

FEATURES

- 600W Peak Pulse Power Dissipation
- 5.0V - 188V Standoff Voltages
- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-0



DO-214AA (SMB)

MECHANICAL DATA

- Case: SMB, Transfer Molded Epoxy
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity Indicator: Cathode Band
(Note: Bi-directional devices have no polarity indicator.)
- Marking: Marking Code See Page 2
- Weight: 0.1 grams (approx.)



Cathode

MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above T _A = 25°C) (Note 1)	P _{PPM}	600	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I _{FSM}	100	A
Typical thermal resistance, junction to ambient (Note 4)	R _{θJA}	100	°C/W
Typical thermal resistance, junction to lead	R _{θJL}	20	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

Notes:

1. Valid provided that terminals are kept at ambient temperature.
2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
3. Unidirectional units only.
4. Mounted on minimum recommended pad layout

ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted)

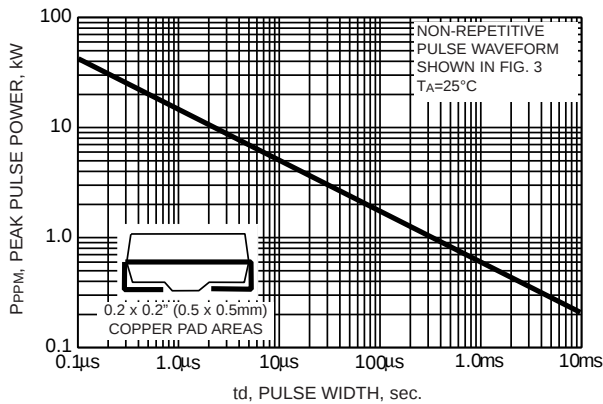
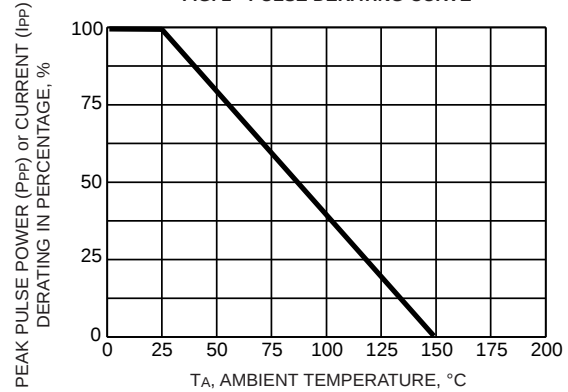
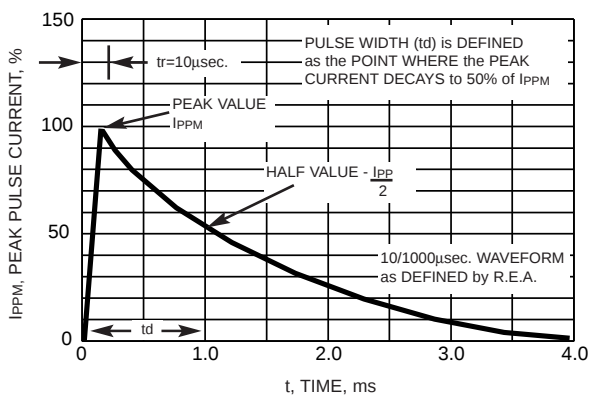
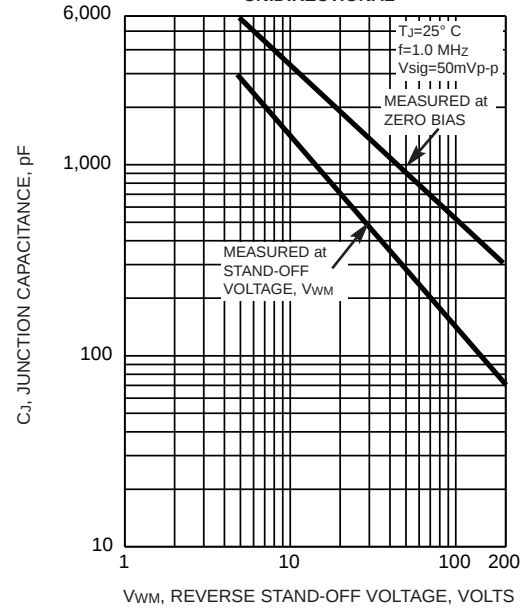
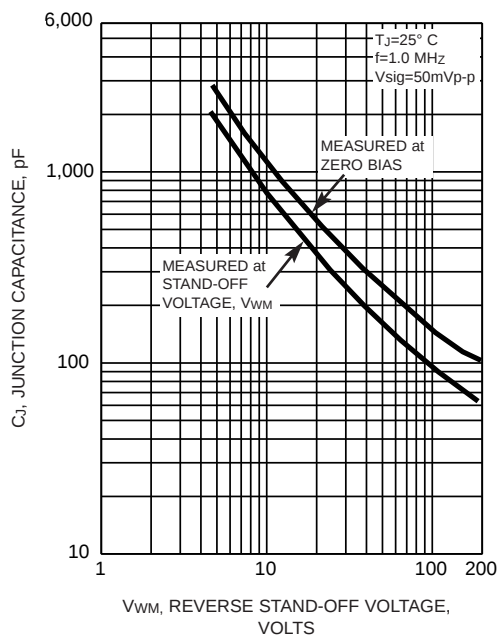
