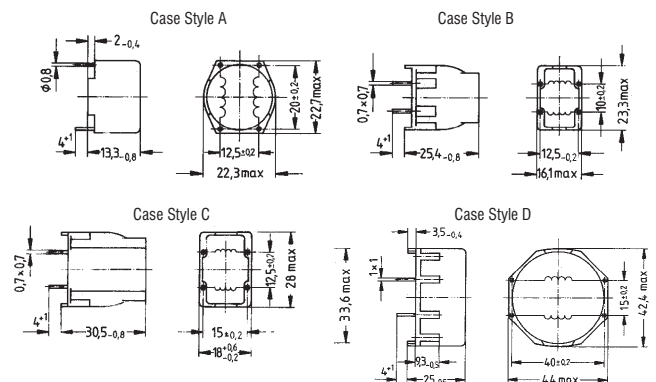
Current Compensated Twin Coil



- Current compensated, ferrite ring core chokes
- Case flame retardant to UL94V-0
- Approved to VDE 565-2



Voltage rating 250V ac IEC climatic category 40/125/56



LH (mH)	IN (A)	R typ (mΩ)	Dimensions H W D			Pin Spacing x y	Mfrs List No.	Order Code
Vertical								
39	0.4	2000	20.3	13.2	18.2	10 15	B82721K2401N20	121-9099
10	0.7	600	20.3	13.2	18.2	10 15	B82721K2701N20	121-9100
6.8	1.2	280	20.3	13.2	18.2	10 15	B82721K1222N20	121-9097
0.4	3.6	35	20.3	13.2	18.2	10 15	B82721K2362N1	121-9098
Vertical								
10	1	480	25.4	16.1	23.3	12.5 10	B82722J2102N1	121-9101
2.2	2	130	25.4	16.1	23.3	12.5 10	B82722J2202N1	121-9102
1.2	3	56	25.4	16.1	23.3	12.5 10	B82722J2302N1	121-9103
Vertical								
27	1	750	30.5	18.6	28	15 12.5	B82723J2102N1	121-9104
5.6	2	160	30.5	18.6	28	15 12.5	B82723J2202N1	121-9105
2.7	4	60	30.5	18.6	28	15 12.5	B82723J2402N1	121-9106
Vertical								
27	1.4	500	33.2	18.5	31.3	15 12.5	B82724J2142N1	121-9112
3.3	4	66	33.2	18.5	31.3	15 12.5	B82724J2402N1	121-9114
Horizontal								
1.8	6	23	25.0	33.1	32.6	20 30	B82724B2602N1	121-9109
18	2	350	25.0	44.0	42.4	20 30	B82725A2202N1	121-9116
2.7	8	22	25.0	44.0	42.4	20 30	B82725A2802N1	121-9117
1.8	10	14	25.0	44.0	42.4	20 30	B82725A2103N1	121-9115

Passive Components

8

EMC, Filters & Suppression



Inductors - Radial - Epcos - continued

Current Compensated - continued

Twin Coil - continued

Inductance mH	Order Code	Price Each					
		1+	10+	25+	50+	100+	500+
Vertical							
39	121-9099	3.24	2.81	2.47	2.14	1.85	1.28
10	121-9100	2.83	2.48	2.16	1.86	1.58	1.08
6.8	121-9097	2.03	--	--	--	--	--
0.4	121-9098	2.68	2.33	2.10	1.80	1.59	1.04
Vertical							
10	121-9101	1.98	1.37	1.09	0.97	0.92	0.89
2.2	121-9102	2.74	2.38	2.10	1.85	1.58	1.06
1.2	121-9103	1.98	--	--	--	--	--
Vertical							
27	121-9104	3.81	--	--	--	--	--
5.6	121-9105	2.64	--	--	--	--	--
2.7	121-9106	3.34	--	--	--	--	--
Vertical							
27	121-9112	4.05	--	--	--	--	--
3.3	121-9114	3.87	--	--	--	--	--
Horizontal							
1.8	121-9109	4.34	--	--	--	--	--
18	121-9116	4.46	4.05	3.78	3.27	3.07	2.14
2.7	121-9117	4.14	3.29	2.67	2.63	2.56	2.50
1.8	121-9115	8.43	4.84	3.71	3.32	3.17	3.01

Inductors - Radial - Panasonic

High Power Series - ELC09



- High power fixed inductors for line noise filtering
- Compact size due to high permeability and high flux density ferrite cores
- Wide inductance range
- Applications include TV, VCR, PCs, Audio, Fax machines etc.

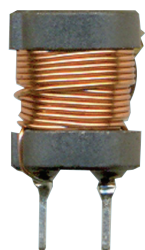
Height above PCB=13, Dia.=10
Lead length=4.0, Lead dia.=1.0, Fixing pitch=5.0

Inductance (μH)	Tolerance %	Max. DC Current @ 20°C (A)	DC resistance @ 20°C(Ω)	Mfrs. List No.	Order Code
2.2	±20	3.5	0.012	ELC09D2R2F	809-4810
3.3	±20	3.2	0.015	ELC09D3R3F	809-4861
3.9	±20	3.1	0.016	ELC09D3R9F	809-4870
4.7	±20	3	0.018	ELC09D4R7F	809-4942
6.8	±20	2.8	0.021	ELC09D6R8F	809-4985
8.2	±20	2.6	0.024	ELC09D8R2F	809-5035
10	±20	2.5	0.027	ELC09D100F	809-4756
15	±20	2.1	0.035	ELC09D150F	809-4799
22	±10	1.8	0.051	ELC09D220F	809-4829
27	±10	1.6	0.058	ELC09D270F	809-4853
33	±10	1.4	0.081	ELC09D330F	809-4888
47	±10	1.2	0.11	ELC09D470F	809-4950
68	±10	1	0.14	ELC09D680F	809-4993
100	±10	0.82	0.2	ELC09D101F	809-4764
150	±10	0.74	0.32	ELC09D151F	809-4802
220	±10	0.58	0.41	ELC09D221F	809-4837
330	±10	0.49	0.65	ELC09D331F	809-4896
390	±10	0.46	0.86	ELC09D391F	809-4926
470	±10	0.39	0.98	ELC09D471F	809-4969
680	±10	0.34	1.4	ELC09D681F	809-5000
1000	±10	0.28	2.1	ELC09D102F	809-4772
2200	±10	0.17	4.4	ELC09D222F	809-4845
3300	±10	0.14	7	ELC09D332F	809-4900
3900	±10	0.13	8	ELC09D392F	809-4934
10000	±10	0.08	18.8	ELC09D103F	809-4780

Price Each

Order Code	5+	50+	100+	500+	1K+
All Values	0.46	0.39	0.36	0.32	0.29

ELC10 Series



- High power fixed inductors for line noise filtering
- Compact size due to high permeability and high flux density ferrite cores
- Applications include TV, VCR, PCs, Audio, Fax machines etc.

Height above PCB=15, Dia.=10
Lead length=4.0, Lead dia.=0.8, Fixing pitch=5.0

Panasonic

Inductance (μH)	Tolerance	Max. DC Current @ 20°C (A)	DC resistance @ 20°C(Ω)	Mfrs. List No.	Order Code
2.2	±20%	5.9	0.014	ELC10D2R2E	NEW 174-9049
2.7	±20%	5.5	0.015	ELC10D2R7E	NEW 174-9050
3.3	±20%	5.2	0.016	ELC10D3R3E	130-8457
3.9	±20%	4.8	0.018	ELC10D3R9E	NEW 174-9051
4.7	±20%	4.6	0.019	ELC10D4R7E	130-8458
5.6	±20%	5.3	0.021	ELC10D5R6E	NEW 174-9052
6.8	±20%	4.2	0.022	ELC10D6R8E	NEW 174-9053
8.2	±20%	4	0.024	ELC10D8R2E	NEW 174-9054
10	±20%	3.9	0.026	ELC10D100E	NEW 174-9056
12	±20%	3.8	0.028	ELC10D120E	NEW 174-9057
15	±20%	3.5	0.033	ELC10D150E	NEW 174-9058
18	±20%	3.4	0.036	ELC10D180E	NEW 174-9059
22	±10%	3.2	0.04	ELC10D220E	NEW 174-9060
27	±10%	3	0.044	ELC10D270E	NEW 174-9061
33	±10%	2.8	0.051	ELC10D330E	NEW 174-9062
39	±10%	2.7	0.054	ELC10D390E	NEW 174-9063
47	±10%	2.5	0.06	ELC10D470E	NEW 174-9064
56	±10%	2.3	0.067	ELC10D560E	NEW 174-9065
68	±10%	2.1	0.075	ELC10D680E	NEW 174-9066
82	±10%	1.8	0.095	ELC10D820E	NEW 174-9068
100	±10%	1.7	0.11	ELC10D101E	130-8459
120	±10%	1.6	0.12	ELC10D121E	NEW 174-9069
150	±10%	1.4	0.16	ELC10D151E	NEW 174-9070
180	±10%	1.3	0.18	ELC10D181E	NEW 174-9071
220	±10%	1.1	0.21	ELC10D221E	130-8460
270	±10%	1	0.28	ELC10D271E	NEW 174-9072
330	±10%	0.9	0.32	ELC10D331E	NEW 174-9073
390	±10%	0.8	0.4	ELC10D391E	130-8461
470	±10%	0.7	0.45	ELC10D471E	NEW 174-9074
560	±10%	0.68	0.56	ELC10D561E	130-8462
680	±10%	0.64	0.66	ELC10D681E	NEW 174-9075
820	±10%	0.55	0.8	ELC10D821E	NEW 174-9076
1000	±10%	0.5	1	ELC10D102E	NEW 174-9077
1200	±10%	0.45	1.2	ELC10D122E	NEW 174-9078
1500	±10%	0.42	1.5	ELC10D152E	NEW 174-9081
1800	±10%	0.4	1.8	ELC10D182E	NEW 174-9082
2200	±10%	0.36	2.1	ELC10D222E	NEW 174-9083
2700	±10%	0.32	2.7	ELC10D272E	NEW 174-9084
3300	±10%	0.28	3.2	ELC10D332E	NEW 174-9085
3900	±10%	0.26	3.5	ELC10D392E	NEW 174-9086

Price Each

Order Code	1+	25+	50+	100+	500+
All Values	0.63	0.55	0.51	0.44	0.42

ELC11 Series



- High power fixed inductors for line noise filtering
- Shielded construction
- Compact size due to high permeability and high flux density ferrite cores
- Applications include TV, VCR, PCs, Audio, Fax machines etc.

Height above PCB=13.9, Dia.=11.5
Lead length=4.0, Lead dia.=0.6, Fixing pitch=5.0

Inductance (μH)	Tolerance %	Max. DC Current @ 20°C (A)	DC resistance @ 20°C(Ω)	Mfrs. List No.	Order Code
2.2	±20%	5.3	0.013	ELC11D2R2F	NEW 174-9087
2.7	±20%	5.1	0.014	ELC11D2R7F	NEW 174-9088
3.3	±20%	4.9	0.015	ELC11D3R3F	NEW 174-9089
3.9	±20%	4.8	0.016	ELC11D3R9F	NEW 174-9090
4.7	±20%	4.7	0.018	ELC11D4R7F	NEW 174-9091
5.6	±20%	4.6	0.02	ELC11D5R6F	NEW 174-9093
6.8	±20%	4.4	0.022	ELC11D6R8F	NEW 174-9094
8.2	±20%	3.9	0.024	ELC11D8R2F	NEW 174-9095
10	±20%	3.5	0.029	ELC11D100F	NEW 174-9096
12	±20%	3.4	0.03	ELC11D120F	NEW 174-9097
15	±20%	3.3	0.033	ELC11D150F	NEW 174-9098
18	±20%	3.1	0.037	ELC11D180F	NEW 174-9099
22	±10%	2.8	0.04	ELC11D220F	NEW 174-9100
27	±10%	2.7	0.048	ELC11D270F	NEW 174-9101
33	±10%	2.6	0.051	ELC11D330F	NEW 174-9102
39	±10%	2.5	0.057	ELC11D390F	NEW 174-9103
47	±10%	2.3	0.063	ELC11D470F	NEW 174-9104
56	±10%	2.1	0.071	ELC11D560F	NEW 174-9105
68	±10%	2	0.082	ELC11D680F	NEW 174-9106
82	±10%	1.9	0.09	ELC11D820F	NEW 174-9107
100	±10%	1.8	0.12	ELC11D101F	NEW 174-9108
120	±10%	1.6	0.16	ELC11D121F	NEW 174-9111
150	±10%	1.4	0.18	ELC11D151F	NEW 174-9112
180	±10%	1.3	0.2	ELC11D181F	NEW 174-9113
220	±10%	1.2	0.23	ELC11D221F	NEW 174-9114
270	±10%	1.1	0.32	ELC11D271F	NEW 174-9115
330	±10%	1	0.35	ELC11D331F	130-8463
390	±10%	0.95	0.4	ELC11D391F	130-8465
470	±10%	0.82	0.49	ELC11D471F	NEW 174-9116
560	±10%	0.73	0.62	ELC11D561F	NEW 174-9117
680	±10%	0.64	0.78	ELC11D681F	130-8466
820	±10%	0.62	0.87	ELC11D821F	130-8467
1000	±10%	0.57	1.1	ELC11D102F	130-8468
1200	±10%	0.52	1.2	ELC11D122F	NEW 174-9118
1500	±10%	0.43	1.7	ELC11D152F	130-8469
1800	±10%	0.4	2	ELC11D182F	NEW 174-9119
2200	±10%	0.38	2.3	ELC11D222F	NEW 174-9121
2700	±10%	0.34	2.8	ELC11D272F	NEW 174-9123
3300	±10%	0.31	3.6	ELC11D332F	NEW 174-9124
3900	±10%	0.29	4.5	ELC11D392F	NEW 174-9125
4700	±10%	0.26	5.2	ELC11D472F	NEW 174-9126
5600	±10%	0.23	6.9	ELC11D562F	NEW 174-9127
6800	±10%	0.21	7.8	ELC11D682F	NEW 174-9128
8200	±10%	0.18	10.6	ELC11D822F	NEW 174-9129
10000	±10%	0.16	11.8	ELC11D103F	NEW 174-9130

Order Code	Price Each				
	1+	25+	50+	100+	500+
All Values ●	0.63	0.55	0.51	0.44	0.42

ELC12 Series



- High - μ and High Bm cores
- Wide inductor range
- Applications include CTV, VCR, PCs, Audio, Fax machines, Home appliance.

