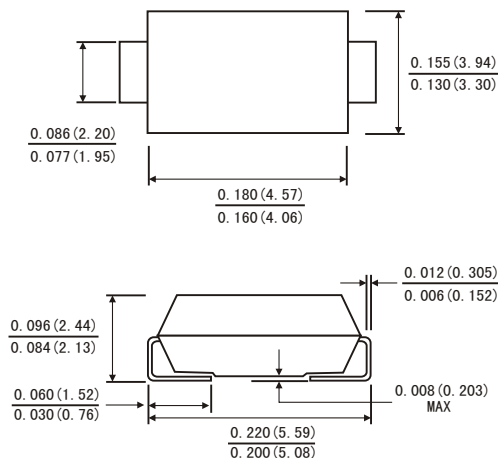


FEATURES

- 600 Watts Pulse capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component inaccordance to RoHS 2002/95/EC and WEEE 2002/96/EC



SMB(DO-214AA)



Dimensions in inches and (millimeters)

MECHANICAL DATA

- *Case:* JEDEC SMB(DO-214AA) molded plastic body
- *Terminals:* solder plated ,solderable per MIL-STD-750,method 2026
- *Polarity:* color band denotes cathode except Bipolar
- *Weight:* 0.003ounce,0.093 gram

DEVICES FOR BIDIRECTIONAL APPLICATIONS

1. For bi-directional use C or CA suffix for Types SMBJ5.0 through Types SMBJ170.
2. Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25 °C ambient temperature unless otherwise specified)

	Symbols	Value	Units
Peak power dissipation (Note 1)	PPK	Min. 600	Watts
Steady state power dissipation at T _J =75 °C lead length 0.375" (9.5mm) Note 2)	P _M	2.0	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Note 3)	I _{FSM}	100	Amps
Maximum instantaneous forward voltage at 50.0A for unidirectional only	V _F	3.5/5.0	Volts
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +175	°C

Note: 1. Non repetitive current pulse and derated above T_A=25°C, T_P=1ms

2. Mounted on copper pads area of (40X40mm)

3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum

RATINGS AND CHARACTERISTIC CURVES (SMBJ SERIES)

TYPE	Breakdown Voltage $V_{(BR)}$ (Volts)		Test Current I_T (mA)	Reverse Stand off Voltage V_{WM} (Volts)	Maximum Reverse Leadage At V_{WM} I_D (μ A)	Maximum Peak Pulse Current I_{ppm} (Amps)	Maximum Clamping Voltage At I_{ppm} V_C (Volts)
	MIN	MAX					
SMBJ5.0	6.40	7.30	10.0	5.0	800	65	9.60
SMBJ5.0A	6.40	7.00	10.0	5.0	800	68	9.20
SMBJ6.0	6.67	8.15	10.0	6.0	800	55	11.4
SMBJ6.0A	6.67	7.37	10.0	6.0	800	61	10.3
SMBJ6.5	7.22	8.82	10.0	6.5	500	51	12.3
SMBJ6.5A	7.22	7.98	10.0	6.5	500	56	11.2
SMBJ7.0	7.78	9.51	10.0	7.0	200	47	13.3
SMBJ7.0A	7.78	8.60	10.0	7.0	200	52	12.0
SMBJ7.5	8.33	10.3	1.0	7.5	100	44	14.3
SMBJ7.5A	8.33	9.21	1.0	7.5	100	48	12.9
SMBJ8.0	8.89	10.9	1.0	8.0	50	42	15.0
SMBJ8.0A	8.89	9.83	1.0	8.0	50	46	13.6
SMBJ8.5	9.44	11.5	1.0	8.5	20	39	15.9
SMBJ8.5A	9.44	10.4	1.0	8.5	20	43	14.4
SMBJ9.0	10.0	12.2	1.0	9.0	10	37	16.9
SMBJ9.0A	10.0	11.1	1.0	9.0	10	40	15.4
SMBJ10	11.1	13.6	1.0	10.0	5	33	18.8
SMBJ10A	11.1	12.3	1.0	10.0	5	37	17.0
SMBJ11	12.2	14.9	1.0	11.0	5	31	20.1
SMBJ11A	12.2	13.5	1.0	11.0	5	34	18.2
SMBJ12	13.3	16.3	1.0	12.0	5	28	22.0
SMBJ12A	13.3	14.7	1.0	12.0	5	31	19.9
SMBJ13	14.4	17.6	1.0	13.0	5	26	23.8
SMBJ13A	14.4	15.9	1.0	13.0	5	29	21.5
SMBJ14	15.6	19.1	1.0	14.0	5	24.4	25.8
SMBJ14A	15.6	17.2	1.0	14.0	5	27.0	23.2
SMBJ15	16.7	20.4	1.0	15.0	5	23.1	26.9
SMBJ15A	16.7	18.5	1.0	15.0	5	25.1	24.4
SMBJ16	17.8	21.8	1.0	16.0	5	21.8	28.8
SMBJ16A	17.8	19.7	1.0	16.0	5	24.2	26.0
SMBJ17	18.9	23.1	1.0	17.0	5	20.0	30.5
SMBJ17A	18.9	20.9	1.0	17.0	5	22.8	27.6
SMBJ18	20.0	24.4	1.0	18.0	5	19.5	32.2
SMBJ18A	20.0	22.1	1.0	18.0	5	21.5	29.2
SMBJ20	22.2	27.1	1.0	20.0	5	17.6	35.8
SMBJ20A	22.2	24.5	1.0	20.0	5	19.4	32.4
SMBJ22	24.4	29.8	1.0	22.0	5	15.0	39.4
SMBJ22A	24.4	26.9	1.0	22.0	5	17.7	35.5
SMBJ24	26.7	32.6	1.0	24.0	5	14.6	43.0
SMBJ24A	26.7	29.5	1.0	24.0	5	16.0	38.9
SMBJ26	28.9	35.3	1.0	26.0	5	13.5	46.6
SMBJ26A	28.9	31.9	1.0	26.0	5	14.9	42.1
SMBJ28	31.1	38.0	1.0	28.0	5	12.6	50.0
SMBJ28A	31.1	34.4	1.0	28.0	5	13.8	45.4
SMBJ30	33.3	40.7	1.0	30.0	5	11.7	53.5
SMBJ30A	33.3	36.8	1.0	30.0	5	13.0	48.4