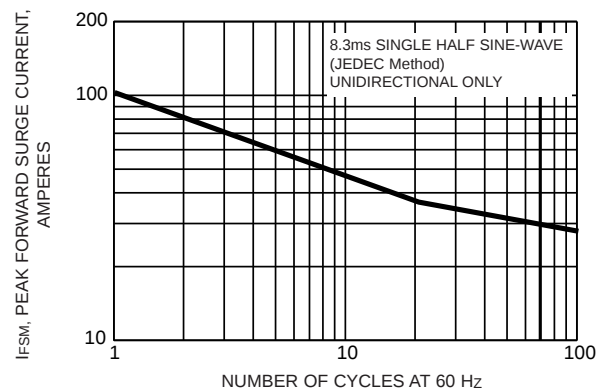
DEVICE TYPE MODIFIED "J" BEND LEAD	DEVICE MARKING CODE		BREAKDOWN VOLTAGE VBR AT $I_T^{(1)}$ (V)		TEST CURRENT I_T (mA)	STAND-OFF VOLTAGE V_{WM} (V)	MAXIMUM REVERSE LEAKAGE AT V_{WM} I_D (μA) ⁽³⁾	MAXIMUM PEAK PULSE SURGE CURRENT I_{PPM} (A) ⁽²⁾	MAXIMUM CLAMPING VOLTAGE AT I_{PPM} V_C (V)
	UNI	BI	MIN.	MAX.					
SMBJ5.0A ⁽⁵⁾	KE	KE	6.40	7.07	10	5.0	800	65.2	9.2
SMBJ6.0A	KG	KG	6.67	7.37	10	6.0	800	58.3	10.3
SMBJ6.5A	KK	AK	7.22	7.98	10	6.5	500	53.6	11.2
SMBJ7.0A	KM	KM	7.78	8.60	10	7.0	200	50.0	12.0
SMBJ7.5A	KP	AP	8.33	9.21	1.0	7.5	100	46.5	12.9
SMBJ8.0A	KR	AR	8.89	9.83	1.0	8.0	50	44.1	13.6
SMBJ8.5A	KT	AT	9.44	10.4	1.0	8.5	20	41.7	14.4
SMBJ9.0A	KV	AV	10.0	11.1	1.0	9.0	10	39.0	15.4
SMBJ10A	KX	AX	11.1	12.3	1.0	10	5.0	35.3	17.0
SMBJ11A	KZ	KZ	12.2	13.5	1.0	11	5.0	33.0	18.2
SMBJ12A	LE	BE	13.3	14.7	1.0	12	5.0	30.2	19.9
SMBJ13A	LG	LG	14.4	15.9	1.0	13	1.0	27.9	21.5
SMBJ14A	LK	BK	15.6	17.2	1.0	14	1.0	25.9	23.2
SMBJ15A	LM	BM	16.7	18.5	1.0	15	1.0	24.6	24.4
SMBJ16A	LP	LM	17.8	19.7	1.0	16	1.0	23.1	26.0
SMBJ17A	LR	LR	18.9	20.9	1.0	17	1.0	21.7	27.6
SMBJ18A	LT	BT	20.0	22.1	1.0	18	1.0	20.5	29.2
SMBJ20A	LV	LV	22.2	24.5	1.0	20	1.0	18.5	32.4
SMBJ22A	LX	BX	24.4	26.9	1.0	22	1.0	16.9	35.5