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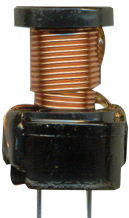


Height above PCB=16.5, Dia.=12
Lead length=3.5, Lead dia.=0.8, Fixing pitch=7.5

Inductance (μ H)	Tolerance %	Max. DC Current @ 20°C (A)	DC resistance @ 20°C(Ω)	Mfrs. List No.	Order Code
100	± 10%	1.9	0.15	ELC12D101E	174-9131
120	± 10%	1.78	0.17	ELC12D121E	174-9132
150	± 10%	1.67	0.19	ELC12D151E	174-9133
180	± 10%	1.58	0.21	ELC12D181E	174-9135
220	± 10%	1.55	0.23	ELC12D221E	174-9136
270	± 10%	1.44	0.27	ELC12D271E	174-9137
330	± 10%	1.34	0.3	ELC12D331E	174-9138
390	± 10%	1.32	0.33	ELC12D391E	174-9139
470	± 10%	1.25	0.38	ELC12D471E	174-9140
560	± 10%	1.15	0.42	ELC12D561E	174-9141
680	± 10%	0.98	0.46	ELC12D681E	174-9142
820	± 10%	0.94	0.65	ELC12D821E	174-9143
1000	± 10%	0.87	0.72	ELC12D102E	174-9144
1200	± 10%	0.86	0.83	ELC12D122E	174-9145
1500	± 10%	0.64	1.27	ELC12D152E	174-9147
1800	± 10%	0.63	1.33	ELC12D182E	174-9148
2200	± 10%	0.6	1.5	ELC12D222E	174-9149
2700	± 10%	0.54	1.89	ELC12D272E	174-9150
3300	± 10%	0.48	2.37	ELC12D332E	174-9151
3900	± 10%	0.45	2.83	ELC12D392E	174-9152
4700	± 10%	0.41	3.19	ELC12D472E	174-9153
5600	± 10%	0.34	4.08	ELC12D562E	174-9154
6800	± 10%	0.29	5.74	ELC12D682E	174-9155
8200	± 10%	0.28	6.34	ELC12D822E	174-9156
10000	± 10%	0.27	7.2	ELC12D103E	174-9157

Order Code	Price Each				
	1+	25+	50+	100+	500+
All Values ●	0.83	0.71	0.63	0.56	0.48

ELC16 Series



- High - μ and High Bm cores
- Wide inductor range
- Applications include CTV, VCR, PCs, Audio, Fax machines, Home appliance.

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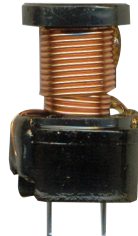
Height above PCB=23, Dia.=13
Lead length=4.5, Lead dia.=1, Fixing pitch=7.5

Inductance (μ H)	Tolerance %	Max. DC Current @ 20°C (A)	DC resistance @ 20°C(Ω)	Mfrs. List No.	Order Code
3.3	± 25%	8.5	0.012	ELC16B3R3L	174-9159
3.9	± 25%	8	0.013	ELC16B3R9L	174-9161
4.7	± 20%	7.8	0.015	ELC16B4R7L	174-9162
5.6	± 20%	7.4	0.016	ELC16B5R6L	174-9163
6.8	± 20%	6.7	0.018	ELC16B6R8L	174-9164
8.2	± 20%	6.1	0.019	ELC16B8R2L	174-9165
10	± 20%	5.6	0.022	ELC16B100L	174-9166
12	± 20%	5.5	0.023	ELC16B120L	174-9167
15	± 20%	5.4	0.026	ELC16B150L	174-9168
18	± 20%	5.1	0.028	ELC16B180L	174-9169
22	± 10%	4.6	0.031	ELC16B220L	174-9170
27	± 10%	4.3	0.034	ELC16B270L	174-9172
33	± 10%	4	0.039	ELC16B330L	174-9173
39	± 10%	3.9	0.042	ELC16B390L	174-9174
47	± 10%	3.8	0.045	ELC16B470L	174-9175
56	± 10%	3.4	0.051	ELC16B560L	174-9176
68	± 10%	3.2	0.057	ELC16B680L	174-9177
82	± 10%	3	0.064	ELC16B820L	174-9178
100	± 10%	2.6	0.072	ELC16B101L	174-9179
120	± 10%	2.5	0.08	ELC16B121L	174-9180
150	± 10%	2.2	0.103	ELC16B151L	174-9181
180	± 10%	2.1	0.115	ELC16B181L	174-9182
220	± 10%	1.9	0.13	ELC16B221L	174-9184
270	± 10%	1.6	0.17	ELC16B271L	174-9185
330	± 10%	1.5	0.2	ELC16B331L	174-9186
390	± 10%	1.3	0.25	ELC16B391L	174-9187
470	± 10%	1.2	0.28	ELC16B471L	174-9188
560	± 10%	1.1	0.38	ELC16B561L	174-9189
680	± 10%	1	0.43	ELC16B681L	174-9190
820	± 10%	0.88	0.58	ELC16B821L	174-9191
1000	± 10%	0.85	0.66	ELC16B102L	174-9192
1200	± 10%	0.82	0.74	ELC16B122L	174-9193
1500	± 10%	0.74	0.87	ELC16B152L	174-9194
1800	± 10%	0.6	1.22	ELC16B182L	174-9196
2200	± 10%	0.57	1.38	ELC16B222L	174-9197
2700	± 10%	0.54	1.57	ELC16B272L	174-9198

Inductance	Tolerance	Max. DC Current	DC resistance		
3300	± 10%	0.47	2	ELC16B332L	174-9199
3900	± 10%	0.42	2.4	ELC16B392L	174-9200
4700	± 10%	0.36	3.3	ELC16B472L	174-9202
5600	± 10%	0.34	3.7	ELC16B562L	174-9203
6800	± 10%	0.32	4.2	ELC16B682L	174-9204
8200	± 10%	0.28	5.6	ELC16B822L	174-9205
10000	± 10%	0.26	6.4	ELC16B103L	174-9206

Order Code	Price Each				
	1+	25+	50+	100+	500+
All Values ●	1.04	0.88	0.79	0.66	0.56

ELC18 Series



- High power fixed inductors for line noise filtering
- Applications include TV, VCR, PCs, Audio, Fax machines etc.

Height above PCB=27, Dia.=18
Lead length=5.0, Lead dia.=1.0, Fixing pitch=7.5

Inductance (μ H)	Tolerance %	Max. DC Current @ 20°C (A)	DC resistance @ 20°C(Ω)	Mfrs. List No.	Order Code
3.3	± 20%	8.5	0.01	ELC18B3R3L	NEW 174-9207
3.9	± 20%	8	0.011	ELC18B3R9L	NEW 174-9208
4.7	± 20%	7.8	0.012	ELC18B4R7L	NEW 174-9209
5.6	± 20%	7.4	0.013	ELC18B5R6L	NEW 174-9210
6.8	± 20%	6.8	0.015	ELC18B6R8L	NEW 174-9211
8.2	± 20%	6.6	0.016	ELC18B8R2L	NEW 174-9212
10	± 20%	6.5	0.017	ELC18B100L	NEW 174-9214
12	± 20%	6	0.018	ELC18B120L	NEW 174-9215
15	± 20%	5.9	0.021	ELC18B150L	NEW 174-9216
18	± 20%	5.6	0.022	ELC18B180L	NEW 174-9217
22	± 10%	5.4	0.025	ELC18B220L	NEW 174-9218
27	± 10%	4.8	0.028	ELC18B270L	NEW 174-9219
33	± 10%	4.6	0.03	ELC18B330L	NEW 174-9220
39	± 10%	4.4	0.033	ELC18B390L	NEW 174-9221
47	± 10%	4.3	0.037	ELC18B470L	130-8470
56	± 10%	4.2	0.04	ELC18B560L	NEW 174-9222
68	± 10%	4	0.046	ELC18B680L	NEW 174-9223
82	± 10%	3.7	0.051	ELC18B820L	NEW 174-9224
100	± 10%	3.2	0.05	ELC18B101L	130-8471
120	± 10%	3	0.065	ELC18B121L	NEW 174-9226
150	± 10%	2.7	0.072	ELC18B151L	130-8472
180	± 10%	2.6	0.082	ELC18B181L	NEW 174-9227
220	± 10%	2.4	0.09	ELC18B221L	NEW 174-9228
270	± 10%	2.2	0.11	ELC18B271L	NEW 174-9229
330	± 10%	1.9	0.13	ELC18B331L	NEW 174-9230
390	± 10%	1.8	0.15	ELC18B391L	NEW 174-9231
470	± 10%	1.6	0.21	ELC18B471L	NEW 174-9232
560	± 10%	1.5	0.23	ELC18B561L	NEW 174-9233
680	± 10%	1.4	0.26	ELC18B681L	NEW 174-9234
820	± 10%	1.3	0.34	ELC18B821L	130-8473
1000	± 10%	1.1	0.39	ELC18B102L	NEW 174-9235
1200	± 10%	1	0.44	ELC18B122L	NEW 174-9236
1500	± 10%	0.85	0.58	ELC18B152L	130-8474
1800	± 10%	0.84	0.65	ELC18B182L	NEW 174-9238
2200	± 10%	0.75	0.88	ELC18B222L	NEW 174-9239
2700	± 10%	0.68	1.2	ELC18B272L	NEW 174-9240
3300	± 10%	0.6	1.4	ELC18B332L	NEW 174-9241
3900	± 10%	0.57	1.5	ELC18B392L	NEW 174-9242
4700	± 10%	0.55	1.7	ELC18B472L	NEW 174-9243
5600	± 10%	0.46	2.2	ELC18B562L	NEW 174-9244
6800	± 10%	0.45	2.8	ELC18B682L	NEW 174-9245
8200	± 10%	0.41	3.1	ELC18B822L	NEW 174-9246
10000	± 10%	0.36	3.9	ELC18B103L	130-8475

Order Code	Price Each				
	1+	25+	50+	100+	500+
All Values ●	1.55	1.34	1.13	1.09	1.05

N Series - ELF



- Fixed inductors for line noise filtering
- Covered core for use with automatic insertion equipment
- Applications include TV, VCR, PCs, Audio, Fax machines, AC adaptors etc.

Operating temperature -20°C to +115°C

Height above PCB=21.5, W=22.7, D=15
Drilling=13 x 10, Dia.=1.2

Current Rating	Min. Inductance (mH)	Mfrs. List No.	Order Code
0.4A	26	ELF15N004A	969-4218
0.5A	19	ELF15N005A	969-4226
0.7A	10	ELF15N007A	969-4234
1.1A	4	ELF15N011A	969-4242

Order Code	Price Each			
	5+	10+	50+	100+
All Values ●	1.44	1.33	1.18	0.71

Inductors - Radial - Toko

Low Current – 8RBS/8RB Series



- A range of fixed inductors suitable for power decoupling in logic circuits and a wide variety of LF tuned circuit applications
- Construction employs an open wound ferrite bobbin insulated by a heatshrink sleeve
- Tolerance is $\pm 10\%$.

Dia=8, H=6.2 (0.1mH to 12mH), 11.2 (22mH to 36mH), Lead L=2.4, Dia.=0.7, Fixing pitch=5

Q>60(@ 796kHz)			Q>80(@ 252kHz)			Q>60(10-12mH)			Q>100(22-36mH) @ 79.6kHz		
Inductance (mH)	Resistance (Ω)	I _{max} (mA)	Inductance (mH)	Resistance (Ω)	I _{max} (mA)	Inductance (mH)	Resistance (Ω)	I _{max} (mA)	Inductance (mH)	Resistance (Ω)	I _{max} (mA)
0.1	2	200	1	9	50	10	55	20	20	80	30
0.22	3	150	2.2	14	50	22	80	30	30	80	30
			4.7	32	40	27	80	30			

204071

Inductance (mH)	Order Code	1+	25+	100+	250+	500+
0.1	119-3611	0.95	0.84	0.78	0.70	0.63
0.22	119-3613	0.95	0.84	0.78	0.70	0.63
1	119-3615	0.95	0.84	0.78	0.70	0.63
2.2	119-3616	0.95	0.84	0.78	0.70	0.63
4.7	119-3617	0.95	0.84	0.78	0.70	0.63
10	119-3619	0.95	0.84	0.78	0.70	0.63
22	119-3621	0.95	0.84	0.78	0.70	0.63
27	119-3622	1.02	0.94	0.88	0.72	0.67

Low Current – 10RB Series



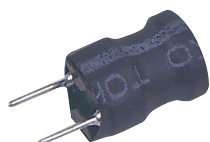
Inductance (mH)	Resistance (Ω)	I _{max} (mA)
47	52	13
56	58	12
100	82	9
120	97	8

Dia=10.5, H=14, Lead=4
Lead Dia.=0.7, Fixing pitch=5
Q > 100 @ 50kHz

204073

Inductance (mH)	Order Code	1+	25+	100+	250+	500+
47	119-3626	1.14	1.05	1.02	0.92	0.83
56	119-3627	0.98	0.91	0.88	0.77	0.71
100	119-3630	1.14	1.05	1.02	0.92	0.83
120	119-3631	1.25	1.13	1.08	0.92	0.83

8RHB Series



- Fixed inductor for noise filtering applications in power supplies used in computers, TV etc
- Low profile and high saturation flux density ferrite core insulated with a heatshrink sleeve.