RATINGS AND CHARACTERISTIC CURVES (SMBJ SERIES)

TYPE	Breakdown Voltage V _(BR) (Volts)		Test Current I _T (mA)	Reverse Stand off Voltage V _{WM} (Volts)	Maximum Reverse Leadage At V _{WM} I _D (μA)	Maximum Peak Pulse Current I _{ppm} (Amps)	Maximum Clamping Voltage At I _{ppm} V _C (Volts)
	MIN	MAX					
SMBJ33	36.7	44.9	1.0	33.0	5	10.6	59.0
SMBJ33A	36.7	40.6	1.0	33.0	5	11.8	53.3
SMBJ36	40.0	48.9	1.0	36.0	5	9.8	64.3
SMBJ36A	40.0	44.2	1.0	36.0	5	10.8	58.1
SMBJ40	44.4	54.3	1.0	40.0	5	8.8	71.4
SMBJ40A	44.4	49.1	1.0	40.0	5	9.7	64.5
SMBJ43	47.8	58.4	1.0	43.0	5	8.2	76.7
SMBJ43A	47.8	52.8	1.0	43.0	5	9.0	69.4
SMBJ45	50.0	61.1	1.0	45.0	5	7.8	80.3
SMBJ45A	50.0	55.3	1.0	45.0	5	8.6	72.7
SMBJ48	53.3	65.1	1.0	48.0	5	7.3	85.5
SMBJ48A	53.3	58.9	1.0	48.0	5	8.1	77.4
SMBJ51	56.7	69.3	1.0	51.0	5	6.9	91.1
SMBJ51A	56.7	62.7	1.0	51.0	5	7.6	82.4
SMBJ54	60.0	73.3	1.0	54.0	5	6.5	96.3
SMBJ54A	60.0	66.3	1.0	54.0	5	7.2	87.1
SMBJ58	64.4	78.7	1.0	58.0	5	6.1	103
SMBJ58A	64.4	71.2	1.0	58.0	5	6.7	93.6
SMBJ60	66.7	81.5	1.0	60.0	5	5.8	107
SMBJ60A	66.7	73.7	1.0	60.0	5	6.5	96.8
SMBJ64	71.1	86.9	1.0	64.0	5	5.5	114
SMBJ64A	71.1	78.6	1.0	64.0	5	6.1	103
SMBJ70	77.8	95.1	1.0	70.0	5	5.0	125
SMBJ70A	77.8	86.0	1.0	70.0	5	5.5	113
SMBJ75	83.3	102	1.0	75.0	5	4.7	134
SMBJ75A	83.3	92.1	1.0	75.0	5	5.2	121
SMBJ78	86.7	106	1.0	78.0	5	4.5	139
SMBJ78A	86.7	95.8	1.0	78.0	5	5.0	126
SMBJ85	94.4	115	1.0	85.0	5	4.1	151
SMBJ85A	94.4	104	1.0	85.0	5	4.6	137
SMBJ90	100	122	1.0	90.0	5	3.9	160
SMBJ90A	100	111	1.0	90.0	5	4.3	146
SMBJ100	111	136	1.0	100	5	3.5	179
SMBJ100A	111	123	1.0	100	5	3.8	162
SMBJ110	122	149	1.0	110	5	3.2	196
SMBJ110A	122	135	1.0	110	5	3.5	177
SMBJ120	133	163	1.0	120	5	2.9	214
SMBJ120A	133	147	1.0	120	5	3.2	193
SMBJ130	144	176	1.0	130	5	2.7	231
SMBJ130A	144	159	1.0	130	5	3.0	209
SMBJ150	167	204	1.0	150	5	2.3	268
SMBJ150A	167	185	1.0	150	5	2.5	243
SMBJ160	178	218	1.0	160	5	2.2	287
SMBJ160A	178	197	1.0	160	5	2.4	259
SMBJ170	189	231	1.0	170	5	2.0	304
SMBJ170A	189	209	1.0	170	5	2.2	275

