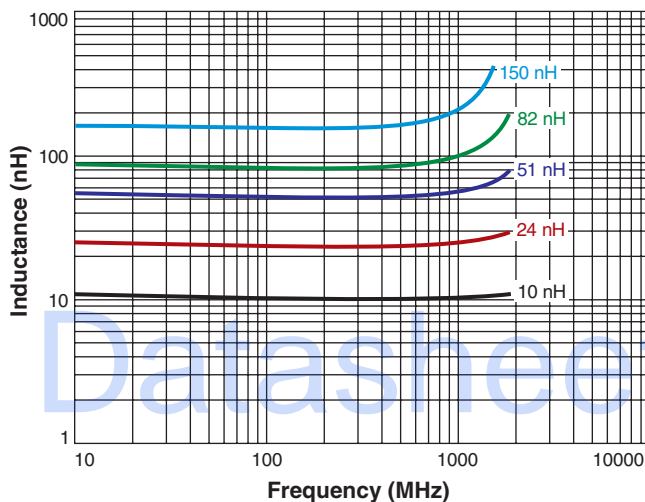


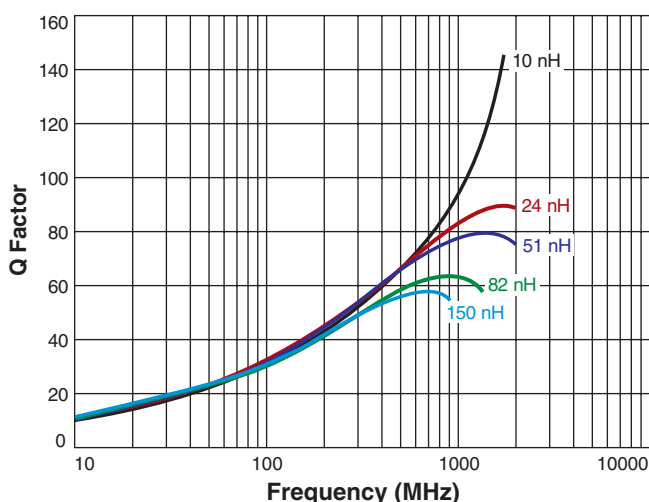
Chip Inductors for Critical Applications ST312RAG

- Higher Q and lower DCR than other 0603 inductors
- Highest SRF values – as high as 16 GHz
- 43 inductance values from 1.8 to 150 nH

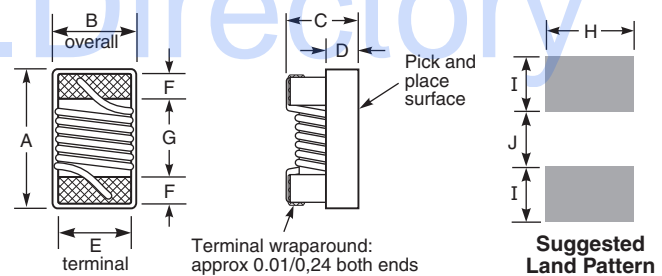
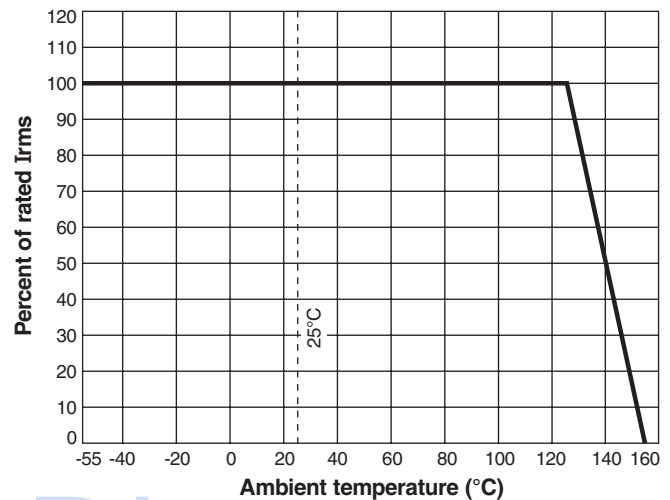
Typical L vs Frequency



Typical Q vs Frequency



Current Derating



A	B	C	D	E	F	G	H	I	J
max	min-max	max							
0.069	0.034-0.043	0.034	0.015	0.029	0.013	0.038	0.040	0.027	0.028
1,75	0,86-1,09	0,86	0,38	0,74	0,33	0,96	1,02	0,69	0,71

Note: Dimensions are before optional solder application. For maximum overall dimensions including solder, add 0.0025 in / 0,064 mm to **B** and 0.006 in / 0,15 mm to **A** and **C**.

