P6SMBJ Series — 600 Watt Surface Mount

RoHS Compliant

P6SMBJ Series Features

- RoHS Compliance designated by suffix “F”
- 600 watt peak pulse power dissipation
- Available in voltages from 5.0V to 170V
- Unidirectional and bidirectional
- Glass passivated junction
- Low clamping factor
- Available in tape and reel (Reel quantity = 3,000 pieces)
- Each device 100% surge tested
- Tape and Reel to EIA Standard RS-481-A
- UL 497B Recognized, File # E135015 (5.0V - 75V)

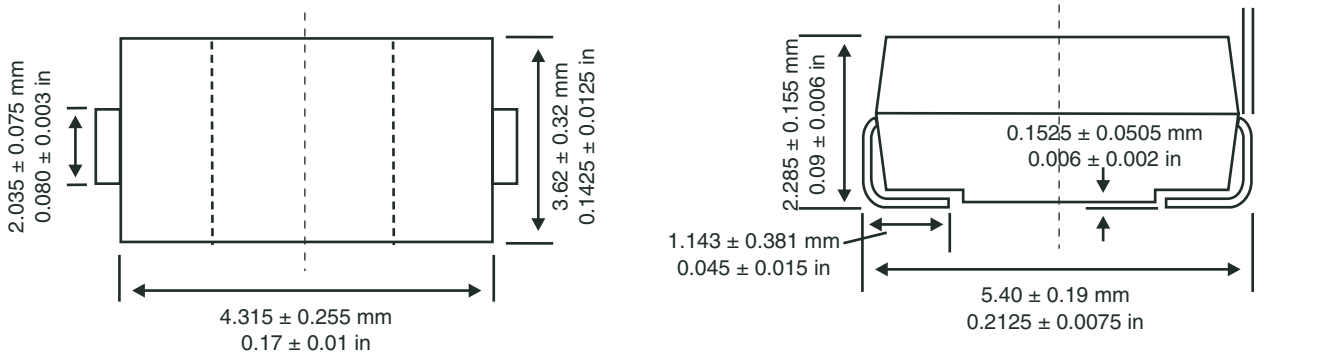
Absolute Maximum Ratings

Parameter	Value
Peak pulse power dissipation (PPPM) at 25°C	600W
Steady state power dissipation at 25°C	5W
Operating and storage temperatures	-55°C to + 150°C

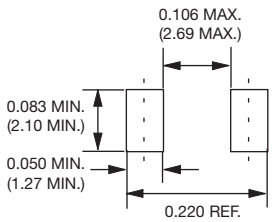
Mechanical Characteristics

- DO214AA package
- UL94V-0 Thermoset Epoxy
- Solder plated terminals
- Solderable per MIL-STD-750 Method 2026

Mechanical Dimensions



Standard Mounting Pad Layout



All dimensions in inches and (millimeters)

P6SMBJ Series — 600 Watt Surface Mount

Electrical Characteristics

Part Number*	Uni Part Marking	Bi Part Marking	Rated Standoff Voltage Vwm	Breakdown Voltage			Maximum Stand By Current @VWM+ Id	10/1000µs Maximum Clamping Voltage @Ippm# Vc Max	10/1000µs Rated Peak Impulse Current Ippm#
				Vbr (Volts)		@It			
			(Volts)	Min	Max	(mA)	(µA)	(Volts)	(Amperes)
P6SMBJ5.0	KD	AD	5	6.4	7.55	10	800	9.6	62.5
P6SMBJ5.0A	KE	AE	5	6.4	7.25	10	800	9.2	65.2
P6SMBJ6.0	KF	AF	6	6.67	8.45	10	800	11.4	52.6
P6SMBJ6.0A	KG	AG	6	6.67	7.65	10	800	10.3	58.3
P6SMBJ6.5	KH	AH	6.5	7.22	9.14	10	500	12.3	48.7
P6SMBJ6.5A	KK	AK	6.5	7.22	8.3	10	500	11.2	53.6
P6SMBJ7.0	KL	AL	7	7.78	9.86	10	200	13.3	45.1
P6SMBJ7.0A	KM	AM	7	7.78	8.95	10	200	12	50
P6SMBJ7.5	KN	AN	7.5	8.33	10.8	1	100	14.3	42
P6SMBJ7.5A	KP	AP	7.5	8.33	9.58	1	100	12.9	46.5
P6SMBJ8.0	KQ	AQ	8	8.89	11.3	1	50	15	40
P6SMBJ8.0A	KR	AR	8	8.89	10.2	1	50	13.6	44.1
P6SMBJ8.5	KS	AS	8.5	9.44	11.9	1	20	15.9	37.7
P6SMBJ8.5A	KT	AT	8.5	9.44	10.8	1	20	14.4	41.7
P6SMBJ9.0	KU	AU	9	10	12.8	1	10	16.9	35.5
P6SMBJ9.0A	KV	AV	9	10	11.5	1	10	15.4	39
P6SMBJ10	KW	AW	10	11.1	14.1	1	5	18.8	31.9
P6SMBJ10A	KX	AX	10	11.1	12.8	1	5	17	35.3
P6SMBJ11	KY	AY	11	12.2	15.4	1	5	20.1	29.9
P6SMBJ11A	KZ	AZ	11	12.2	14.4	1	5	18.2	33
P6SMBJ12	LD	BD	12	13.3	16.9	1	5	22	27.3
P6SMBJ12A	LE	BE	12	13.3	15.3	1	5	19.9	30.2
P6SMBJ13	LF	BF	13	14.4	18.2	1	5	23.8	25.2
P6SMBJ13A	LG	BG	13	14.4	16.15	1	5	21.5	27.9
P6SMBJ14	LH	BH	14	15.6	19.8	1	5	25.8	23.3
P6SMBJ14A	LK	BK	14	15.6	17.9	1	5	23.2	25.8

