

SuperTVS – 600W Transient Voltage Suppressor





1. Features

- Glass passivated chip
- 600 W peak pulse power capability with a 10/1000 us waveform, repetitive rate (duty cycle):0.01 %
- Excellent clamping capability
- Low reverse leakage
- Very fast response time
- Lead and body according with RoHS standard
- IEC 61000-4-2(ESD) $\pm 30\text{KV}$ (air)
 $\pm 30\text{KV}$ (contact)

2. Mechanical Data

- Case: DO-214AA/SMB Molded plastic
- Lead: Solderable per MIL-STD-750, method 2026
- Epoxy: UL 94V-0 rate flame retardant
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

3. Marking Information

BI- directional	UNI-directional	Marking
		XXXX= Product type marking code (See Electrical Characteristics Table)
		

SMBJ3.3A/CA

Rev-1.2

4. Maximum Ratings and Characteristics

Ratings at 25° ambient temperature unless otherwise specified

Rating	Symbol	Value	Units
Peak pulse power dissipation at 10/1000us waveform (Note1)	P_{PP}	600	W
Peak pulse current of at 10/1000us waveform (Note1)	I_{PP}	75	A
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	5.0	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) (Note2)	I_{FSM}	100	A
Maximum instantaneous forward voltage at 10 A for unidirectional only	V_F	3.5/5.0	V
Operating junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Notes:

1. Non-repetitive current pulse, per Fig.5 and derated above $T_A=25^\circ\text{C}$ per Fig.1.
2. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

Part Number	Part Number	Marking		Reverse Stand off Voltage V_R	Breakdown Voltage V_{BR} (Volts) @ I_T		Test Current I_T	Maximum Clamping Voltage V_C @ I_{pp}	Maximum Peak Pulse Current I_{pp}	Maximum Reverse Leakage I_R @ V_R
UNI	BI	UNI	BI	(V)	MIN	MAX	(mA)	(V)	(A)	(μA)
SMBJ3.3A	SMBJ3.3CA	K1	KC	3.3	5.0	6.5	10	8.0	75.0	600

