

Transient Voltage Suppression Diode

SMBJ Series, 600 Watts



RoHS
Compliant

Features

- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has UL recognition 94V-0
- Typical IR less than 1 μ A above 10V
- Fast response time: typically less than 5.0ns fo Bi-direction, from 0 Volts to BV min



Mechanical Data

- Case: Molded Plastic
- Polarity: By cathode band denotes bi-directional device
- Weight: 0.003 ounces, 0.093 grams

Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	Symbol	Value	Unit
Peak Power Dissipation at T _A = 25°C by 10×1000 μ s waveform (Note 1), (Note 2)	P _{PPM}	600	W
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I _{FSM}	100	A
Steady State Power Dissipation at T _L = 75°C	P _{M(AV)}	5	W
Typical Thermal Resistance Junction to Lead	R θ JA	20	°C/W
Typical Thermal Resistance Junction to Ambient	R θ JL	100	°C/W
Operating Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}		

Notes:

1. Non-repetitive current pulse, per Fig. 3 and derated above T_A = 25°C per Fig. 1.
2. Thermal Resistance junction to Lead.
3. The typical data above is for reference only.

Part Number		Reverse Stand off Voltage VR	Breakdown Voltage VBR (Volts) @ I _T		Test Current I _T	Max. Clamping Voltage VC @ I _{PP}	Max. Peak Pulse Current	Max. Reverse Leakage IR@ VR
Unidirectional	Bidirectional	V _R (V)	Min. (V)	Max. (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μ A)
-	SMBJ6.8CA	6.8	7.56	8.35	10	11.7	51.3	400

Notes:

1. For bidirection type having V_{RWM} of 10 volts and less,the I_R limit is double.
2. For parts without A(V_{BR} is $\pm$ 10% and V_C is 5% higher than with A parts).



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Ratings and Characteristic Curves

FIG.1-PULSE DERATING CURVE

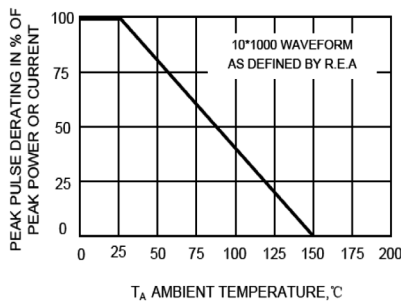


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

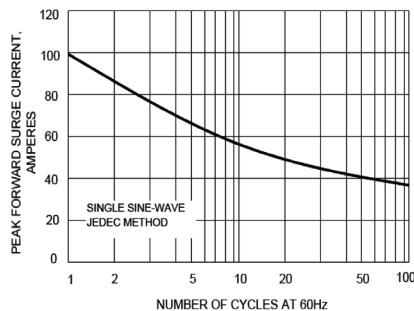


FIG.3-PULSE WAVEFORM

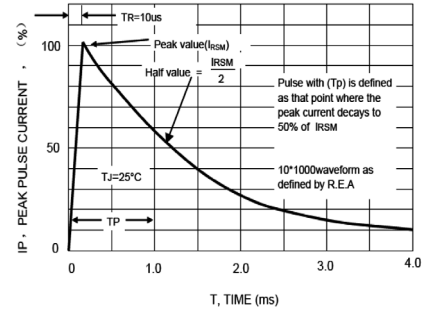


FIG.4-TYPICAL JUNCTION CAPACITANCE

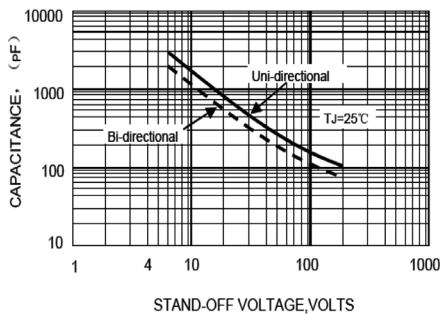


FIG.5-PULSE RATING CURVE

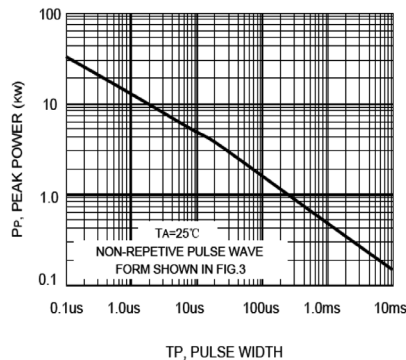
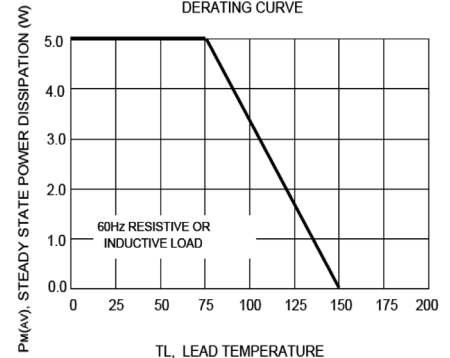
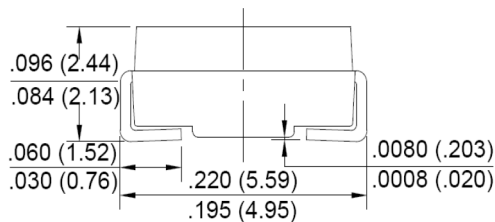
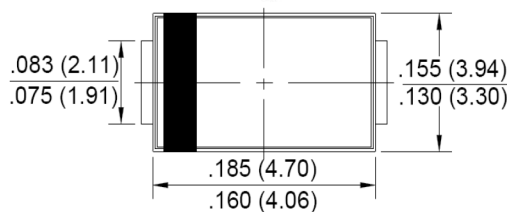


FIG.6-STEADY STATE POWER DERATING CURVE



Diagram

SMB (DO-214AA)



Part Number Table

Description	Part Number
Transient Voltage Suppression Diode, SMBJ Series, Bidirectional, 600W, DO-214AA	SMBJ6.8CA

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