* = Add “C” or “CA” suffix for bidirectional device types.
+ = For Bidirectional Types Having VWM <= 10V, their ID limit is doubled.
# = See General Information for Impulse Current Waveform.
For Pb-Free add suffix – “F”

P6SMBJ Series — 600 Watt Surface Mount

Electrical Characteristics (continued)

Part Number*	Uni Part Marking	Bi Part Marking	Rated Standoff Voltage Vwm	Breakdown Voltage			Maximum Stand By Current @VWM+ Id	10/1000µs Maximum Clamping Voltage @Ippm# Vc Max	10/1000µs Rated Peak Impulse Current Ippm#
				Vbr (Volts)		@It			
			(Volts)	Min	Max	(mA)	(µA)	(Volts)	(Amperes)
P6SMBJ15	LL	BL	15	16.7	21.1	1	5	26.9	22.3
P6SMBJ15A	LM	BM	15	16.7	19.2	1	5	24.4	24
P6SMBJ16	LN	BN	16	17.8	22.6	1	5	28.8	20.8
P6SMBJ16A	LP	BP	16	17.8	20.5	1	5	26	23.1
P6SMBJ17	LQ	BQ	17	18.9	23.9	1	5	30.5	19.7
P6SMBJ17A	LR	BR	17	18.9	21.7	1	5	27.6	21.7
P6SMBJ18	LS	BS	18	20	25.3	1	5	32.2	18.6
P6SMBJ18A	LT	BT	18	20	23.3	1	5	29.2	20.5
P6SMBJ20	LU	BU	20	22.2	28.1	1	5	35.8	16.7
P6SMBJ20A	LV	BV	20	22.2	25.5	1	5	32.4	18.5
P6SMBJ22	LW	BW	22	24.4	30.9	1	5	39.4	15.2
P6SMBJ22A	LX	BX	22	24.4	28	1	5	35.5	16.9
P6SMBJ24	LY	BY	24	26.7	33.8	1	5	43	14
P6SMBJ24A	LZ	BZ	24	26.7	30.7	1	5	38.9	15.4
P6SMBJ26	MD	CD	26	28.9	36.8	1	5	46.6	12.4
P6SMBJ26A	ME	CE	26	28.9	32.2	1	5	42.1	14.2
P6SMBJ28	MF	CF	28	31.1	39.4	1	5	50	12
P6SMBJ28A	MG	CG	28	31.1	35.8	1	5	45.4	13.2
P6SMBJ30	MH	CH	30	33.3	42.4	1	5	53.5	11.2
P6SMBJ30A	MK	CK	30	33.3	38.3	1	5	46.6	12.4
P6SMBJ33	ML	CL	33	36.7	46.9	1	5	59	10.2
P6SMBJ33A	MM	CM	33	36.7	42.2	1	5	53.3	11.3
P6SMBJ36	MN	CN	36	40	50.7	1	5	64.3	9.3
P6SMBJ36A	MP	CP	36	40	46	1	5	58.1	10.3
P6SMBJ40	MQ	CQ	40	44.4	56.3	1	5	71.4	8.4
P6SMBJ40A	MR	CR	40	44.4	51.1	1	5	64.5	9.3

* = Add “C” or “CA” suffix for bidirectional device types.
+ = For Bidirectional Types Having VWM <= 10V, their ID limit is doubled.
# = See General Information for Impulse Current Waveform.
For Pb-Free add suffix – “F”

P6SMBJ Series — 600 Watt Surface Mount

Electrical Characteristics (continued)