Tolerance $\pm 10\%$

Dia=8.5, H=11
Lead L=5, Dia=0.62, Fixing pitch=5

Inductance (μ H)	Resistance (Ω)	I _{max} (A)	Q min	Q Test freq (MHz)	Order Code
47	0.16	1.4	30	2.52	119-3632
100	0.28	0.91	20	0.796	119-3633
220	0.68	0.64	20	0.796	119-3634
470	1.1	0.46	20	0.796	119-3635
1000	2.9	0.29	50	0.796	119-3637

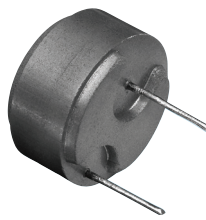
204072

Inductance (μ H)	Order Code	1+	25+	100+	250+	500+
47	119-3632	0.95	0.86	0.84	0.74	0.68
100	119-3633	0.95	0.86	0.84	0.74	0.68
220	119-3634	0.95	0.86	0.84	0.74	0.68
470	119-3635	0.95	0.86	0.84	0.74	0.68
1000	119-3637	0.95	0.86	0.84	0.74	0.68

Inductors - Radial - Vishay

IHTH-0750JZ Series

New



- Shielded construction
- Frequency range up to 1.0 MHz
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Tolerance $\pm 20\%$

Body Dia. = 20.47mm, Height (Without Legs) = 9.52mm

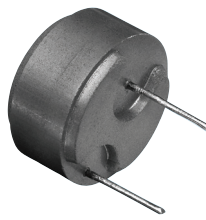
Inductance (μ H)	Heat Current (A)	Resistance Typ. (Ω)	Lead Spacing (mm)	Lead Dia. (mm)	Lead Length (mm)
0.47	60	0.47	8.91	2.1	4.19
4.7	22	2.52	11.78	1.67	4.19
10	13	7.68	10.84	1.32	4.19
22	11.5	14.1	11.43	1.19	4.19
33	8.5	23.7	12.11	0.94	4.19
47	7	34.8	13.33	0.83	4.19
68	5.8	50	12.64	0.83	4.19
100	5	68.3	12.16	0.76	4.19

547818

Value (μ H)	Current (A)	Order Code	1+	10+	25+	50+	100+
0.47	60	176-4412	5.72	5.03	4.58	4.12	3.66
4.7	22	176-4413	5.72	5.03	4.58	4.12	3.66
10	13	176-4414	5.72	5.03	4.58	4.12	3.66
22	11.5	176-4415	5.72	5.03	4.58	4.12	3.66
33	8.5	176-4416	5.72	5.03	4.58	4.12	3.66
47	7	176-4417	5.72	5.03	4.58	4.12	3.66
68	5.8	176-4418	5.72	5.03	4.58	4.12	3.66
100	5	176-4419	5.72	5.03	4.58	4.12	3.66

IHTH-1125MZ Series

New



- Shielded construction
- Frequency range up to 1.0 MHz
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Tolerance $\pm 20\%$

Body Dia. = 29.95mm, Height (Without Legs) = 12.7mm

Inductance (μ H)	Heat Current (A)	Resistance Typ. (Ω)	Lead Spacing (mm)	Lead Dia. (mm)	Lead Length (mm)
0.47	60	0.27	14.45	2.71	4.19
4.7	22	2.09	21.1	2.28	4.19
10	13	3.46	17.79	2.05	4.19
22	11.5	6.5	19.25	1.67	4.19
33	8.5	10.4	19.25	1.67	4.19
47	7	14.5	19.25	1.67	4.19
100	5	29.4	16.58	1.37	4.19

547820

Value (μ H)	Current (A)	Order Code	1+	10+	25+	50+	100+
0.47	60	176-4420	9.72	8.56	7.78	7.00	6.22
4.7	22	176-4422	9.72	8.56	7.78	7.00	6.22
10	13	176-4423	9.72	8.56	7.78	7.00	6.22
22	11.5	176-4424	9.72	8.56	7.78	7.00	6.22
33	8.5	176-4425	9.72	8.56	7.78	7.00	6.22
47	7	176-4426	9.72	8.56	7.78	7.00	6.22
100	5	176-4427	9.72	8.56	7.78	7.00	6.22

FREE technical support

Our trained engineers are here to help!

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Live technical chat at www.farnell.co.uk

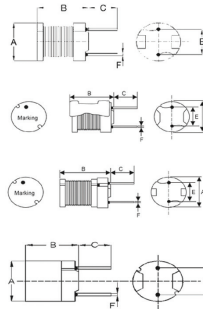
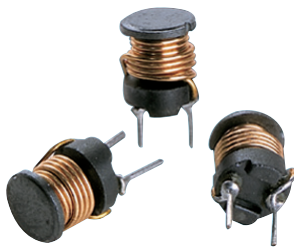
element14 | www.element-14.com

The solutions are out there, you just haven't registered yet

Inductors - Radial - Würth Elektronik

Wirewound Inductor

WE-TI Series, Radial Leaded



- Low-cost storage/filtering possibility in comparison to SMD versions
- Radial through-hole inductor
- High saturation core material
- Small size
- Standardized lead spacing is 5mm
- Maximum current up to 7.5A
- Operating temperature: -40°C to +125°C
- For signal filtering, NF-switches, switches, switching power supply for small and medium voltage, power supply filter

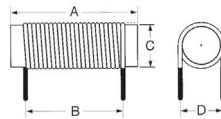
Dimensions (mm)						
A	B	C	D	E	Ø F	
7.8	9.5	5	3	5	0.7 typ.	

Inductance (µH)	Tolerance	R _{DC} (Ω)	I _{DC} (A)	Mfrs. List No.	Order Code
1	± 20%	0.006	7.5	744772010	163-5794
4.7	± 20%	0.018	4	744772047	163-5795
10	± 20%	0.04	2.6	744772100	163-5796
22	± 10%	0.055	2.3	744772220	163-5798
47	± 10%	0.1	1.3	744772470	163-5799
100	± 10%	0.19	0.9	744772101	163-5800
470	± 10%	0.89	0.43	744772471	163-5801
1000	± 10%	1.84	0.3	744772102	163-5802
10000	± 10%	24	0.14	744772103	163-5804

Price Each						
Inductance (µH)	Order Code	1+	10+	50+	100+	250+
1	163-5794	0.68	0.58	0.51	0.48	0.45
4.7	163-5795	0.68	0.58	0.51	0.48	0.45
10	163-5796	0.68	0.58	0.51	0.48	0.45
22	163-5798	0.68	0.58	0.51	0.48	0.45
47	163-5799	0.68	0.58	0.51	0.48	0.45
100	163-5800	0.68	0.58	0.51	0.48	0.45
470	163-5801	0.68	0.58	0.51	0.48	0.45
1000	163-5802	0.68	0.58	0.51	0.48	0.45
10000	163-5804	0.68	0.58	0.51	0.48	0.45

Rodcore Inductors

WE-SD Series



- Broadband screening of symmetric interferences
- High mechanical stability
- High current
- Operating temperature: -40°C to +150°C
- For noise reduction of power electronics e.g. motors and switch mode power supplies

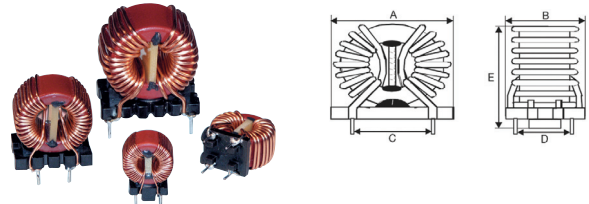
Inductance (µH)	Dimensions (mm)				I _N (A)	R _{DC} (mΩ)	Mfrs. List No.	Order Code
	A	B	C	D				
2	12.3	7.8	2	2.6	2.5	11	744710203	163-5805
6	15.4	11.5	3	3.6	2.5	22	744710603	163-5806
10	18.5	13.5	4	4.6	2.5	33	744711003	163-5807
2	14	9.7	4	4.9	5	6.5	744710205	163-5808
6	20.5	14.8	5	5.9	5	11.7	744710605	163-5809
10	22.5	19	5	5.9	5	15.1	744711005	163-5810
2	15.4	12.2	5	6.3	10	3.8	744710210	163-5811
6	25.7	18	6	7.3	10	6.5	744710610	163-5812
10	30.9	24.9	6	7.3	10	8.8	744711010	163-5813
2	25.7	17.5	6	8	15	1.7	744710215	163-5814
6	30	24.9	10	12	15	3.5	744710615	163-5816
10	30.8	29.2	12	14	15	5.7	744711015	163-5817

Price Each						
Inductance (µH)	Order Code	1+	10+	50+	100+	250+
2	163-5805	1.03	0.93	0.86	0.81	0.76
6	163-5806	1.03	0.93	0.86	0.81	0.76
10	163-5807	1.03	0.93	0.86	0.81	0.76
2	163-5808	1.12	0.98	0.91	0.85	0.80
6	163-5809	1.12	0.98	0.91	0.85	0.80

Inductance			Price Each			
(µH)	Order Code	1+	10+	50+	100+	250+
10	163-5810	1.03	0.93	0.86	0.81	0.76
2	163-5811	1.03	0.93	0.86	0.81	0.76
6	163-5812	1.12	0.98	0.91	0.85	0.80
10	163-5813	1.12	0.98	0.91	0.85	0.80
2	163-5814	1.12	0.98	0.91	0.85	0.80
6	163-5816	1.57	1.40	1.24	1.17	1.10
10	163-5817	2.40	2.23	2.07	1.94	1.83

Chokes - Current Compensated

WE-CMB Series



- High suppression of asymmetric interferences even at low frequencies
- Broadband screening because of anticapacitance coiling technique
- Very compact design
- Highest possible current with small sizes
- For Power electronics, Power line in- and output filter, filtering of devices without a stable ground connection
- Radio interference suppression in motors

	Dimensions (mm)						
	A	B	C	D	E	F	G
Type XS	15	7.5	10	4.5	18	2.5	0.7
Type S	17.5	13	7.7	5	7.6	22	3
Type M	23	17	7.5	10.7	28	3	0.7
Type L	27.5	18.5	10	12	33	5	1
Type XL	30	21	25	15	35	5	1
Type XXL	43	23.5	10.5	18.5	43	3	1.5
NiZn Type XS	16	7.5	10	4.5	17.5	-	-

Inductance (mH)	R _{DC} typ. (mΩ)	Current rating (A)	Mfrs. List No.	Order Code
Type XS				
1	45	2	744821201	163-6278
4	140	1.5	744821240	163-6279
10	350	0.7	744821110	163-6280
20	1000	0.5	744821120	163-6281
39	3000	0.3	744821039	163-6282
Type S				
1	35	3	744822301	163-6283
3.3	120	1.5	744822333	163-6284
10	360	1	744822110	163-6286
16	3	10	7448421016	NEW 174-8619
20	540	0.5	744822120	163-6287
32	5	8.5	744842932	NEW 174-8620
42	8	6.5	744842742	NEW 174-8621
65	13	5	744842565	NEW 174-8623
110	31	3	744842311	NEW 174-8624
Type M				
1	13	6	744823601	163-6288
3.3	60	2.5	744823333	163-6289
10	125	2	744823210	163-6290
20	270	1.5	744823220	163-6291
Type L				
1	7	10	744824101	163-6292
2.2	20	6	744824622	163-6293
3.3	35	4	744824433	163-6294
10	105	3	744824310	163-6295
20	220	2	744824220	163-6296
Type XL				
1	9	12	7448251201	163-6298
3.3	25	6	7448256033	163-6299
10	55	5	744825510	163-6300
20	160	3	744825320	163-6301
Type XXL				
1.8	7.9	14	7448261418	163-6302
1.3	4.7	20	7448262013	163-6304
1	3.6	25	7448262510	163-6305
0.5	1.7	35	7448263505	163-6306
Type NiZn XS				
14	15	4	744841414	163-6307
30	26	3	744841330	163-6308
47	40	2	744841247	163-6309
100	80	1.5	744841210	163-6310

Price Each						
Order Code	1+	10+	25+	100+	250+	
Type XS All Values	2.40	2.23	2.07	1.94	1.83	
Type S All Values	2.73	2.56	2.40	2.26	2.12	
Type M All Values	2.89	2.73	2.56	2.40	2.26	
Type L All Values	3.14	2.89	2.64	2.49	2.34	
Type XL All Values	3.39	3.14	2.89	2.72	2.55	
Type XXL All Values	10.24	9.83	9.42	8.86	8.32	
Type NiZn-XS All Values	1.74	1.57	1.40	1.32	1.24	



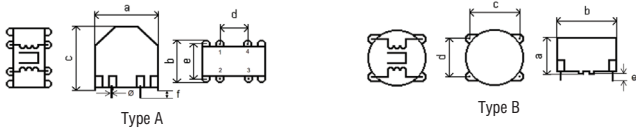
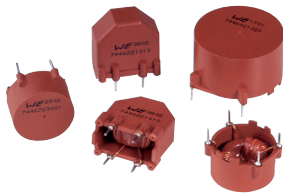
Inductors - Radial - Würth Elektronik - continued

Chokes - Common Mode

WE-LF Series



New



	Dimensions (mm)						
	A	B	C	D	E	F	Ø
Type A							
Type SV	18.5	13.5	20.5	15	10	3	0.6 x 0.6
Type MV	23.5	16	25.5	10	12.5	3	0.6 x 0.6
Type LV	26.5	18.5	30.5	12.5	15	3	0.6 x 0.6
Type XV	32.5	21.5	35.5	12.5	17.5	5	0.8 x 0.8
Type B							
Type SH	13	18	15	10	3	—	0.6 x 0.6
Type MH	14.5	23	20	12.5	3	—	0.6 x 0.6
Type LH	17	28.5	25.2	15.1	3	—	0.6 x 0.6
Type XH	20	33.5	30.2	20.1	3.5	—	0.8 x 0.8

	Inductance (mH)	R _{DC} typ. (Ω)	Current rating (A)	Mfrs. List No.	Order Code
Type SV					
0.4	20 mohm	3.6 A	74461240004	174-8625	
1	60 mohm	2 A	7446122001	174-8626	
3.3	150 mohm	1.5 A	7446122003	174-8627	
6.8	300 mohm	1 A	7446121007	174-8628	
10	550 mohm	700 mA	7446121010	174-8629	
18	750 mohm	500 mA	7446121018	174-8630	
27	1.2 ohm	400 mA	7446120027	174-8631	
39	1.7 ohm	400 mA	7446120039	174-8632	
47	2.6 ohm	300 mA	7446120047	174-8633	
Type MV					
0.7	20 mohm	4.7 A	74462250007	174-8635	
1	40 mohm	3 A	7446223001	174-8636	
2.2	60 mohm	2 A	7446222002	174-8637	
3.3	75 mohm	2 A	7446222003	174-8638	
4.2	120 mohm	2 A	7446222004	174-8639	
6.8	200 mohm	1.5 A	7446222007	174-8640	
10	250 mohm	1.3 A	7446221010	174-8641	
12	280 mohm	1.2 A	7446221012	174-8642	
27	700 mohm	600 mA	7446221027	174-8643	
47	1.6 ohm	400 mA	7446220047	174-8644	
Type LV					
2.7	60 mohm	3 A	7446323003	174-8645	
6.8	160 mohm	1.9 A	7446322007	174-8647	
10	180 mohm	1.9 A	7446322010	174-8648	
33	850 mohm	800 mA	7446321033	174-8649	
Type XV					
2.2	38 mohm	4.3 A	7446424002	174-8650	
3.3	65 mohm	4 A	7446424003	174-8651	
6.8	120 mohm	2.5 A	7446422007	174-8652	
Type SH					
0.7	27 mohm	4 A	74466240007	174-8653	
1	60 mohm	2 A	7446622001	174-8654	
2.2	95 mohm	2 A	7446622002	174-8655	
3.3	150 mohm	1.5 A	7446622003	174-8656	
6.8	300 mohm	1 A	7446621007	174-8657	
10	550 mohm	700 mA	7446621010	174-8659	
15	830 mohm	500 mA	7446620015	174-8661	
27	1.2 ohm	400 mA	7446620027	174-8662	
39	1.7 ohm	400 mA	7446620039	174-8663	
Type MH					
1.2	40 mohm	3 A	7446723001	174-8664	
2.2	60 mohm	2 A	7446722002	174-8665	
4.2	120 mohm	1.9 A	7446722004	174-8666	
6.8	200 mohm	1.5 A	7446722007	174-8667	
10	250 mohm	1.3 A	7446721010	174-8668	
27	700 mohm	600 mA	7446721027	174-8669	
47	1.6 ohm	400 mA	7446720047	174-8670	
Type LH					
2.7	60 mohm	3 A	7446823003	174-8672	
5.6	100 mohm	2.4 A	7446823006	174-8673	
27	640 mohm	1 A	7446821027	174-8674	
Type XH					
1.8	30 mohm	6 A	7446926002	174-8675	
3.3	65 mohm	4 A	7446924003	174-8676	
10	110 mohm	3 A	7446923010	174-8677	
27	400 mohm	1.2 A	7446921027	174-8678	

