

TVS - SMBJ SERIES



SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

FEATURES

- * For surface mount application
- * Built-in strain relief
- * Excellent clamping capability
- * Low profile package
- * Fast response time: Typically less than 1.0ps from 0 volt to BV min.
- * Typical I_R less than $1\mu A$ above 10V
- * High temperature soldering guaranteed: $260^\circ C$ / 10 seconds at terminals

MECHANICAL DATA

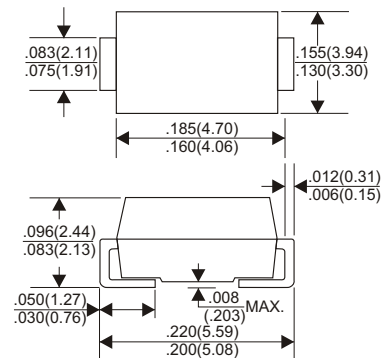
- * Case: Molded plastic
- * Epoxy: UL 94V-0 rate flame retardant
- * Lead: Solderable per MIL-STD-202, method 208 guaranteed
- * Polarity: Color band denotes cathode end except Bidirectional
- * Mounting position: Any
- * Weight: 0.093 grams

VOLTAGE RANGE

5.0 to 170 Volts

600 Watts Peak Power

DO-214AA(SMB)



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating $25^\circ C$ ambient temperature unless otherwise specified.
Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, derate current by 20%.

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation at $T_A=25^\circ C$, $T_P=1ms$ (NOTE 1)	P_{PK}	Minimum 600	Watts
Peak Forward Surge Current at 8.3ms Single Half Sine-Wave superimposed on rated load (JEDEC method) (NOTE 3)	I_{FSM}	100	Amps
Maximum Instantaneous Forward Voltage at 35.0A for Unidirectional only	V_F	3.5	Volts
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ C$

NOTES:

1. Non-repetitive current pulse per Fig. 3 and derated above $T_A=25^\circ C$ per Fig. 2.
2. Mounted on Copper Pad area of $5.0mm^2$ (.013mm Thick) to each terminal.
3. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.

DEVICES FOR BIPOLAR APPLICATIONS

1. For Bidirectional use C or CA Suffix for types SMBJ5.0 thru SMBJ170.
2. Electrical characteristics apply in both directions.



RATING AND CHARACTERISTIC CURVES (SMBJ SERIES)