Part Number*	Uni Part Marking	Bi Part Marking	Rated Standoff Voltage Vwm	Breakdown Voltage			Maximum Stand By Current @VWM+ Id	10/1000µs Maximum Clamping Voltage @Ippm# Vc Max	10/1000µs Rated Peak Impulse Current Ippm#
				Vbr (Volts)		@It			
			(Volts)	Min	Max	(mA)	(µA)	(Volts)	(Amperes)
P6SMBJ43	MS	CS	43	47.8	60.5	1	5	76.7	7.8
P6SMBJ43A	MT	CT	43	47.8	54.9	1	5	69.4	8.6
P6SMBJ45	MU	CU	45	50	63.3	1	5	80.3	7.5
P6SMBJ45A	MV	CV	45	50	57.5	1	5	72.7	8.3
P6SMBJ48	MW	CW	48	53.3	67.5	1	5	85.5	7
P6SMBJ48A	MX	CX	48	53.3	61.3	1	5	77.4	7.7
P6SMBJ51	MY	CY	51	56.7	71.8	1	5	91.1	6.6
P6SMBJ51A	MZ	CZ	51	56.7	65.2	1	5	82.4	7.3
P6SMBJ54	ND	DD	54	60	76	1	5	96.3	6.2
P6SMBJ54A	NE	DE	54	60	69	1	5	87.1	6.9
P6SMBJ58	NF	DF	58	64.4	81.6	1	5	103	5.8
P6SMBJ58A	NG	DG	58	64.4	74.6	1	5	93.6	6.4
P6SMBJ60	NH	DH	60	66.7	84.5	1	5	107	5.6
P6SMBJ60A	NK	DK	60	66.7	76.6	1	5	96.8	6.2
P6SMBJ64	NL	DL	64	71.1	90.1	1	5	114	5.3
P6SMBJ64A	NM	DM	64	71.1	81.8	1	5	103	5.8
P6SMBJ70	NN	DN	70	77.8	98.6	1	5	125	4.8
P6SMBJ70A	NP	DP	70	77.8	89.5	1	5	113	5.3
P6SMBJ75	NQ	DQ	75	83.3	106	1	5	134	4.5
P6SMBJ75A	NR	DR	75	83.3	95.8	1	5	121	4.9
P6SMBJ78	NS	DS	78	86.7	110	1	5	139	4.3
P6SMBJ78A	NT	DT	78	86.7	99.7	1	5	126	4.7
P6SMBJ85	NU	DU	85	94.4	119.2	1	5	151	3.9
P6SMBJ85A	NV	DV	85	94.4	108.2	1	5	137	4.4
P6SMBJ90	NW	DW	90	100	126.5	1	5	160	3.8
P6SMBJ90A	NX	DX	90	100	115.5	1	5	146	4.1

* = Add “C” or “CA” suffix for bidirectional device types.
+ = For Bidirectional Types Having VWM <= 10V, their ID limit is doubled.
# = See General Information for Impulse Current Waveform.
For Pb-Free add suffix – “F”

P6SMBJ Series — 600 Watt Surface Mount

Electrical Characteristics (continued)

Part Number*	Uni Part Marking	Bi Part Marking	Rated Standoff Voltage Vwm	Breakdown Voltage			Maximum Stand By Current @VWM+ Id	10/1000µs Maximum Clamping Voltage @Ippm# Vc Max	10/1000µs Rated Peak Impulse Current Ippm#
				Vbr (Volts)		@It			
			(Volts)	Min	Max	(mA)	(µA)	(Volts)	(Amperes)
P6SMBJ100	NY	DY	100	111	141	1	5	179	3.4
P6SMBJ100A	NZ	DZ	100	111	128	1	5	162	3.7
P6SMBJ110	PD	ED	110	122	154	1	5	196	3
P6SMBJ110A	PE	EE	110	122	140	1	5	177	3.4
P6SMBJ120	PF	EF	120	133	169	1	5	214	2.8
P6SMBJ120A	PG	EG	120	133	153	1	5	193	3.1
P6SMBJ130	PH	EH	130	144	182	1	5	231	2.6
P6SMBJ130A	PK	EK	130	144	165	1	5	209	2.9
P6SMBJ150	PL	EL	150	167	211.5	1	5	268	2.2
P6SMBJ150A	PM	EM	150	167	192	1	5	243	2.5
P6SMBJ160	PN	EN	160	178	226	1	5	287	2.1
P6SMBJ160A	PP	EP	160	178	205	1	5	259	2.3
P6SMBJ170	PQ	EQ	170	189	239.5	1	5	304	2
P6SMBJ170A	PR	ER	170	189	217.5	1	5	275	2.2

* = Add “C” or “CA” suffix for bidirectional device types.
+ = For Bidirectional Types Having VWM <= 10V, their ID limit is doubled.
# = See General Information for Impulse Current Waveform.
For Pb-Free add suffix – “F”