544557

	Order Code	Price Each				
		1+	10+	25+	100+	250+
Type SV	All Values	2.08	1.90	1.69	1.58	1.51
Type MV	All Values	3.07	2.80	2.49	2.33	2.22
Type LV	All Values	3.56	3.25	2.90	2.71	2.58
Type XV	All Values	4.16	3.79	3.38	3.16	3.01
Type SH	All Values	3.07	2.80	2.49	2.33	2.22
Type MH	All Values	3.36	3.07	2.74	2.56	2.44
Type LH	All Values	3.56	3.25	2.90	2.71	2.58
Type XH	All Values	4.16	3.79	3.38	3.16	3.01

Common mode choke assortment

WE-CMB series



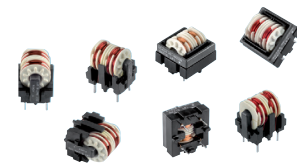
- Assortment of general purpose WE-CMB common mode chokes
- Kit contains:
 - 10 values, 4 pieces
 - 5 values, 3 pieces
 - 10 values, 2 pieces
 - 5 values, 1 piece

523258

Mfrs. List No.	Order Code	Price Each
744820	163-6342	81.77

Chokes - Current Compensated

WE-FC Series, Power Line



- Closed rectangular ferrite core
- 2-section winding for excellent high frequency performance
- 1% stray inductance for symmetrical interference suppression
- Recyclable due to no encapsulation
- Rated Voltage 250VAC
- Operating temperature -25°C up to +125°C

- Isolation voltage 2000 VAC
- For Switch Mode Power Supplies and electronic ballasts for lamps

Inductance min. (mH)	R _{DC} typ. (Ω)	Current rating (A)	Mfrs. List No.	Order Code
0.82	0.065	2	7448640395	163-6311
1.8	0.15	1.5	7448640396	163-6312
3.3	0.25	1.1	7448640398	163-6313
6.8	0.48	0.8	7448640401	163-6314
10	0.72	0.6	7448640402	163-6316
22	1.61	0.4	7448640404	163-6317
33	2	0.3	7448640405	163-6318
0.82	0.065	2	7448640406	163-6319
3.3	0.21	1.2	7448640411	163-6320
6.8	0.47	0.7	7448640414	163-6321
10	0.71	0.6	7448640415	163-6322
22	1.64	0.4	7448640417	163-6324
33	2.5	0.3	7448640418	163-6325

522905

Inductance min. (mH)	Order Code	Price Each				
		1+	10+	25+	100+	250+
0.82	163-6311	1.98	1.82	1.65	1.55	1.46
1.8	163-6312	1.82	1.69	1.55	1.47	1.39
3.3	163-6313	1.82	1.69	1.55	1.47	1.39
6.8	163-6314	1.98	1.82	1.65	1.55	1.46
10	163-6316	1.83	1.68	1.53	1.43	1.35
22	163-6317	1.98	1.82	1.65	1.55	1.46
33	163-6318	1.82	1.69	1.55	1.47	1.39
0.82	163-6319	1.90	1.74	1.57	1.48	1.39
3.3	163-6320	1.76	1.61	1.45	1.37	1.29
6.8	163-6321	1.90	1.74	1.57	1.48	1.39
10	163-6322	1.90	1.74	1.57	1.48	1.39
22	163-6324	1.90	1.74	1.57	1.48	1.39
33	163-6325	1.90	1.74	1.57	1.48	1.39

Cable Ferrites - Multicomp

EMI Sleeves



- Ferrite sleeves which will provide attenuation of EMI on power and data cables, without affecting data transmitted through the cable
- Suitable for use on computers, peripherals, digital audio systems etc.

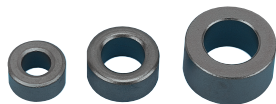
Note: To enable the cable to pass smoothly through the sleeve an allowance should be made for tolerances in the OD of the cable and the ID of the sleeve.

Dimensions			Min. Impedance (Ω)		Order Code
OD	ID	H	25MHz	100MHz	
14.2	6.35	28.5	130	185	964-0495
14.2	7.0	28.5	130	210	964-0509
16	9.0	17	60	140	964-0517
14.2	8.0	28.5	110	210	964-0525
17.5	9.5	28.5	90	150	964-0533
17.5	10.7	28.5	90	160	964-0541
26	13	28.5	130	200	964-0550

204153

Order Multiple=5		Price Each				
ID x H	Order Code	5+	25+	100+	250+	500+
6.35 x 28.5	964-0495	1.12	1.01	0.92	0.76	0.72
7.0 x 28.5	964-0509	1.33	1.23	1.10	0.93	0.86
9.0 x 17	964-0517	1.20	1.08	0.96	0.80	0.77
8.0 x 28.5	964-0525	1.26	1.11	1.00	0.85	0.80
9.5 x 28.5	964-0533	1.41	1.29	1.12	0.96	0.89
10.7 x 28.5	964-0541	1.41	1.29	1.12	0.96	0.89
13 x 28.5	964-0550	2.59	2.35	2.06	1.73	1.70

EMI Cores



- Toroidal ferrite cores which attenuate electrical noise in signal and data cables
- Applications include digital audio systems, computers and peripherals and any sensitive electronic equipment

Dimensions			Typical Impedance (Ω)		Order Code
OD	ID	H	25MHz	100MHz	
16	10	14	40	125	964-0380
20	10	10	45	120	964-0398
25	15	12	40	120	964-0401
28	16	13	50	120	964-0410
28	16	20	70	130	964-0428
31.5	19	16	55	115	964-0436

204208

Order Multiple=5		Price Each				
Order Code		5+	25+	100+	250+	500+
964-0380		1.09	1.01	0.95	0.76	0.68
964-0398		1.15	1.09	1.01	0.82	0.74
964-0401		1.20	1.11	1.02	0.85	0.76
964-0410		1.58	1.49	1.38	1.05	1.01
964-0428		2.01	1.90	1.77	1.46	1.32
964-0436		2.01	1.90	1.77	1.46	1.32

Rods



Dimensions (mm)		Mfrs. List No.	Ferrite Grade	Order Code
External Dia	Length			
1.5	10	ROD1.5/10-3C90	3C90	178-4202
3	14	ROD3/14-4B1	4B1	178-4203
4	15	ROD4/15-4B1	4B1	178-4204
5	16	ROD5/16-4B1	4B1	178-4205
4	20	ROD4/20-3C90	3C90	178-4206
5	20	ROD5/20-3C90	3C90	178-4207
5	20	ROD5/20-4B1	4B1	178-4208
6	20	ROD6/20-3C90	3C90	178-4209
6	20	ROD6/20-4B1	4B1	178-4210
10	20	ROD10/20-4B1	4B1	178-4211
4	21	ROD4/21-4B1	4B1	178-4212
5	25	ROD5/25-4B1	4B1	178-4214
6	25	ROD6/25-3C90	3C90	178-4215
8	25	ROD8/25-3C90	3C90	178-4216
10	25	ROD10/25-4B1	4B1	178-4217

600672

		Price Each				
Order Code		10+	50+	250+	1K+	5K+
178-4202		0.156	0.124	0.100	0.079	0.063
178-4203		0.114	0.085	0.069	0.055	0.044
178-4204		0.177	0.136	0.110	0.088	0.071
178-4205		0.270	0.210	0.172	0.137	0.110
178-4206		0.220	0.171	0.137	0.110	0.088
178-4207		0.300	0.230	0.188	0.151	0.121
178-4208		0.210	0.160	0.129	0.103	0.082
178-4209		0.135	0.102	0.082	0.066	0.053
178-4210		0.310	0.240	0.192	0.154	0.123
178-4211		0.600	0.470	0.370	0.300	0.240
178-4212		0.166	0.133	0.107	0.085	0.069
178-4214		0.210	0.160	0.129	0.103	0.082
178-4215		0.135	0.106	0.085	0.068	0.054
178-4216		0.420	0.320	0.260	0.210	0.165
178-4217		0.630	0.500	0.400	0.320	0.260

Hinged Clamp Cores



- A range of easy to fit data line filters providing a simple solution to the problems of radiated noise emissions generated by electronic equipment
- The filter simply clips around the cable to be shielded and locks closed with no need to disconnect the cable or remove connectors
- No grounding is required unlike cable shields.

Frequency range 10MHz to 300MHz
 Insulation resistance 10MΩ (min) between case and cores
 Case material Black Nylon 66

Cable Diameter	Typical Impedance (Ω)		Dimensions			Order Code
	25MHz	100MHz	L	W	H	
6.5	135	220	32	19.5	19	964-0444
10	90	190	32	24.5	23	964-0452
13	105	190	32	31.5	30	964-0460
			L	Dia		
Oval						
3.5	4.5	115	25.2	14.5		964-0479
5.0	45	115	29.6	16		964-0487

204024

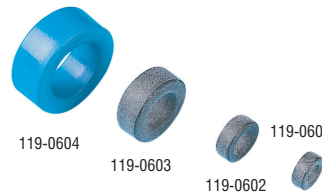
Cable Diameter		Order Code	Price Each			
			1+	10+	100+	250+
LF-65B	6.5	964-0444	3.32	2.85	2.44	2.04
LF-100B	10	964-0452	4.59	4.06	3.53	3.01
LF-130B	13	964-0460	5.92	5.15	4.40	3.71
LF35B	3.5	964-0479	2.45	2.05	1.98	1.55
LF50B	5.0	964-0487	2.66	2.40	2.13	1.84

Cable Ferrites - Epcos



Toroids

Epoxy Coated



- Epoxy coating provides higher mechanical strength
- Applications include pulse, small signal, power transformers and EMI suppression chokes

Dimensions			Material Grade	le (mm)	Ae (mm ²)	AL ± 25% (nH)	Mfrs. List No.	Order Code
da	di	h						
6.30	3.80	2.5	N30	15.21	3.06	1090	B64290P37X830	142-2733
10.0	6.0	4	N30	24.07	7.83	1760	B64290L38X830	142-2735
12.5	7.5	5	N30	30.09	12.23	2200	B64290L44X830	119-0601
16	9.6	6.3	N30	38.52	19.73	2770	B64290L45X830	119-0602
25.3	14.8	10	N27	60.07	76.89	2150	B64290L618X27	119-0603
25.3	14.8	10	N30	60.07	51.26	4620	B64290L618X30	142-2734
25.3	14.8	10	T37	60.07	51.26	6970	B64290L618X37	142-2736
25.3	14.8	10	T38	60.07	21.26	10700	B64290L618X38	142-2737
36	23	15	N30	89.65	95.89	5750	B64290L674X830	119-0604

228157

		Price Each			
Order Code		1+	50+	500+	1K+
119-0601		0.430	0.400	0.390	0.370
119-0602		1.010	0.850	0.820	0.810
119-0603		1.590	1.510	1.390	1.270
119-0604		4.190	3.750	3.260	3.010
142-2733		0.340	0.187	0.156	0.146
142-2734		1.290	1.220	1.190	1.150
142-2735		0.350	0.340	0.320	0.310
142-2736		1.450	1.360	1.300	1.230
142-2737		1.440	1.340	1.280	1.220

Cable Ferrites - Ferroxcube

Ferroxcube Magnetic Materials



- Ferroxcube have developed a new ferrite material for their new range of cable shielding products. 3S4 is a new high resistivity manganese zinc ferrite which offers excellent interference suppression into the high MHz regions. 3S4 is Nickel Free to protect the environment.
- Available in 2 materials, 3S4 and 4S2

213823

Over half a million products available online





Cable Ferrites - Ferroxcube - continued

Tubular Cable Shields



- Tubular ferrite cable shields
- Available in 2 material grades, 3S2 and 4S2
- Provide attenuation of RFI over a wide frequency range
- Cost effective as they reduce the need for more complex shielding measures or costly PCB re-designs

Dimensions		Type Impedance (Ω)		Mftrs. List No.	Order Code	
O/D	I/D	25MHz	100MHz			
3S4 Material						
8	5.3	10	32	50	CST7.8/5.3/9.8-3S4	898-340
8.3	3.5	10	70	96	CST8.3/3.5/10-3S4	898-351
9.5	5.1	14	66	110	CST9.5/5.1/15-3S4	898-363
17.2	11	60	200	320	CST17/11/60-3S4	898-375
17.45	9.53	12.7	55	88	CST17/9.5/13-3S4	898-387
17.45	9.53	28.55	125	200	CST17/9.5/29-3S4	898-399
19	10.6	11.5	50	75	CST19/11/12-3S4	898-405

4S2 Material						
9.5	4.75	10.4	53	80	CST9.5/4.8/10-4S2	898-429
9.5	4.75	19.05	100	145	CST9.5/4.8/19-4S2	898-430
9.65	5.0	5.05	26	43	CST9.7/5/5.1-4S2	898-442
14.3	6.35	28.6	170	250	CST14/6.4/29-4S2	898-454
14.3	7.25	28.6	143	215	CST14/7.3/29-4S2	898-466
16.25	7.9	14.3	70	113	CST16/7.9/14-4S2	898-478
16.25	7.9	28.6	130	213	CST16/7.9/29-4S2	898-480
17.45	9.5	12.7	55	88	CST17/9.5/13-4S2	898-491
19	10.15	28.6	128	196	CST19/10/29-4S2	898-510
25.9	12.8	28.6	145	225	CST26/13/29-4S2	898-521

Order Multiple=5		Price Each				
ID x H	Order Code	5+	50+	100+	250+	500+

3S4 Material						
5.3 x 10	898-340	0.200	0.165	0.151	0.125	0.115
3.5 x 10	898-351	0.230	0.190	0.173	0.147	0.131
5.1 x 14	898-363	0.650	0.550	0.510	0.420	0.400
11 x 60	898-375	4.580	3.880	3.550	2.960	2.680
9.53 x 12.7	898-387	0.830	0.670	0.620	0.520	0.480
9.53 x 28.55	898-399	1.970	1.650	1.520	1.240	1.150
10.6 x 11.5	898-405	1.090	0.890	0.810	0.680	0.600

4S2 Material						
4.75 x 10.4	898-429	0.320	0.270	0.240	0.200	0.178
4.75 x 19.05	898-430	0.550	0.470	0.450	0.350	0.320
5.0 x 5.05	898-442	0.290	0.240	0.220	0.181	0.168
6.35 x 28.6	898-454	1.560	1.320	1.200	1.000	0.910
7.25 x 28.6	898-466	1.590	1.310	1.140	0.990	0.860
7.9 x 14.3	898-478	0.810	0.680	0.610	0.510	0.470
7.9 x 28.6	898-480	1.900	1.600	1.460	1.200	1.090
9.5 x 12.7	898-491	0.810	0.680	0.610	0.510	0.470
10.15 x 28.6	898-510	2.170	1.810	1.640	1.370	1.240
12.8 x 28.6	898-521	4.610	3.870	3.510	2.930	2.670