5. Ratings and Characteristic Curves (TA =25°C unless otherwise noted)

Figure 1. Pulse Derating Curve

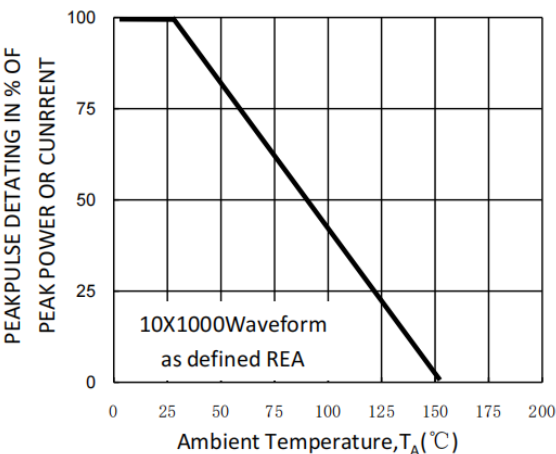


Figure 2 Maximum Non-Repetitive Surge Current

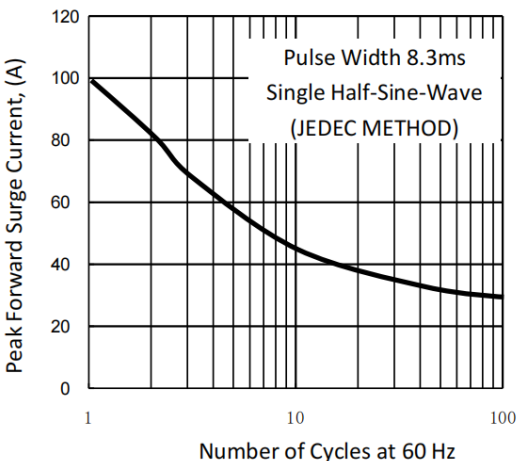


Figure 3 Steady State Power Derating Curve

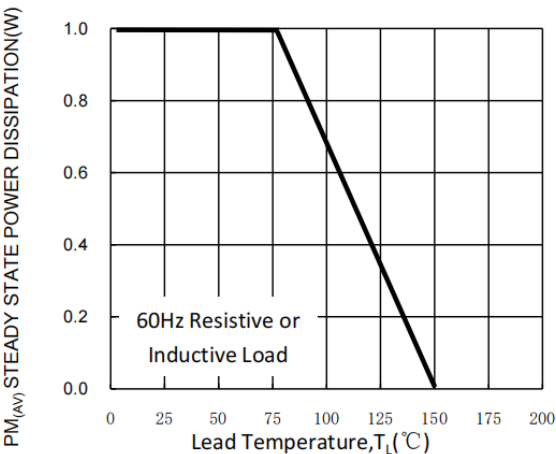


Figure 4 Peak Pulse Power Rating Curve

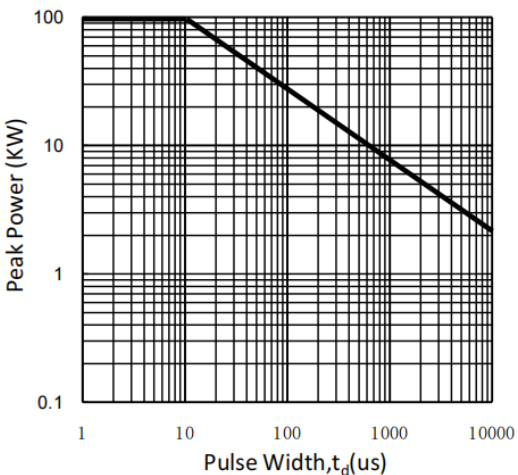


Figure 5 Pulse Waveform

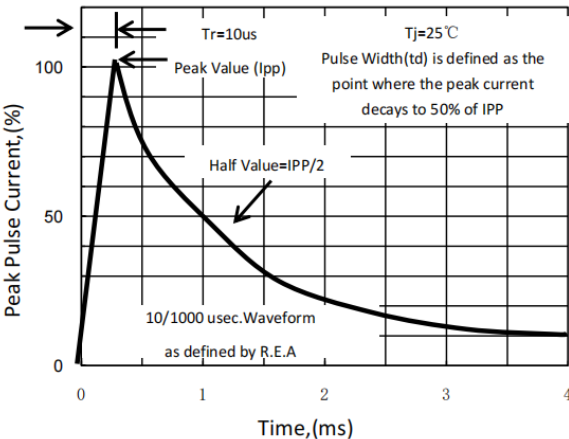
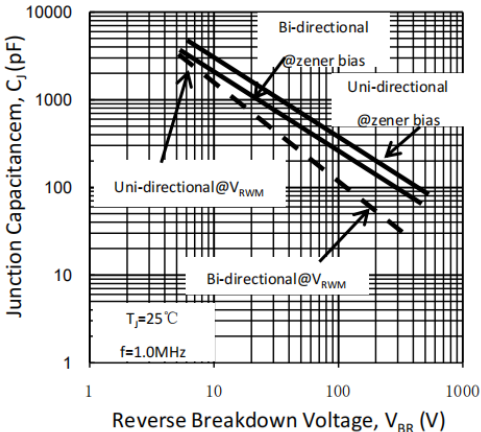


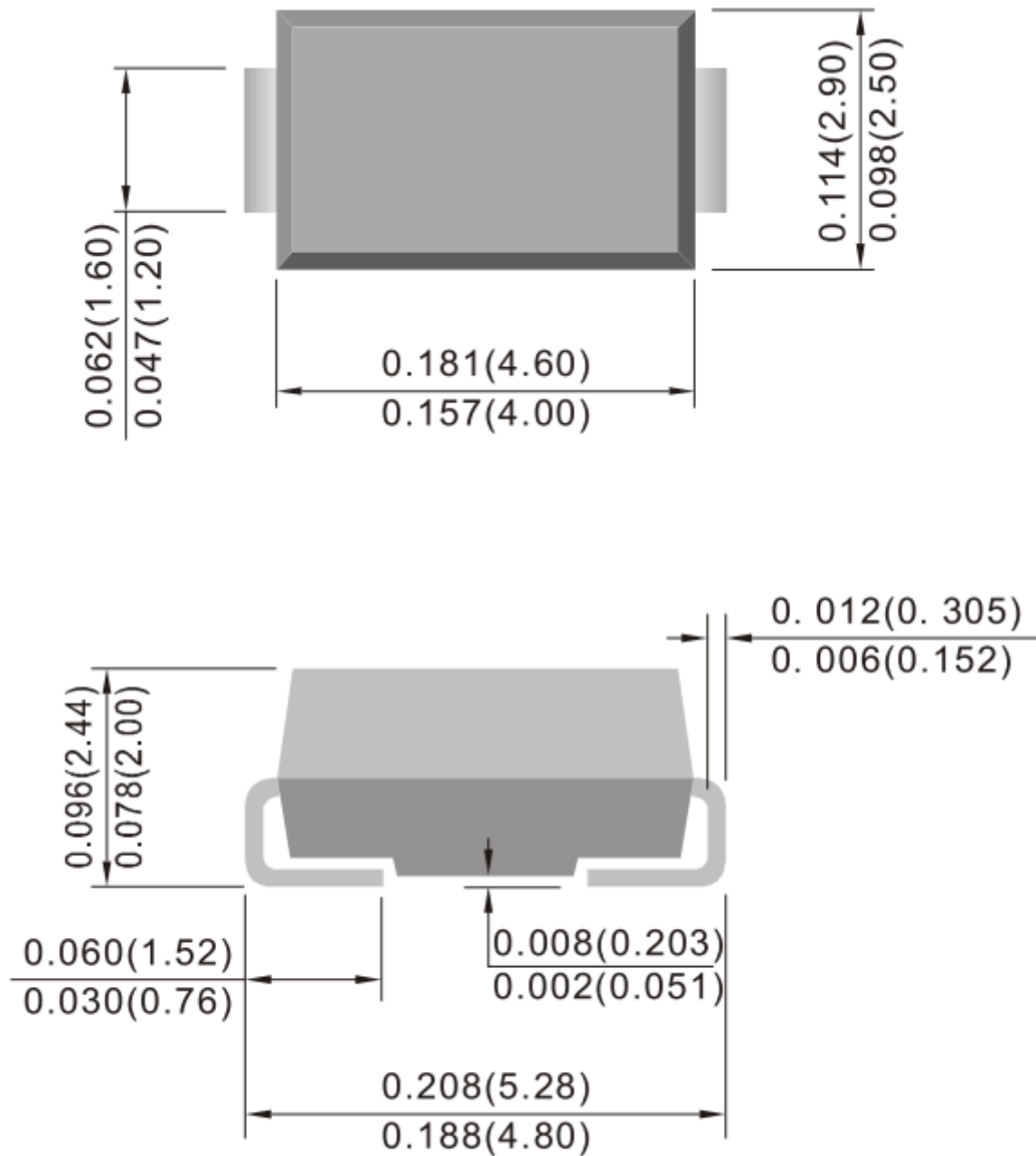
Figure 6 Typical Junction Capacitance



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6. Dimension (SMB/DO-214AA)



Unit : inch(mm)

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