FIG.1-PEAK PULSE POWER DERATING CURVE

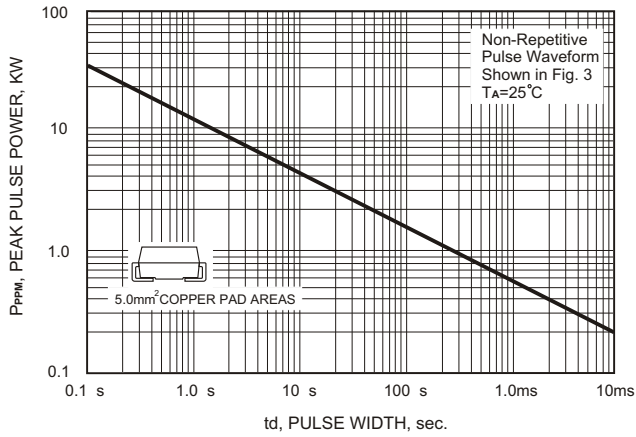


FIG.2-PULSE DERATING CURVE

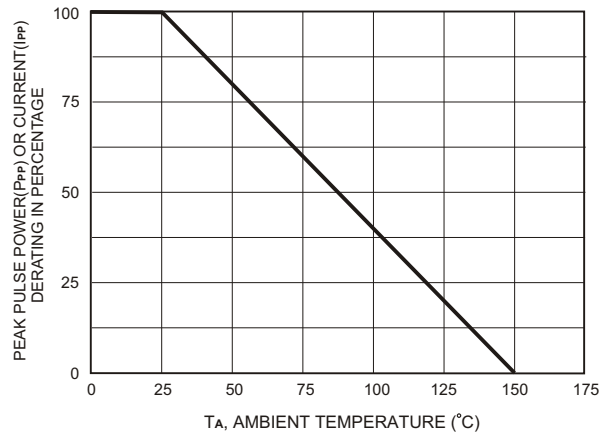


FIG.3-PULSE WAVE FORM

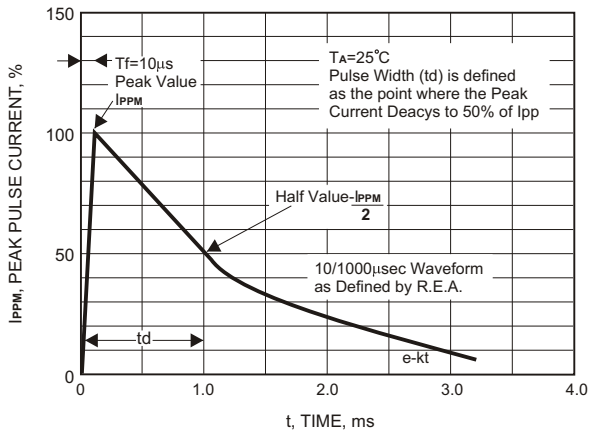


FIG.4-TYPICAL JUNCTION CAPACITANCE

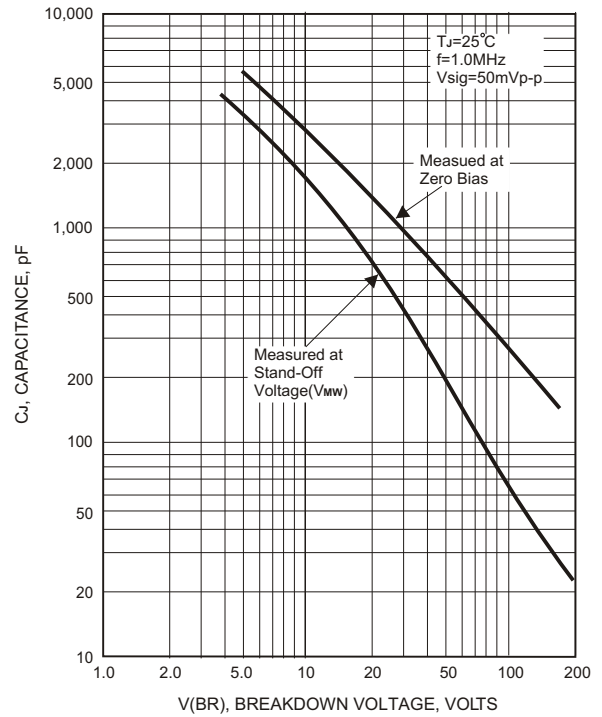
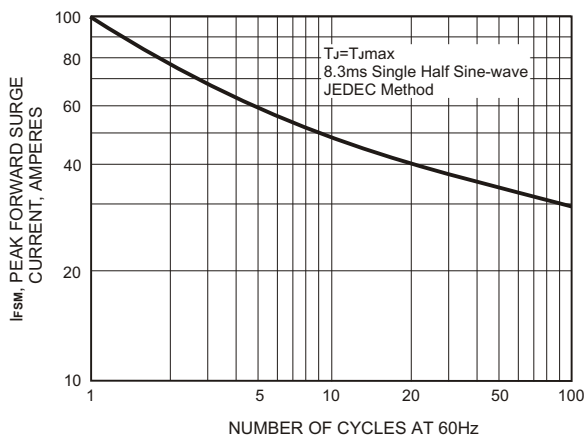


FIG.5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



600 Watt Surface Mount TVS



PART NUMBER ADD C FOR BI- DIRECTIONAL	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V)		TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @ VRWM IR(μA)	MARKING CODE	
		MIN. @IT	MAX. @IT					UNI	BI
See Note 1									
SMBJ60(C)	60	66.7	84.5	1	107	5.6	5	NH	DH
SMBJ60(C)A	60	66.7	76.7	1	96.8	6.2	5	NK	DK
SMBJ64(C)	64	71.1	90.1	1	114	5.3	5	NL	DL
SMBJ64(C)A	64	71.1	81.8	1	103	5.8	5	NM	DM
SMBJ70(C)	70	77.8	98.6	1	125	4.8	5	NN	DN
SMBJ70(C)A	70	77.8	89.5	1	113	5.3	5	NP	DP
SMBJ75(C)	75	83.3	105.7	1	134	4.5	5	NQ	DQ
SMBJ75(C)A	75	83.3	95.8	1	121	4.9	5	NR	DR
SMBJ78(C)	78	86.7	109.8	1	139	4.3	5	NS	DS
SMBJ78(C)A	78	86.7	99.7	1	126	4.7	5	NT	DT
SMBJ85(C)	85	94.4	119.2	1	151	3.9	5	NU	DU
SMBJ85(C)A	85	94.4	108.2	1	137	4.4	5	NV	DV
SMBJ90(C)	90	100	126.5	1	160	3.8	5	NW	DW
SMBJ90(C)A	90	100	115.5	1	146	4.1	5	NX	DX
SMBJ100(C)	100	111	141.0	1	179	3.4	5	NY	DY
SMBJ100(C)A	100	111	128.0	1	162	3.7	5	NZ	DZ
SMBJ110(C)	110	122	154.5	1	196	3.0	5	PD	ED
SMBJ110(C)A	110	122	140.5	1	177	3.4	5	PE	EE
SMBJ120(C)	120	133	169.0	1	214	2.8	5	PF	EF
SMBJ120(C)A	120	133	153.0	1	193	3.1	5	PG	EG
SMBJ130(C)	130	144	182.5	1	231	2.6	5	PH	EH
SMBJ130(C)A	130	144	165.5	1	209	2.9	5	PK	EK
SMBJ150(C)	150	167	211.5	1	268	2.2	5	PL	EL
SMBJ150(C)A	150	167	192.5	1	243	2.5	5	PM	EM
SMBJ160(C)	160	178	226.0	1	287	2.1	5	PN	EN
SMBJ160(C)A	160	178	205.0	1	259	2.3	5	PP	EP
SMBJ170(C)	160	189	239.5	1	304	2.0	5	PQ	EQ
SMBJ170(C)A	170	189	217.5	1	275	2.2	5	PR	ER