Ferrite Toroids



Dimensions (mm)		H	le (mm)	Ae (mm ²)	Mftrs. List No.	Ferrite Grade	Order Code
External Dia	Internal Dia						
9.5	5.4	3.4	22.9	4.4	TN9/6/3-3R1	3R1	179-441
9.4	5.5	3.4	22.9	4.44	TN9/6/3-4C65	4C65	200-694
10.25	5.75	4.25	24.1	7.8	TX10/6/4-3E5	3E5	305-6960
12.95	6.9	5.03	29.5	12.3	TX13/7.1/4.8-3E27	3E27	178-4168
13.25	7.35	5.7	30.1	12.2	TN13/7.5/5-3C90	3C85	178-504
12.75	7.25	5.25	30.1	12.2	TX13/7.5/5-3C90	3C90	178-4169
14.6	8.2	5.5	35	12.3	TN14/9/5-3R1	3R1	179-442
14.5	8.4	5.5	35	12.3	TN14/9/5-4C65	4C65	180-008
16.13	8.82	4.95	37.2	14.7	TX16/9.1/4.7-3C90	3C90	178-4170
16.13	8.82	4.95	37.2	14.7	TX16/9.1/4.7-3E27	3E27	178-4172
22.35	13.47	6.75	54.2	24.8	TX22/14/6.4-3C90	3C90	178-4173
22.35	13.47	6.75	54.2	24.8	TX22/14/6.4-3E27	3E27	178-4174
23.7	13.1	7.5	55.8	30.9	TN23/14/7-3E25	3E25	305-6971
23.7	13.1	7.5	55.8	30.9	TN23/14/7-3R1	3R1	179-443
23.6	13.4	7.6	55	30.9	TN23/14/7-4C65	4C65	180-009
25.8	14	10.6	60.2	48.9	TN25/15/10-3E25	3E25	305-6995
25.25	14.75	10.25	60.2	48.9	TX25/15/10-3E5	3E5	305-6983
25.25	14.75	10.4	60.2	48.9	TX25/15/10-3C90	3C90	178-4175
					TX26/15/20-3C90	3C90	178-4176
29.25	18.75	7.85	73.2	35.5	TX29/19/7.6-3E27	3E27	178-4177
32.2	18.1	13	76	76.5	TN32/19/13-3E25	3E25	305-7008
					TX32/19/15-3C90	3C90	178-4178
					TX34/21/13-3E27	3E27	178-4179
36.25	22.75	10.42	89.7	64.9	TX36/23/10-3C90	3C90	178-4180
36.25	22.75	10.42	89.7	64.9	TX36/23/10-3E27	3E27	178-4181

Dimensions (mm)			le	Ae			
36.9	21.9	15.7	89.6	95.9	TX36/23/15-3E25	3E25	305-7021
36.25	22.75	15.25	89.6	95.9	TX36/23/15-3E5	3E5	305-7010
36.9	21.9	15.7	89.6	95.9	TN36/23/15-3R1	3R1	179-444
39.1	19.3	13.2	84.9	112	TX39/20/13-3C90	3C90	178-4182
39.1	19.3	13.2	84.9	112	TX39/20/13-3E27	3E27	178-4184
40.25	23.75	16.4	96.3	125	TX40/24/16-3C90	3C90	178-4185
40.25	23.75	16.4	96.3	125	TX40/24/16-3E27	3E27	178-4186
42.05	25.95	13	103	95.8	TX42/26/13-3C90	3C90	178-4187
42.05	25.95	13	103	95.8	TX42/26/13-3E27	3E27	178-4188
					TX51/32/11-3E27	3E27	178-4189
55.8	32.1	18.3	132	202	TX55/32/18-3E27	3E27	178-4190
58.7	40.5	17.9	152	152	TX58/41/18-3C90	3C90	178-4191
63.4	37.7	25.3	152	306	TX63/38/25-3C90	3C90	178-4192
63.4	37.7	25.3	152	306	TX63/38/25-3E27	3E27	178-4193
73.91	38.61	12.95	165	208	TX74/39/13-3C90	3C90	178-4194
80.4	39.7	15.3	174	288	TX80/40/15-3C90	3C90	178-4196
80.4	39.7	15.3	174	288	TX80/40/15-3E27	3E27	178-4197
87.4	54	13.8	214	217	TX87/54/14-3C90	3C90	178-4198
					TX100/66/24-3C90	3C90	178-4199
140.4	105.7	25.3	382	422	TX140/106/25-3C90	3C90	178-4200

Order Code	Price Each			
	1+	10+	50+	100+
179-441	0.290	0.250	0.230	0.210
200-694	0.270	0.240	0.220	0.198
305-6960	0.510	0.450	0.410	0.360
178-4168	0.630	0.550	0.500	0.460
178-504	0.270	0.230	0.210	0.200
178-4169	0.290	0.250	0.230	0.210
179-442	0.710	0.610	0.560	0.510
180-008	0.470	0.410	0.360	0.330
178-4170	0.630	0.550	0.500	0.460
178-4172	0.630	0.550	0.500	0.460
178-4173	0.870	0.760	0.690	0.620
178-4174	0.870	0.760	0.690	0.620
305-6971	0.810	0.710	0.650	0.580
179-443	1.890	1.640	1.500	1.360
180-009	0.950	0.820	0.750	0.680
305-6995	0.710	0.610	0.560	0.510
305-6983	1.100	0.960	0.870	0.790
178-4175	0.870	0.760	0.690	0.620
178-4176	1.620	1.410	1.290	1.180
178-4177	1.430	1.240	1.120	1.020
305-7008	2.150	1.870	1.710	1.550
178-4178	2.060	1.790	1.620	1.480
178-4179	3.370	2.930	2.660	2.420
178-4180	2.550	2.220	2.020	1.830
178-4181	2.550	2.220	2.020	1.830
305-7021	2.620	2.280	2.070	1.880
305-7010	3.370	2.930	2.660	2.420
179-444	8.560	7.450	6.770	6.160
178-4182	3.560	3.090	2.810	2.550
178-4184	3.720	3.230	2.940	2.670
178-4185	4.300	3.730	3.390	3.080
178-4186	4.460	3.880	3.530	3.200
178-4187	3.450	3.010	2.740	2.490
178-4188	3.580	3.110	2.830	2.570
178-4189	8.400	7.310	6.650	6.040
178-4190	10.070	8.760	7.960	7.230
178-4191	13.620	11.850	10.760	9.790
178-4192	21.360	18.570	16.890	15.350
178-4193	29.870	25.970	23.610	21.470
178-4194	18.810	16.360	14.870	13.520
178-4196	17.200	14.960	13.590	12.360
178-4197	16.490	14.340	13.040	11.860
178-4198	17.390	15.120	13.750	12.500
178-4199	44.610	42.380	40.260	38.240
178-4200	102.080	96.970	92.120	87.520

FREE technical support

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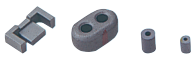


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Live technical chat at www.farnell.co.uk

Cores, Tubes and Beads



- Small ferrite tubes and beads for placing on insulated cables or formed wire leads to obtain a desired value of inductance.

204240

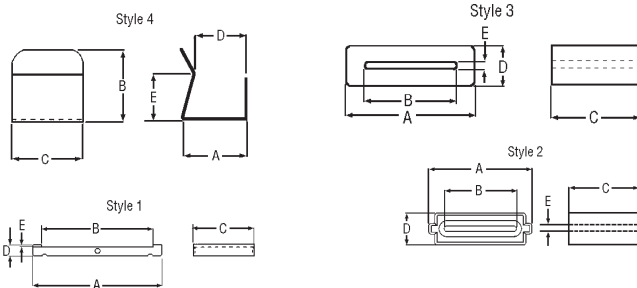
Order Multiple=10

Cores		Price Each				
Material	Dimensions	Order Code	10+	100+	1K+	3K+
Double Aperture Cores (2 x 1.8mm)						
	10.8 x 10.9 x 5.4	120-6471	0.69	0.47	0.41	0.35
Double Aperture Cores (3mm Round)						
	13 x 6 x 8	242-512	0.96	0.59	0.47	0.37
	13 x 6 x 8	242-494	1.31	0.83	0.62	0.49

Order Multiple=10

Tubes		Price Each							
Single Hole	Material	Ext Dia.	L	Order Code	10+	300+	3K+	10K+	
		2.0mm dia.	4.15	5	273-156	0.112	0.060	0.040	0.032
		1.5mm dia.	4.05	5.5	242-482	0.114	0.063	0.042	0.037
Beads									
Single Hole									
		2.0mm dia.	5	4	242-524	0.196	0.112	0.077	0.060
		1.0mm dia.	3	4	242-500	0.350	0.196	0.131	0.110
Six Hole									
		0.6mm dia.	6.3	10.5	219-850	0.560	0.310	0.210	0.165

Ribbon Cable Cores



- Cable Shields for ribbon cable applications
- 1 piece shields suitable for fitting in production runs
- 2 piece shields for retro fitting in test houses and laboratories
- Excellent attenuation over a wide frequency range
- Manufactured from nickel free 3S4 material

Style	Dimensions					Impedance (Ω)		Mfrs. List No.	Code
	A	B	C	D	E	25MHz	100MHz		
1	76.2	65.3	12.7	6.35	0.85	36	110	CSU76/6.4/13-3S4	898-545
1	76.2	65.3	15	6.35	0.85	50	159	CSU76/6.4/15-3S4	898-557
1	76.2	65.3	28.6	6.35	0.85	70	235	CSU76/6.4/29-3S4	898-569
4	38.5	11	12.7	11.4	8	-	-	CLI-CSU6.4	898-570
2	38.5	26.7	25.4	12.1	1.9	110	215	CSF38/12/25-3S4-S	898-582
3	38.1	26.7	25.4	12.1	1.9	98	196	CSF38/12/25-3S4	898-594

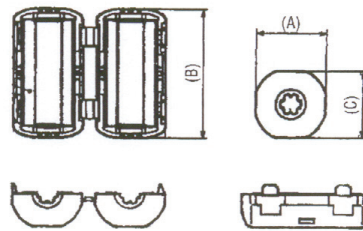
227238

Style	C' Dimension	Order Code	Price Each				
			2+	20+	100+	500+	1K+
1	12.7	898-545	1.79	1.60	1.50	1.33	1.24
1	15	898-557	2.69	2.33	2.16	1.85	1.71
1	28.6	898-569	5.50	4.61	4.20	3.51	3.16
Clip			Price Per Clip				
			2+	20+	100+	500+	1K+
4	-	898-570	0.61	0.53	0.47	0.42	0.38
Order Multiple=1			Price Each				
			1+	10+	50+	100+	500+
2	25.4	898-582	3.42	2.84	2.75	2.45	2.17
3	25.4	898-594	4.43	3.73	3.39	2.83	2.57

Cable Ferrites - Kitagawa



Hinged Clamp Cores



- Employs high-performance Nickel-Zinc ferrites
- Nylon 6/6 cases are UL94V-0 (except TRCN series UL94V-2)
- SFC/RFC and USB series employ patented designs to ensure tight grip of the cable and secure closure
- USB series has been designed to provide high impedance over a wide frequency range
- Available in both natural and black colours

Dimensions (mm)			Min. Impedance (Ω)		Mfrs List No.	Order Code
Width	Depth	H	25MHz	100MHz		
13.4	13.2	18.9	45	80	SFC-3	941-5688
13.9	13.6	27	122	168	USB-4	941-5700
16.3	15	29.5	96	138	SFC-4	941-5718
21	17.5	32	177	242	SFC-5	941-5726
23.5	20	32	139	207	SFC-6	941-5734
23.5	20	32	137	204	SFC-8	941-5742
32.6	29	32	149	266	SFC-10	941-5750
31.7	29.4	41	200	270	RFC-H13	941-5769

411299

Mfrs List No.	Order Code	Price Each				
		1+	10+	50+	100+	500+
SFC-3	941-5688	2.23	1.79	1.48	1.25	1.07
USB-4	941-5700	2.91	2.18	1.81	1.54	1.36
SFC-4	941-5718	3.70	2.73	2.24	1.89	1.51
SFC-5	941-5726	3.83	2.87	2.39	2.04	1.71
SFC-6	941-5734	4.14	3.33	2.77	2.36	2.09
SFC-8	941-5742	4.69	3.70	3.26	2.90	2.58
SFC-10	941-5750	6.91	5.42	4.61	3.99	3.68
RFC-H13	941-5769	7.24	5.92	5.01	4.36	3.68

Round Ferrite Cores in Protective Case



- A high performance range of round ferrite cores protected in plastic casing
- Suitable for multi-turns of cable to increase performance
- Ideal for external use and industrial machinery

Mfrs List No.	Order Code	Min. Impedance (Ω)		Mfrs List No.	Order Code
		25MHz	100MHz		
		51	94	TRCA-08	941-5904
		49	96	TRCA-13	941-5912

411297

Mfrs List No.	Order Code	Price Each				
		1+	10+	50+	100+	500+
TRCA-08	941-5904	2.06	1.66	1.46	1.25	0.99
TRCA-13	941-5912	1.46	1.24	1.13	1.05	0.95

FREE Re-reeling service



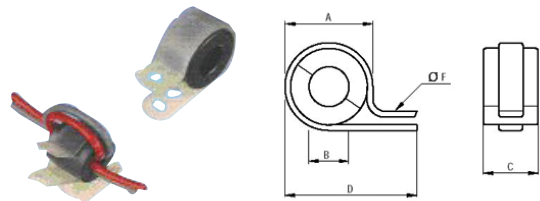
Only buy what you need and improve assembly efficiency. Look for the RL logo or find out more: www.farnell.co.uk / 08447 11 11 11



Cable Ferrites - Kitagawa - continued

Split Ferrite Cores

MEC KITAGAWA



- A high performance range of split ferrite cores which can be panel mounted
- Ideal for fitting on pre-assembled cables
- Suitable for single and multiple cables
- Cables can be multi-turned to increase performance

Dimensions (mm)					Order Code
Dia. External	Dia. Internal	H	Mfrs List No.		
19.4	8.2	30.2	TRCN-16-8-13		941-5777
19.4	8.2	30.2	TRCN-16-8-16		941-5785
25.7	10.4	38.2	TRCN-20-10-10		941-5793
26.8	11.4	39.4	TRCN-23-11-14		941-5807
32.8	16.4	45	TRCN-28-16-13		941-5815
32.8	16.4	45	TRCN-28-16-20		941-5823
44.6	27.4	57.3	TRCN-40-27-15		941-5831

Mfrs List No.	Order Code	Price Each				
		1+	10+	50+	100+	500+
TRCN-16-8-13	941-5777	2.66	2.50	2.34	2.16	2.01
TRCN-16-8-16	941-5785	4.40	3.91	3.66	3.21	2.89
TRCN-20-10-10	941-5793	4.46	3.97	3.62	3.27	2.95
TRCN-23-11-14	941-5807	2.03	1.96	1.90	1.83	1.76
TRCN-28-16-13	941-5815	5.90	5.42	5.05	4.69	3.43
TRCN-28-16-20	941-5823	6.38	5.87	5.50	5.12	4.84
TRCN-40-27-15	941-5831	6.63	5.99	5.64	5.26	4.92

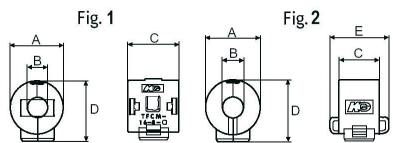
Hinged P' Cores

MEC KITAGAWA



A high quality range of easy fit hinged ferrite clamps with the unique feature of being able to panel mount the units using a 3mm screw and/or adhesive tape. The units employ high performance Nickel-Zinc ferrites giving them high performance against high frequency noise. Suitable for single or multiple cables.