Core material Ceramic

Terminations Silver-palladium-platinum-glass frit. Other terminations available at additional cost.

Ambient temperature -40°C to +125°C with Irms current, +125°C to +140°C with derated current

Storage temperature Component: -55°C to +125°C. Tape and reel packaging: -55°C to +80°C

Resistance to soldering heat Max three 40 second reflows at +260°C, parts cooled to room temperature between cycles

Temperature Coefficient of Inductance (TCL) +25 to +125 ppm/°C

Moisture Sensitivity Level (MSL) 1 (unlimited floor life at <30°C / 85% relative humidity)

Packaging 2000 per 7" reel Paper tape: 8 mm wide, 1 mm thick, 4 mm pocket spacing



CRITICAL PRODUCTS & SERVICES

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This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.

ST312RAG Series (0603)

Part number ¹	Inductance ² (nH)	Percent tolerance	L test freq (MHz)	Q min ³ at 250 MHz	900 MHz		1.7 GHz		SRF min ⁴ (GHz)	DCR max ⁵ (Ohms)	I _{max} (mA)	Color code
					L typ	Q typ ³	L typ	Q typ ³				
ST312RAG1N8JLZ	1.8	5	250	17	1.77	40	1.77	65	>5.00	0.035	800	Black
ST312RAG3N3_LZ	3.3	5,2	250	35	3.28	67	3.32	104	>5.00	0.030	800	Blue
ST312RAG3N6_LZ	3.6	5,2	250	32	3.59	70	3.62	116	>5.00	0.033	800	Red
ST312RAG3N9_LZ	3.9	5,2	250	33	3.88	68	3.95	108	>5.00	0.045	800	Brown
ST312RAG4N3_LZ	4.3	5,2	250	28	4.29	58	4.31	91	>5.00	0.080	710	Orange
ST312RAG4N7_LZ	4.7	5,2	250	22	4.65	48	4.71	75	>5.00	0.100	720	Violet
ST312RAG5N1_LZ	5.1	5,2	250	38	5.08	84	5.12	140	>5.00	0.042	800	Green
ST312RAG5N6_LZ	5.6	5,2	250	43	5.6	87	5.73	145	>5.00	0.042	800	Black
ST312RAG6N0_LZ	6.0	5,2	250	40	5.92	94	6.12	154	4.80	0.053	800	White
ST312RAG6N8_LZ	6.8	5,2	250	34	6.83	88	7.05	143	4.64	0.050	800	Red
ST312RAG7N2_LZ	7.2	5,2	250	36	7.25	96	7.38	139	4.32	0.080	800	Green
ST312RAG7N5_LZ	7.5	5,2	250	32	7.55	81	7.85	112	4.24	0.100	800	Brown
ST312RAG8N2_LZ	8.2	5,2	250	37	8.21	96	8.39	148	4.72	0.054	800	Orange
ST312RAG8N7_LZ	8.7	5,2	250	33	8.73	97	9.00	149	4.40	0.054	800	Yellow
ST312RAG9N1_LZ	9.1	5,2	250	38	9.18	76	9.64	109	4.08	0.054	800	Black
ST312RAG9N5_LZ	9.5	5,2	250	40	9.56	98	9.99	149	3.92	0.053	800	Blue
ST312RAG10N_LZ	10	5,2	250	38	10.16	90	10.64	142	3.44	0.054	800	Orange
ST312RAG11N_LZ	11	5,2	250	36	11.06	78	11.82	108	3.28	0.075	800	Gray
ST312RAG12N_LZ	12	5,2	250	32	12.26	69	13.20	91	3.28	0.110	750	Yellow
ST312RAG15N_LZ	15	5,2	250	36	15.41	83	17.20	124	2.88	0.085	800	Green
ST312RAG16N_LZ	16	5,2	250	32	16.37	77	18.70	116	2.80	0.095	790	White
ST312RAG18N_LZ	18	5,2	250	34	18.56	76	20.90	100	2.64	0.075	800	Blue
ST312RAG22N_LZ	22	5,2	250	30	22.7	77	25.90	88	2.52	0.140	600	Violet
ST312RAG23N_LZ	23	5,2	250	36	24.0	69	29.53	80	2.40	0.195	560	Orange
ST312RAG24N_LZ	24	5,2	250	43	24.9	77	28.9	91	2.36	0.085	800	Black
ST312RAG27N_LZ	27	5,2	250	34	28.4	74	34.0	84	2.24	0.150	620	Gray
ST312RAG30N_LZ	30	5,2	250	40	31.5	82	37.9	82	2.24	0.130	720	Brown
ST312RAG33N_LZ	33	5,2	250	38	34.9	76	42.9	80	2.16	0.170	560	White
ST312RAG36N_LZ	36	5,2	250	36	38.5	69	50.0	64	2.00	0.225	480	Red
ST312RAG39N_LZ	39	5,2	250	38	41.5	78	51.9	74	1.96	0.190	540	Black
ST312RAG43N_LZ	43	5,2	250	36	45.7	83	58.1	76	1.96	0.170	630	Orange
ST312RAG47N_LZ	47	5,2	200	39	50.6	77	66.9	72	1.84	0.270	440	Brown
ST312RAG51N_LZ	51	5,2	200	37	54.6	73	71.3	62	1.84	0.280	440	Blue
ST312RAG56N_LZ	56	5,2	200	36	60.3	74	79.9	56	1.76	0.30	420	Red
ST312RAG68N_LZ	68	5,2	200	37	75.5	73	113.3	49	1.60	0.33	400	Orange
ST312RAG72N_LZ	72	5,2	150	36	80.8	69	—	—	1.52	0.42	380	Yellow
ST312RAG75N_LZ	75	5,2	150	36	84.6	71	—	—	1.52	0.52	340	Violet
ST312RAG82N_LZ	82	5,2	150	36	94.0	62	—	—	1.44	0.46	350	Green
ST312RAG91N_LZ	91	5,2	150	36	103.0	64	—	—	1.32	0.58	310	White
ST312RAGR10_LZ	100	5,2	150	36	114.0	69	—	—	1.36	0.54	340	Blue
ST312RAGR11_LZ	110	5,2	150	35	126.2	63	—	—	1.28	0.58	310	Violet
ST312RAGR12_LZ	120	5,2	150	36	142.4	61	—	—	1.24	0.72	280	Gray
ST312RAGR15_LZ	150	5,2	150	36	188.8	57	—	—	1.08	0.82	260	White