Notes: 1. V_(BR) measured after I_T applied for 300μS, I_T=square wave pulse or equivalent.

2. For bidirectional types having V_{WM} of 10 Volts and less, The I_D limit is doubled.

RATINGS AND CHARACTERISTIC CURVES (SMBJ SERIES)

FIG. 1-PEAK PULSE POWER CURVE

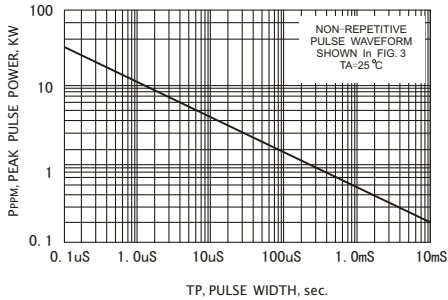


FIG. 2-PULSE DERATING CURVE

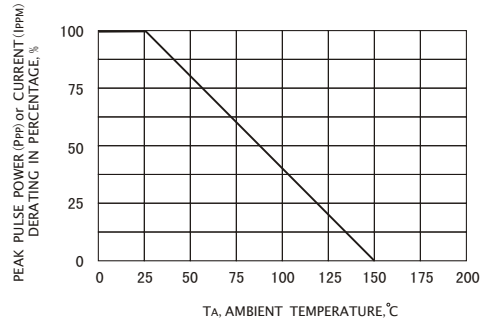


FIG. 3-PULSE WAVEFORM

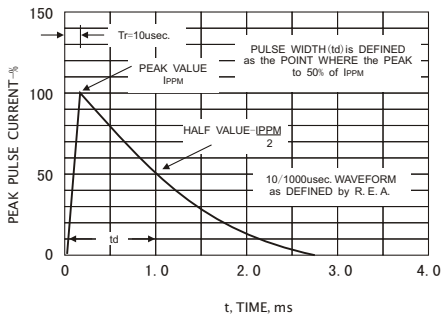


FIG. 4-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

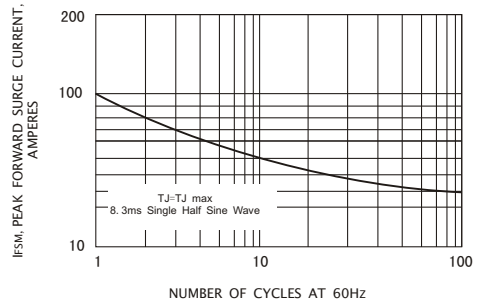
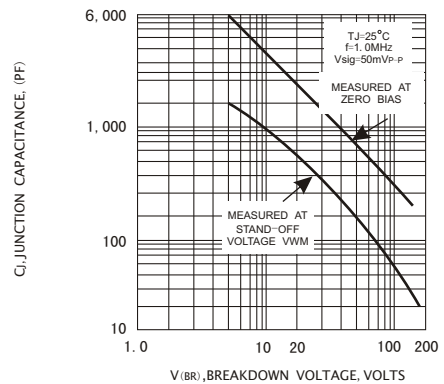


FIG. 5-TYPICAL JUNCTION CAPACITANCE



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