Fig. 3



Dimensions (mm)			Min. Impedance (Ω)		Mfrs List No.	Order Code
Dia. External	Dia. Internal	H	25MHz	100MHz		
19.8	7.6	26.1	73	139	TFCM-16-8-16	941-5840
24.2	8.8	30.7	47	92	TFC-20-10-10	941-5858
27.4	10.8	33.9	72	132	TFC-23-11-14	941-5866
28.6	13.6	35.2	41	88	TFC-25-15-12	941-5874

Mounting Parts						
20	13.5	4.8	With adhesive tape	TFP2014-T		941-5882
20	13.5	4.8	For 3mm screw	TFP2014-V		941-5890

Mfrs List No.	Order Code	Price Each				
		1+	10+	50+	100+	500+
Hinged Ferrite Clamps						
TFCM-16-8-16	941-5840	4.670	3.410	2.960	2.680	2.430
TFC-20-10-10	941-5858	4.670	3.430	3.010	2.710	2.500
TFC-23-11-14	941-5866	5.500	4.590	3.900	3.450	3.140
TFC-25-15-12	941-5874	5.750	4.840	4.110	3.640	3.310
Mounting Parts						
TFP2014-T	941-5882	0.210	0.192	0.182	0.172	0.147
TFP2014-V	941-5890	0.179	0.160	0.150	0.139	0.114

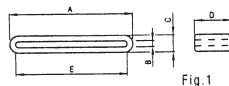
Note: The plastic case has UL94V-0 approval.

One Piece Flat Cable Cores

MEC KITAGAWA



- High performance nickel zinc ferrite material
- Suitable for flat printed circuit cables and ribbon cables
- Offer good attenuation over wide frequency range
- PVC mounting brackets parts with adhesive backing for stabilising on flat cable



Style 1

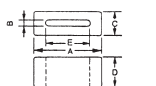


Fig. 2

Style 2

Style	Dimensions					Impedance (Ω)		Mfrs. List No.	Order Code
	A	B	C	D	E	25MHz	100MHz		
1	16	0.5	5	12	11.5	42	79	FPC-16-12K	353-8345
1	24.5	0.5	5	12	20	30	65	FPC-25-12K	353-8357
1	31	0.5	5	12	27	26	66	FPC-31-12K	353-8369
2	21	1.3	6.8	15	15	60	75	SSC-21-6.8-8B	353-8382
1	33.5	1.3	6.5	20	27	50	90	SSC-33.5-20M	353-8394
1	40	1.3	6.5	10	35	23	54	SSC-40-10M	353-8400
1	40	1.3	6.5	12	35	27	60	SSC-40-12M	353-8412
1	45.2	1.3	6.5	12	40	26	61	SSC-45-12M	353-8424
1	45.2	1.3	6.5	8	40	19	46	SSC-45-8M	353-8436
1	49.6	1.3	6.5	12	44	25	64	SSC-50-12	353-8448
1	57.6	1.3	6.5	12	52	25	63	SSC-58-12M	353-8450

Adhesive PVC Mounts

No. of stops
2
4

Application Cores
FPC-16-12, FPC-25-12
FPC-31-12, FPC-56-12

Mfrs. List No.	Order Code
FPCK-12A	353-8722
FPCK-12B	353-8734

227234

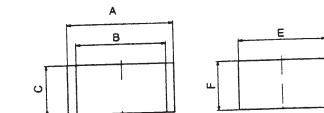
Style	Dimension	Order Code	Price Each			
			1+	10+	100+	500+
1	12	353-8345	1.260	1.030	0.770	0.570
1	12	353-8357	1.550	1.250	0.960	0.710
1	12	353-8369	2.380	1.910	1.460	1.060
2	15	353-8382	0.750	0.620	0.460	0.330
1	20	353-8394	1.930	1.550	1.180	0.840
1	10	353-8400	1.370	1.090	0.830	0.610
1	12	353-8412	1.550	1.250	0.960	0.710
1	12	353-8424	1.890	1.520	1.140	0.820
1	8	353-8436	1.290	1.030	0.790	0.580
1	12	353-8448	1.780	1.450	1.090	0.780
1	12	353-8450	2.680	2.160	1.630	1.180
2 stop PVC Mount		353-8722	0.470	0.390	0.290	0.230
4 stop PVC mount		353-8734	0.600	0.470	0.350	0.270

Two Piece Flat Cable Cores

MEC KITAGAWA



- Unique construction permits close mounting to FPC cable providing high attenuation over a wide frequency range
- Maintains uniform performance across the full width of cable
- Can be installed before or after product assembly



Max Cable Width	Dimensions							Impedance (Ω)		Mfrs. List No.	Order Code
	A	B	C	D	E	F	25MHz	100MHz			
20.5	25.0	21.0	12.0	2.8	20.5	12.0	25	56	FPO-25-12-3	353-8321	

Cable Width	Order Code	Price Each			
		1+	10+	50+	100+
20.5	353-8321	2.11	1.77	1.55	1.38

227236



'D' Connector Ferrite Plate



- Ferrite plate for use with 'D' subminiature connectors
- EMI suppression is achieved by inserting into the pins of the connector
- Suitable for Serial PC Mouse, RS232C interface, etc

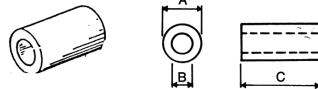
thickness=2.8, hole pitch=2.77

227233

No. of Ways	Mftrs. List No.	Order Code	Price Each				
			1+	10+	50+	100+	500+
9	FH9-14.5X7.6X2.8	353-8291	1.12	0.86	0.73	0.66	0.45
15	FH15-22.65X7.6X2.8	353-8308	1.71	1.35	1.09	0.96	0.70
25	FH25-36.4X7.6X2.8	353-8310	1.10	0.85	0.72	0.63	0.45

Cable Ferrites - Würth Elektronik

Axial Ferrite Beads



- Ferrite core made of NiZn, a material which works in a broadband frequency range
- Many different types and grades of materials (NiZn) for the best possible interference suppression
- Suitable for interference suppression within the RF and microwave range
- For wires, coaxial cables, wire-wrapping cables, multiconductor wires, power supplies, data signal lines

Impedance (Ω) 2 win.	Dimensions (mm)	Mftrs. List No.	Order Code
@ 25MHz	@ 100MHz		
243	501	9.5 4.75 9.5	74270033 163-5643
320	418	11.5 5 18.5	74270030 163-5646
6.8	625	11.5 5 20.5	74270031 163-5647
703	1001	11.5 5 25	74270032 163-5648
602	958	10.5 5.5 28.5	74270036 163-5649
204	382	12 5.6 20	74270037 163-5650
1049	614	12 6.1 45	74270062 163-5651
518	714	14.1 6.3 18	74270060 163-5652
767	709	14.1 6.3 28.6	7427004 163-5653
331	430	9.9 6.35 19.5	74270061 163-5654
535	845	14.2 7.2 25	74270045 163-5655
70	130	12.7 7.92 12.7	74270063 163-5656
354	568	16 8 28.5	74270053 163-5658
339	577	16 9 17	74270054 163-5659
649	632	17.5 9.5 28.5	7427009 163-5660
270	450	17.5 10.7 18	74270094 163-5661
843	808	19 11.5 50.8	74270057 163-5662
459	577	28 18 28.5	74270095 163-5663
35	50	3.5 1.2 4	74270073 163-5664
39	58	3.5 1.3 5	742700713 163-5665
39	47	4.1 1.6 4	74270012 163-5666
50	95	4 2 10	74270015 163-5667
72	119	7.6 3.18 10	74270024 163-5668
35	59	6 4 10	74270022 163-5671

520841

Cable max. (mm)	Order Code	Price Each				
		1+	10+	50+	100+	250+
4.5	163-5643	0.410	0.370	0.350	0.320	0.310
7.5	163-5646	0.410	0.400	0.370	0.350	0.330
5	163-5647	0.410	0.400	0.370	0.350	0.330
5	163-5648	0.440	0.410	0.400	0.370	0.350
5.5	163-5649	0.500	0.460	0.440	0.410	0.390
5.6	163-5650	0.500	0.460	0.440	0.410	0.390
6.1	163-5651	0.760	0.700	0.660	0.620	0.590
6.3	163-5652	0.790	0.740	0.710	0.670	0.630
6.3	163-5653	0.790	0.740	0.710	0.670	0.630
6.35	163-5654	0.580	0.550	0.520	0.490	0.460
7.2	163-5655	0.700	0.670	0.640	0.600	0.560
7.92	163-5656	1.070	0.910	0.790	0.740	0.690
8	163-5658	0.830	0.760	0.710	0.670	0.630
9	163-5659	0.830	0.760	0.710	0.670	0.630
9.5	163-5660	0.830	0.760	0.710	0.670	0.630
10.7	163-5661	0.910	0.810	0.760	0.710	0.670
11.5	163-5662	2.890	2.560	2.310	2.170	2.040
18	163-5663	2.970	2.640	2.400	2.260	2.120
1.2	163-5664	0.290	0.250	0.220	0.210	0.198
1.3	163-5665	0.290	0.250	0.220	0.210	0.198
1.6	163-5666	0.330	0.300	0.270	0.260	0.240
2	163-5667	0.330	0.300	0.270	0.260	0.240
3.18	163-5668	0.370	0.350	0.320	0.310	0.280
4	163-5671	0.290	0.250	0.220	0.210	0.198

Toroidal Ferrites
EMI Suppression



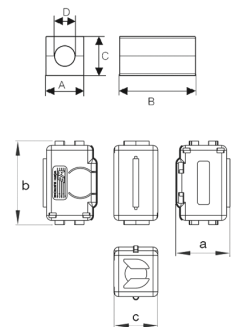
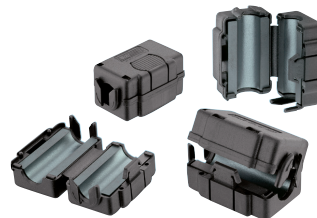
- Ferrite core made of NiZn, a material which works in a broadband frequency range
- Many different types and grades of material (NiZn) for the best possible interference suppression
- For wires, coaxial cables, wire-wrapping cables, multiconductor wires or power supplies, data and gage signal lines

Cable max. (mm)	Impedance (Ω) 2 win.		Dimensions (mm)			Mftrs. List No.	Order Code
	@ 25MHz	@ 100MHz	A	B	C		
4.6	195	370	9.5	5	14.5	742701121	163-5631
4.7	105	170	10	5	5	74270176	163-5632
7.6	330	513	16.5	8	13	7427010	163-5634
9.6	215	343	14	10	8	74270117	163-5635
10.3	237	307	17.5	10.7	12.7	74270181	163-5636
11.8	342	471	23.5	12.6	14	7427012	163-5637
13.3	187	398	22.5	13.8	6.4	74270119	163-5638
15.5	411	550	28	16	20	7427014	163-5639
18.5	133	251	31.7	19	8	74270104	163-5640
24.8	165	350	35.6	25.4	7.5	742701112	163-5641
N/A	390	650	61	35.5	20	74270191	163-5642
4.5	134	203	9	5	8	742701712	163-5644

520734

Cable max. (mm)	Order Code	Price Each				
		1+	10+	50+	100+	250+
4.6	163-5631	0.290	0.250	0.220	0.210	0.198
4.7	163-5632	0.300	0.280	0.260	0.240	0.220
7.6	163-5634	0.580	0.540	0.490	0.450	0.430
9.6	163-5635	0.370	0.330	0.310	0.290	0.270
10.3	163-5636	0.580	0.540	0.490	0.450	0.430
11.8	163-5637	0.790	0.740	0.700	0.660	0.620
13.3	163-5638	0.500	0.470	0.440	0.410	0.390
15.5	163-5639	2.070	1.900	1.740	1.630	1.540
18.5	163-5640	1.160	0.990	0.830	0.780	0.730
24.8	163-5641	1.240	1.070	0.910	0.850	0.800
N/A	163-5642	3.390	3.140	2.890	2.720	2.550
4.5	163-5644	0.410	0.370	0.350	0.320	0.310

Snap Ferrites
Star-Gap Series



- Worldwide first split case ferrite with defined air-gap (patent pending)
- Helpful for EMI problems from 100 MHz up to 2.5 GHz
- Data signals up to 100 MHz will not be effected
- Best performance (impedance) especially with 2 windings (2 cable through)
- Low magnetic saturation of the material because of high DC current apply and therefore only low reduction of impedance because of DC current
- Pre fixing and cable protection system makes it easier to assemble and save time
- Not possible to remove from the cable without the WE key
- Non visible locking in closed conditions
- With each packing unit 2 WE keys for free
- UL 94 V-0 plastic material for the case working temperature: -25°C to 105°C
- For high speed data lines, especially LAN network CAT 5 and higher
- Less influence from mobile phone radiations, bluetooth and wireless LAN
- Reduce disturbance by USB 2.0 and other fast digital signals
- Minimize the interference by fast circuits and switching power supply
- Suppression of the harmonic waves and no damping for the signal below 100 MHz
- Better performance for high DC current applications with interference problems like power supply, motor and drives

Cable width (mm)	Impedance (Ω) 2 win.		Dimensions					Mftrs. List No.	Order Code		
	@ 25MHz	@ 100MHz	a	b	c	A	B			C	D
4.5 - 8	90	400	22.5	35	19.3	16	28	16	9	74271633S	163-5622
8.5 - 12.5	135	640	31.5	35	28.3	25	28	25	13	74271622S	163-5623

Cable max. (mm)	Order Code	Price Each				
		1+	10+	50+	100+	250+
4.5 - 8mm	163-5622	3.47	3.22	2.97	2.79	2.63
8.5 - 12.5mm	163-5623	3.47	3.22	2.97	2.79	2.63

520647



Cable Ferrites - Würth Elektronik - continued

Snap Ferrite STAR-FIX LFS



- Core material: MnZn
- NEW: With patented flexible cable fixing
- Prefixing of the clip facilitates the cable assembling process
- Cable clamping protection
- The security lock guarantees electromagnetic compatibility because only authorised persons can unlock the snap ferrite with the STAR-TEC key