1. When ordering, specify **tolerance, termination and testing** codes:

ST312RAGR39GLZ

Tolerance: G = 2% J = 5%

Termination: L = RoHS compliant silver-palladium-platinum-glass frit.

Special order:

S = Tin-lead (63/37) over silver-palladium-platinum-glass frit.

T = Tin-silver-copper (95.5/4/0.5) over silver-palladium-platinum-glass frit.

Testing: Z = COTS

H = Screening per Coilcraft CP-SA-10001

2. Inductance measured at 250 MHz using a Coilcraft SMD-A test fixture and Coilcraft-provided correlation pieces with an Agilent/HP 4286A impedance analyzer or equivalent.

3. Q measured using an Agilent/HP 4291A with an Agilent/HP 16197A test fixture or equivalents.

4. SRF measured using an Agilent/HP 8753ES network analyzer or equivalent and a Coilcraft CCF1232 test fixture.

5. DCR measured on a Keithley 580 micro-ohmmeter or equivalent and a Coilcraft CCF1010 test fixture.

6. Electrical specifications at 25°C.

Refer to Doc 362 "Soldering Surface Mount Components" before soldering.



CRITICAL PRODUCTS & SERVICES

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Document ST537-2 Revised 07/16/12

This product may not be used in medical or high risk applications without prior Coilcraft approval. Specifications subject to change without notice. Please check our web site for latest information.