SMBJ24A	LZ	BZ	26.7	29.5	1.0	24	1.0	15.4	38.9
SMBJ26A	ME	CE	28.9	31.9	1.0	26	1.0	14.3	42.1
SMBJ28A	MG	MG	31.1	34.4	1.0	28	1.0	13.2	45.4
SMBJ30A	MK	CK	33.3	36.8	1.0	30	1.0	12.4	48.4
SMBJ33A	MM	CM	36.7	40.6	1.0	33	1.0	11.3	53.3
SMBJ36A	MP	CP	40.0	44.2	1.0	36	1.0	10.3	58.1
SMBJ40A	MR	CR	44.4	49.1	1.0	40	1.0	9.3	64.5
SMBJ43A	MT	CT	47.8	52.8	1.0	43	1.0	8.6	69.4
SMBJ45A	MV	MV	50.0	55.3	1.0	45	1.0	8.3	72.7
SMBJ48A	MX	MX	53.3	58.9	1.0	48	1.0	7.8	77.4
SMBJ51A	MZ	MZ	56.7	62.7	1.0	51	1.0	7.3	82.4
SMBJ54A	NE	NE	60.0	66.3	1.0	54	1.0	6.9	87.1
SMBJ58A	NG	NG	64.4	71.2	1.0	58	1.0	6.4	93.6
SMBJ60A	NK	NK	66.7	73.7	1.0	60	1.0	6.2	96.8
SMBJ64A	NM	NM	71.1	78.6	1.0	64	1.0	5.8	103
SMBJ70A	NP	NP	77.8	86.0	1.0	70	1.0	5.3	113
SMBJ75A	NR	NR	83.3	92.1	1.0	75	1.0	5.0	121
SMBJ78A	NT	NT	86.7	95.8	1.0	78	1.0	4.8	126
SMBJ85A	NV	NV	94.4	104	1.0	85	1.0	4.4	137
SMBJ90A	NX	NX	100	111	1.0	90	1.0	4.1	146
SMBJ100A	NZ	NZ	111	123	1.0	100	1.0	3.7	162
SMBJ110A	PE	PE	122	135	1.0	110	1.0	3.4	177
SMBJ120A	PG	PG	133	147	1.0	120	1.0	3.1	193
SMBJ130A	PK	PK	144	159	1.0	130	1.0	2.9	209
SMBJ150A	PM	PM	167	185	1.0	150	1.0	2.5	243
SMBJ160A	PP	PP	178	197	1.0	160	1.0	2.3	259
SMBJ170A	PR	PR	189	209	1.0	170	1.0	2.2	275
SMBJ188A	PS	PS	209	231	1.0	188	1.0	2.0	328