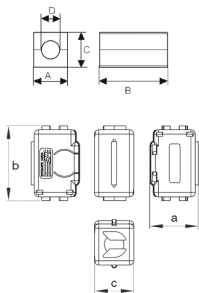
compatibility because only authorised persons can unlock the snap ferrite with the STAR-TEC key

- Material of the plastic case: PA 6 UL 94 V-0
- Operating temperature: -25 °C to +105 °C

Cable dia (mm)	Impedance (Ω) @ 1MHz	Impedance (Ω) @ 10MHz	Dimensions H W D	Mfrs. List No.	Order Code
4.5 - 8	30	45	18.2 35.1 21.7	74272733	180-0423

Cable Ø	Order Code	1+	10+	50+
4.5 - 8mm	180-0423	2.80	2.64	2.48

Snap Ferrites with Flexible Cable Fixing Star Fix Series with Key Technology

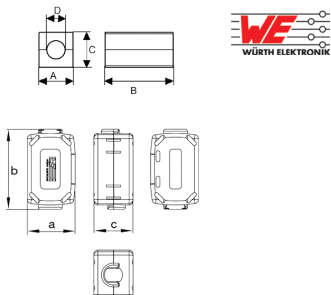


- Prefixing cable system eases the cable assembling process
- Patented case design prevents air gaps for a perfect EMI suppression
- Security lock guarantees electromagnetic compatibility because only authorized persons can unlock the snap ferrite with the STAR-TEC key
- Ferrite core made of NiZn for broadband suppression from 30 MHz - 1.5 GHz
- Material: plastic case PA 6, UL 94 V-0, operating temperature: -25°C to 105°C
- For internal and external computer data and power cable
- Perfect for cables with difficult access
- Reusable because of the key technology therefore perfect for test and measuring purposes

Cable width (mm)	Impedance (Ω) @ 25MHz	Impedance (Ω) @ 100MHz	Dimensions a b c	Dimensions A B C D	Mfrs. List No.	Order Code
4.5 - 8	145	246	22.5 35 19	16 28 16 9	74271733	163-5391
8.5 - 12.5	145	246	31.5 35 28	25 28 25 13	74271722	163-5392

Cable Ø	Order Code	1+	10+	50+	100+	250+
4.5 - 8mm	163-5391	1.98	1.57	1.32	1.24	1.17
8.5 - 12.5mm	163-5392	2.40	2.15	1.90	1.78	1.68

STAR-TEC Cable Snap Ferrites With Safety Key Technology

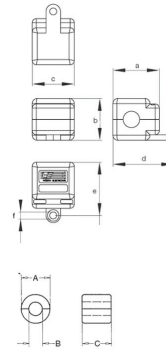


- Prefixing cable system eases the cable assembling process
- Patented case design prevents air gaps for a perfect EMI suppression
- ferrite core is made of NiZn, a material which provides broadband suppression from 30 MHz - 1.5 GHz
- Material: plastic case PA 6, UL 94 V-0
- Operating temperature: -25°C to 105°C
- For internal and external computer data and power cable
- Perfect for cables with difficult access because of easy installation and removal
- Reusable because of the key technology therefore perfect for test and measuring purposes

Cable Ø (mm)	Impedance (Ω) 1 turn @ 25MHz	Impedance (Ω) 1 turn @ 100MHz	Dimensions a b c	Dimensions A B C D	Mfrs. List No.	Order Code
3.5 - 5	175	320	23.7 36.9 18.2	15 28.5 15 6.6	74271111	163-5393
4.5 - 6	176	321	23.7 36.9 18.2	15 28.5 15 6.6	74271112	163-5394
6 - 7.5	145	246	24.2 36.4 20.1	16 28 16 9	74271131	163-5617
7 - 8.5	141	241	24.2 36.3 19.7	16 28 16 9	74271132	163-5618
8.5 - 10.5	151	270	33.6 37.7 29.5	25 28 25 13	74271221	163-5619
10.5 - 12.5	145	265	33.5 37.6 28.8	25 28 25 13	74271222	163-5620

Cable Ø	Order Code	1+	10+	50+	100+	250+
3.5 - 5mm	163-5393	2.31	2.15	1.98	1.87	1.75
4.5 - 6mm	163-5394	2.31	2.15	1.98	1.87	1.75
6 - 7.5mm	163-5617	2.40	2.23	2.07	1.94	1.83
7 - 8.5mm	163-5618	2.48	2.31	2.15	2.02	1.90
8.5 - 10.5mm	163-5619	2.89	2.73	2.56	2.40	2.26
10.5 - 12.5mm	163-5620	2.89	2.73	2.56	2.40	2.26
Fixation	180-0424	1.68	1.52	1.36	--	--
Fixation	180-0426	1.68	1.52	1.36	--	--

Snap Ferrites STAR-RING Series with Key Technology

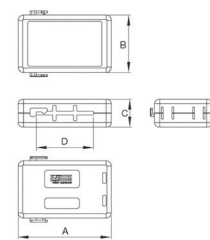
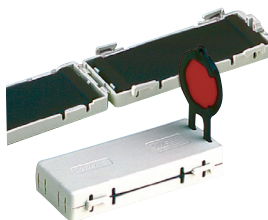


- Patented no spring design which eliminates air gaps
- Prefixing cable system eases the cable assembling process
- Patented case design prevents air gaps for a perfect EMI suppression
- Security lock guarantees electromagnetic compatibility because only authorized persons can unlock the snap ferrite
- Innovative sleek design without any sharp edges
- Ferrite core NiZn provides broadband suppression from 30 MHz - 1.5 GHz
- Material: plastic case PA 6, UL 94 V-0
- Operating temperature: -25°C to 105°C
- For computer data and power cable
- Perfect for cables with difficult access
- Reusable because of the key technology therefore perfect for T&M purposes

Cable Ø max. (mm)	Impedance (Ω) 2 win. @ 25MHz	Impedance (Ω) 2 win. @ 100MHz	Dimensions a b c	Dimensions d e f Ø A Ø B Ø C	Mfrs. List No.	Order Code
8	304	572	23 20 20	30 25.5 3.5 8.15 17	7427153	163-5624
14.5	242	443	32 30 20	40 36.5 3.5 15 17	7427151	163-5625
16	271	495	35 32 20	43 39.5 3.5 16.3 17	7427154	163-5626
27	205	401	48 44 20	55 51.5 3.5 27.5 17	7427155	163-5627

Cable Ø max.	Order Code	1+	10+	50+	100+	250+
8mm	163-5624	2.40	2.23	2.07	1.94	1.83
14.5mm	163-5625	2.81	2.64	2.48	2.33	2.19
16mm	163-5626	3.22	3.06	2.89	2.72	2.55
27mm	163-5627	3.39	3.22	3.06	2.87	2.70

Ribbon Cable Snap Ferrites STAR-Flat Series with Key Technology



- Patented no spring design
- STAR-FLATS ribbon cable holding feature prevents sliding and cable crimping
- Prefixing cable system eases the cable assembling process
- Patented case design prevents air gaps for a perfect EMI suppression
- Security lock guarantees electromagnetic compatibility
- Innovative sleek design without any sharp edges
- Ferrite core for broadband suppression from 30 MHz - 1.5 GHz
- Material: plastic case PA 6, UL 94 V-0
- Operating temperature: -25°C to 130°C
- For computer and power cable, cable with difficult access, medical technology
- Reusable

Cable size (mm)	Impedance (Ω) @ 25MHz	Impedance (Ω) @ 100MHz	Dimensions A B C	Dimensions E	Mfrs. List No.	Order Code
26	97	194	53.3 33.1 16	34	7427246	163-5628
40	78	180	71.3 33.1 16	52	7427248	163-5629
50	72	192	84.5 33.1 16	64.5	7427247	163-5630

Cable Size	Order Code	1+	10+	50+	100+	250+
26	163-5628	5.29	5.04	4.79	4.50	4.23
40	163-5629	7.02	6.77	6.53	6.14	5.77
50	163-5630	8.18	7.85	7.52	7.06	6.64

Shielding

- The following products can be used to help electrical and electronic apparatus in meeting the requirements of the EMC (electromagnetic compatibility) directive
- The directive covers all apparatus liable to cause electromagnetic disturbance, or the performance of which is liable to be affected by such disturbance.

204244

Discrete EMI Absorber – ‘Cho Drop’®



L=13.97, D=4.7,
Lead length=27.94,
Lead dia.=0.64
Supplied banded on tape.

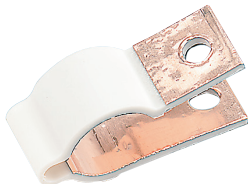
- Discrete EMI absorbers are designed to reduce radiation from digital signal lines without significantly adding to propagation delay
- They will normally suppress radiation from a given lead by 10dB to 15dB and have a propagation delay of less than 10ns, while their flat absorption characteristics eliminate the ‘ringing’ found with ferrite beads. Leads are tinned copper wire.

Current capacity 500mA Mfrs List No. 80-10-9714-1000

204245

Order Multiple=5	Order Code	5+	50+	100+	250+	500+
80-10-9714-1000	121-8464	1.29	1.23	1.17	1.09	0.99

Cable Earthing Clamp



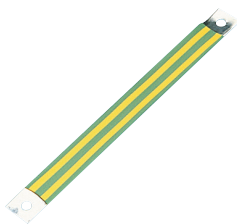
- Flexible moulded earthing clamps
- Simultaneously fastens and earths
- Resin clamp provides excellent elasticity resulting in no damage to the cable
- For use with outer or inner* earth shielding braid
- M3 screw mounting

*cut away cable insulation material to expose inner shielding braid

227239

Nominal cable dia.	Mfrs. List No.	Order Code	5+	25+	100+	500+	1K+
3 to 3.5	FGC-3 M3	353-8266	0.95	0.82	0.74	0.58	0.50
5 to 5.5	FGC-5 M3	353-8278	1.07	0.95	0.82	0.68	0.62
8 to 8.5	FGC-8 M3	353-8280	1.11	0.98	0.85	0.70	0.65

Earthing Straps



- Earthing straps designed to provide low impedance paths for EMI generated currents
- The strap overcomes the problems associated with conventional round earth wires, of an increased inductive resistance at high frequencies, due to the ‘Skin effect’
- Manufactured from tin plated copper with optional Green/Yellow insulation.

L=150, W=13, FC=137, Hole Dia=4.75

Copper thickness 0.16mm Tin plate thickness 2µm
Insulation material Polyolefin Dielectric strength 10kV
Flammability rating UL224 Operating temperature -55°C to +135°C
Mfrs. List No. ZES-NI-150X13 = 121-9152 ZES-NI-150X13 = 121-9152

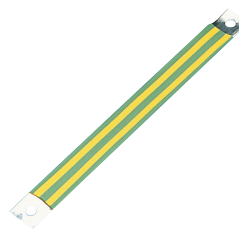
204088

Order Code	1+	10+	25+	100+	250+
Non-Insulated 121-9152	1.37	1.33	1.23	0.98	0.88

FREE technical support
Our trained engineers are here to help!

08447 11 11 22
techsales@farnell.co.uk
Live technical chat at
www.farnell.co.uk

Earthing Straps



Hole Dia=4.75

- Earthing straps designed to provide low impedance paths for EMI generated currents
- The strap overcomes the problems associated with conventional round earth wires, of an increased inductive resistance at high frequencies, due to the ‘Skin effect’
- Manufactured from tin plated copper with Green/Yellow insulation.

Copper thickness 2µm
Insulation material Polyolefin
Insulation colour
Tin plate thickness 2µm
Dielectric strength 10KV DC
Operating temperature -55°C to +135°C

386536

Dimensions	Order code	1+	5+	10+	25+
Length (mm) 75	121-9162	1.77	1.66	1.53	1.18
152.4	121-9163	2.36	2.23	2.06	1.57
228.6	121-9161	2.00	1.86	1.77	1.65
300	121-9164	3.21	3.05	2.79	2.16

Insulated Earth Straps - ‘Cho-strap’®



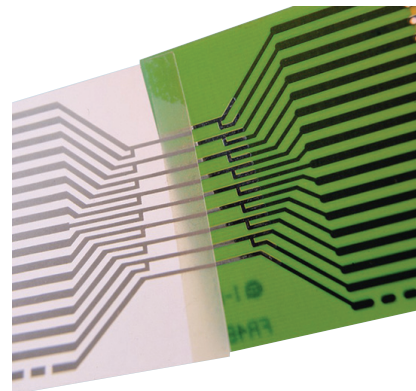
- Flexible earthing straps manufactured from double-insulated laminates with tinned copper interior and Mylar* exterior for high dielectric strength
- Provide low RF impedance and reduce radiated EMI emissions. Recommended whenever board-to-chassis or chassis-to-cabinet earthing is required
- Punched and tinned ends facilitate termination, while tinned contacts provide corrosion resistance
- Meet UL94V-0 requirements
- Standard width 12.7mm

* Registered trademark of E.I. DuPont de Nemours

204247

Mfrs List No.	Order Code	1+	5+	10+	25+
L-1011-6	121-8468	1.52	1.18	0.98	0.83
L-1011-9	121-8462	2.14	1.98	1.93	1.83
L-1011-12	121-8469	2.71	2.04	1.64	1.44

Electrically Conductive Tape 9703



A permanently tacky system consisting of a pressure sensitive adhesive (PSA) matrix with aligned conductive particles, the PSA properties make it easy to handle and apply without the need for thermal bonding. Many applications require mechanical back-up to achieve long-term electrical reliability.

- Pressure sensitive adhesive (PSA) transfer tape with anisotropic electrical conductivity
- PSA tack properties provide an instant bond with minimal pressure and make for ease of use in assembly operations
- Good adhesion to common PCB substrates such as copper, gold, polyimide, polyester, Kapton™, FR-4 epoxy

Typically used for:

- Interconnection of silver ink/polyester flexible circuits
- A membrane touch switch to flex circuit attachment
- EMI/RFI shield attach

Adhesive: Acrylic
Contact resistance/resistivity: 1.25 µΩ-inch² / 1.6Ω-cm
Minimum suggested gap between contacts: 0.4mm
Minimum suggested contact area (per pad): 0.005 inch²
Tape only thickness: 0.05mm
Liner thickness: 0.127mm
Conductive material: Particle
Operating temperature: 15 to 70°C
Reel dimensions (LxW): 33m x 25mm

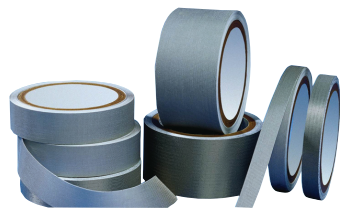
451721

Mfrs. List No.	Order Code	1+	3+	6+	9+
9703 25MM X 33MTR	130-7064	86.39	79.06	74.29	67.09



Shielding - continued

Shielding Foil Tape



Note: Reel length tolerance ±10%

- Shielding tapes are available in tinned copper, Aluminum, Adhesive copper and nickel fabric version
- Shielding tapes offers strong conductivity, strong adhesive and durability in a thin lightweight and flexible shielding design and application
- Also offers superior abrasion and corrosion resistance
- Tinned copper version allows direct soldering to the tape
- Copper tape meets the requirements of MIL-T-47012 and the tinned copper foil tape meets MIL-T-10727 for corrosion resistance

386546

Dimension (W x L)	Order Code	Price Each			
		1+	5+	10+	25+
Tin-plated Copper					
12.7mm x 15m	886-8506	30.88	28.06	25.99	21.83
25.4mm x 15m	886-8514	58.64	53.31	49.36	41.45
Aluminium					
12.7mm x 15m	886-8549	12.51	11.39	10.55	8.85
25.4mm x 15m	886-8557	21.78	19.79	18.34	15.40
50.8mm x 15m	886-8565	45.78	41.62	38.54	32.38
Copper					
12.7mm x 15m	886-8581	23.32	21.19	19.63	16.49
25.4mm x 15m	886-8590	42.87	38.97	36.08	30.31
50.8mm x 15m	886-8603	49.38	44.90	41.55	34.91
Copper, Conductive Adhesive 2 Sides					
25.4mm x 15m	886-8646	46.31	42.09	38.97	32.73
Nickel-plated Fabric					
25.4mm x 15m	886-8662	171.12	155.54	144.02	120.97
50.8mm x 15m	886-8670	305.55	277.71	257.15	215.99

Shielding Foil Tape – 'CHO-FOIL'®



- Economical EMI shielding solution for variety of commercial uses
- Pressure-sensitive adhesive (PSA). Adhesive contains a uniform dispersion of unique oxidation resistant conductive particles that produce a very low resistance through the tape
- Copper tape meets the requirements of MIL-T-47012 and the tinned copper foil tape meets MIL-T-10727 for corrosion resistance
- Tinned copper version allows direct soldering to the tape

Note: Reel length tolerance ±10%

204250

Dimension (W x L)	Order Code	Price Each			
		1+	5+	10+	25+
Tin-plated Copper					
12.7mm x 16.4m	121-8470	32.58	27.71	22.16	20.17
25.4mm x 16.4m	121-8466	61.77	53.02	43.70	37.31
50.8mm x 16.4m	121-8471	143.55	122.02	97.61	88.73
101.6mm x 16.4m	121-8472	162.09	137.78	110.22	100.20
Aluminium					
12.7mm x 16.4m	121-8473	12.79	11.16	9.27	8.22
25.4mm x 16.4m	121-8474	22.42	19.55	16.23	14.38
50.8mm x 16.4m	121-8476	45.22	38.44	30.74	27.96
101.6mm x 16.4m	121-8477	90.42	76.86	61.51	55.89
Copper					
12.7mm x 16.4m	121-8478	18.26	15.93	13.22	11.73
25.4mm x 16.4m	121-8465	45.52	40.81	37.49	33.46
50.8mm x 16.4m	121-8479	67.35	57.26	45.80	41.63
Copper, Non-conductive Adhesive					
12.7mm x 16.4m	121-8480	17.83	15.56	12.91	11.44
25.4mm x 16.4m	121-8481	32.78	27.87	22.29	20.26
50.8mm x 16.4m	121-8482	65.55	55.72	44.57	40.53
Copper, Conductive Adhesive 2 Sides					
25.4mm x 16.4m	121-8483	53.66	45.64	36.50	33.19
50.8mm x 16.4m	121-8484	107.34	91.24	73.00	66.36
Aluminium, Conductive Adhesive 2 Sides					
25.4mm x 32.8m	121-8485	37.75	32.08	25.67	23.34

Shielding Foils



- 3M Scotch™ Foil Shielding Tapes are designed for applications requiring reliable point-to-point electrical contact, particularly EMI shielding, grounding and static charge draining
- The tapes have multitude of uses in electronic design and test laboratories for prototyping, design and troubleshooting.
- Also available as an engineering kit, which offers easy access to all 9 foil tapes in the 3M range
- Dispenser box serves as a source of reference for tapes, as basic technical information about each tape appears on the box

All rolls are 19mm wide and 3.66m long

Mfrs. List No.	Order Code	Description
1170	120-8990	Plain aluminium foil, conductive adhesive solderable. Total thickness 0.08mm
1181	120-8991	Plain Copper foil, conductive adhesive, solderable. Total thickness 0.07mm
1182	120-8993	Plain Copper foil, conductive adhesive on both sides of foil, solderable. Total thickness 0.09mm.
1183	120-8994	Tin Plated Copper foil, oxidation resistant for long term EMI Shielding. Conductive adhesive. Total thickness 0.07mm.
1194	120-8995	Plain Copper foil, electrically non-conductive adhesive. Total thickness 0.08mm.
1245	120-8996	Embossed Copper foil, conductive adhesive. Solderable. Total thickness 0.1mm.
1345	120-8999	Embossed Tin Plated Copper foil. Conductive adhesive. Oxidation resistant for long term EMI shielding. Total thickness 0.1mm.

204090

Mfrs. List No.	Order Code	Price Each			
		1+	12+	24+	36+
1170	120-8990	18.03	14.75	13.11	11.58
1181	120-8991	16.84	13.75	12.22	10.79
1182	120-8993	16.64	13.56	12.69	12.37
1183	120-8994	21.14	17.16	15.25	13.46
1194	120-8995	8.21	6.72	5.98	5.51
1245	120-8996	15.40	12.54	11.15	9.85
1345	120-8999	19.89	16.87	14.64	12.94

Knitted Wire Mesh Tape

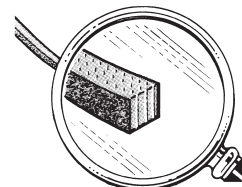
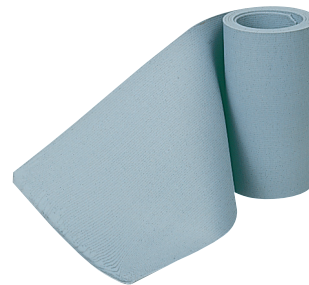


- Monel mesh tape providing excellent RF/EMI shielding for electronic cables and harness assemblies.
- When wrapped firmly around cables with a 50% overlap and earthed at both ends, provides an effective shield in compliance with BS6527, VDE and FCC radiation limits.

204249

10m Reel	Reel Width	Order Code	Price Per Reel		
			1+	5+	10+
25mm		121-9141	14.53	13.61	12.36
50mm		121-9142	21.71	20.38	18.51

'WS' Monel/Silicone Shielding Material



Sheet size
H=900, W=100, Th=1.5

- This shielding material is a composite of monel wires embedded in a solid silicone, and orientated to a matrix of 100 per square centimetre
- Provides excellent RF attenuation through wire point contact on both sides of the gasket and will also provide environmental sealing to IP65 or IP66 depending on seal compression.
- Small gaskets can be made simply by cutting the sheet using a blade
- Larger gaskets can be formed by cutting the material into strips, and gluing using a good cyanoacrylate (super glue), into a 'picture frame style'.
- Holes can be cut or punched as required.

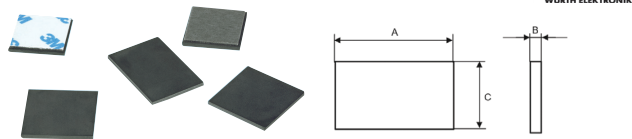
Over half a million products available online



Monel wires 0.11mm dia. Operating temperature -55°C to +125°C 204251

Order Code	Price Each		
	1+	5+	10+
121-9144	29.37	24.21	21.80

CPU Ferrite Plates



- Made of NiZn suppresses interferences in a broadband range
- Perfect for applications with CPUs
- Impedances up to 800Ω
- For CPUs and controller screening

Impedance (Ω)	Dimensions (mm)	Mftrs. List No.	Order Code	
				@ 25MHz
26	20 x 1.5	7427414	163-5789	
24	23 x 0.8	7427415	163-5790	
36	30 x 1.5	7427417	163-5791	
25	40 x 1.5	7427418	163-5792	
27	50 x 1.5	7427419	163-5793	

Order Code		Price Each				
		1+	10+	50+	100+	250+
20 x 30	163-5789	1.16	0.99	0.83	0.78	0.73
23 x 23	163-5790	0.99	0.83	0.66	0.62	0.59
30 x 30	163-5791	1.40	1.24	1.07	1.01	0.95
40 x 18	163-5792	1.40	1.24	1.07	1.01	0.95
50 x 18	163-5793	1.40	1.24	1.07	1.01	0.95

Noise Suppression Sheets
IRJ04 and IRJ08 Series



Features

- Highly flexibly, shock resistant, soft magnetic sheet material and resin
- Suited for thin and compact devices

Applications

- Noise reduction for flexible cables used in mobile devices (including notebook PC's, digital cameras, games machines, mobile phones)
- Reduction of noise radiated from a wide range of electronic devices (including noise from CPU)
- Reduction of specific absorbed radiation (SAR) from mobile phones
- Reduction of internal EMI (resonance, crosstalk) inside a shielded casing

Operating temperature -40°C to +85°C

IRJ08 Series - For Low Frequency

Dimensions (mm)			Recommended frequency range	Mftrs List No.	Order Code
L	W	H			
300mm	200mm	0.13mm	10MHz to 3GHz	IRJ08AB 300X200X0.13	150-3731

IRJ04 Series - For High Frequency

Dimensions (mm)			Recommended frequency range	Mftrs List No.	Order Code
L	W	H			
300mm	200mm	0.1mm	50MHz to 10GHz	IRJ04AB 300X200X0.1	150-3733
300mm	200mm	0.25mm	50MHz to 10GHz	IRJ04AB 300X200X0.25	150-3734
300mm	200mm	0.5mm	50MHz to 10GHz	IRJ04AB 300X200X0.5	150-3735
300mm	200mm	0.1mm	50MHz to 10GHz	IFL04AR 300X200X0P1	150-3737

Mftrs List No.	Order Code	Price Each		
		1+	3+	10+
IRJ08 Series				
IRJ08AB 300X200X0.13	150-3731	76.65	69.67	63.89
IRJ04 Series				
IRJ04AB 300X200X0.1	150-3733	63.50	57.73	52.94
IRJ04AB 300X200X0.25	150-3734	67.88	61.70	56.59
IRJ04AB 300X200X0.5	150-3735	89.78	81.62	74.84
IFL04AR 300X200X0P1	150-3737	71.69	65.18	63.29

Gasket Strip-Extra Soft



- Extra Soft Shielding Strip for commercial enclosures, cabinets and panels requiring minimum closure force or where wide tolerance gaps exist.
- Constructed from a single layer of fine monel wire, knitted over a closed cell neoprene sponge
- Excellent shielding performance when compressed by 25%, compression up to 50% can be applied to improve environmental sealing
- Pressure-sensitive adhesive backing ensures easy application

Monel wire thickness 80µm Operating temperature -40°C to +80°C 213822

Size	Order Code	Price Per Reel			
		1+	10+	25+	50+
5m Reels					
6 x 4	121-9154	27.92	25.91	23.34	18.63
9 x 6	121-9155	31.37	28.35	24.63	20.13
10m Reels					
6 x 4	121-9156	53.74	49.95	44.31	35.07
9 x 6	121-9158	59.71	55.54	49.28	38.99

Knitted Gasket



- Designed to provide an economic EMI seal for commercial electronic enclosures
- **Shielding Performance:** >70dB attenuation from 20MHz to 10GHz
- **Closure Force:** Requires <0.175 N/mm (1lb./inch) closure force
- Self terminating - simply cut to length
- Pressure-sensitive adhesive (PSA) for ease-of-use and quick mounting
- Supplied in packs of 1m lengths

Dimensions	Pack Qty	Order Code	Per Pack			
			1+	5+	10+	25+
Square Shape						
6.4mm x 6.4mm	5	883-3842	18.08	16.65	15.45	14.00
D Shape						
3.9mm x 2.3	2.3	883-3850	40.70	37.50	34.82	30.81
Rectangular Shape						
12.7mm x 6.4mm	5	883-3893	59.64	54.94	51.02	45.13

Knitted Yarn Gasket - 'Soft-Shield 200'



- Designed to provide an economic EMI seal for commercial electronic enclosures.
- **Shielding Performance:** >70dB attenuation from 20MHz to 10GHz
- **Closure Force:** Requires <0.175 N/mm (1lb./inch) closure force
- Self terminating - simply cut to length
- Pressure-sensitive adhesive (PSA) for ease-of-use and quick mounting

Dimensions	Reel Length	Gasket Profile	Order Code	Price Each			
				1+	5+	10+	25+
Square Shape							
6.4mm x 6.4mm	3m	6791	121-8492	36.42	31.57	26.00	21.93
6.4mm x 6.4mm	5m	6791	121-8491	41.37	38.09	35.29	32.85
D Shape							
3.6mm x 2.5mm	5m	6903	121-8486	49.66	43.48	34.76	31.62
9.5mm x 6.4mm	5m	6792	121-8488	26.70	24.10	19.27	18.05
12.7mm x 9.5mm	5m	6902	121-8489	67.23	58.84	47.05	42.79
Rectangular Shape							
6.4mm x 3.3mm	5m	6794	121-8490	32.57	29.23	24.27	21.56

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Passive Components

EMC, Filters & Suppression



Shielding - continued

EMC Foam Gasket



- UL 94V0 and HB flame retardant
- Ideal for applications requiring low pressure force
- High conductivity and shielding attenuation
- High abrasion and shear resistance
- Self-terminating cut-to-lengths of 1m

386520

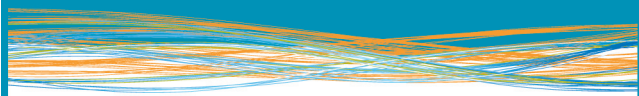
1m Lengths

Dimensions (mm)

Price Each

W	x	H	Order Code	1+	5+	10+	25+
Square Shape							
5	x	5	883-3508	9.71	8.86	7.09	6.50
6	x	6	883-3516	9.84	8.97	7.18	6.58
9.5	x	9.5	883-3524	6.29	5.75	4.60	4.21
Rectangular Shape							
3.3	x	4.8	883-3532	8.57	7.83	6.27	5.75
6.4	x	9.5	883-3540	11.01	10.04	8.04	7.36
9.5	x	12.7	883-3559	15.42	14.09	11.29	10.34
D Shape							
6.4	x	3.6	883-3575	8.67	7.94	6.35	5.82
9.5	x	6.4	883-3583	6.60	6.03	4.84	4.41

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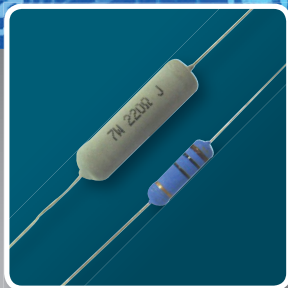
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