Notes (1) Pulse test: $t_p \leq 50$ ms (2) Surge current waveform per fig. 3 and derate per fig. 2(3) For bi-directional types having V_{WM} of 10 V and I_{ess} , the I_D limit is doubled

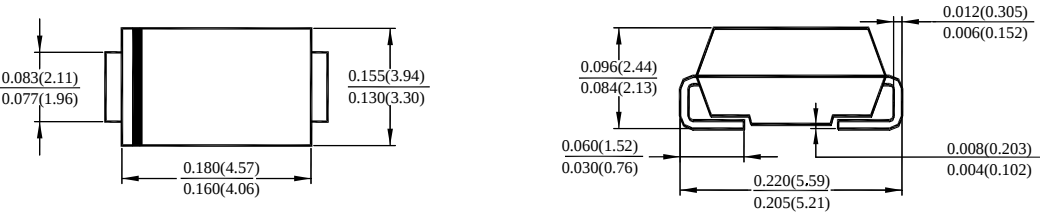
(4) All terms and symbols are consistent with ANSI/IEEE C62.35

(5) For the bi-directional SMBJ5.0CA, the maximum V_{BR} is 7.25 V(6) $V_F = 3.5$ V max. at $I_F = 25$ A (uni-directional only)

(7) For bi-directional use CA suffix (e.g. SMBJ100CA).

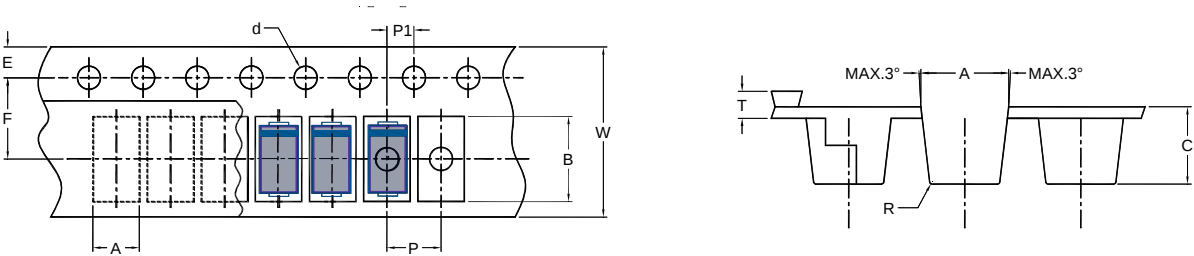
Typical Characteristics**FIG. 1 - PEAK PULSE POWER RATING CURVE****FIG. 2 - PULSE DERATING CURVE****FIG. 3 - PULSE WAVEFORM****FIG. 4 - TYPICAL JUNCTION CAPACITANCE UNIDIRECTIONAL****FIG. 5 - TYPICAL JUNCTION CAPACITANCE BIDIRECTIONAL****FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**

SMB Package Outline Dimensions



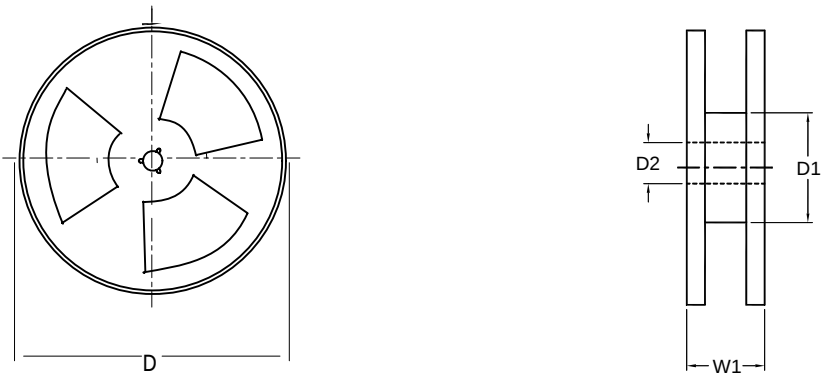
(DIMENSIONS ARE IN MILLIMETER)

SMB Embossed Carrier Tape



	DIMENSIONS ARE IN MILLIMETER										
TYPE	A	B	C	d	E	F	P	P0	P1	T	W
SMB	3.65	5.69	2.67	1.5	1.5	5.65	8	4	2	0.6 Max	12
TOLERANCE	±0.1	±0.1	±0.1	±0.1	±0.1	±0.05	±0.1	±0.1	±0.1	±0.2	±0.2

SMB Reel



	DIMENSIONS ARE IN MILLIMETER			
REEL OPTION	D	D1	D2	W1
7" DIA	178	50 min	13	16.8
TOLERANCE	±2	±0.1	±0.5	±2