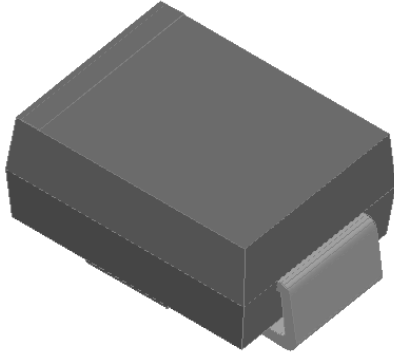


Surface Mount Transient Voltage Suppressors

Bi-directional



Features

- For surface mounted applications
- Low-profile package
- Ideal for automated placement
- Available in Unidirectional and Bidirectional
- 600 W peak pulse power capability with a 10/1000 μ s waveform
- Low incremental surge resistance, excellent clamping capability
- Very fast response time
- High temperature soldering guaranteed: 260 °C/10 s at terminals
- Meets MSL level 1
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

Typical Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting on ICs, MOSFET, signal lines of sensor units for consumer, computer, industrial, telecommunication.

Mechanical Data

- **Package:** DO-214AA (SMB)
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals:** Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D
- **Polarity:** For uni-directional types the band denotes cathode end, no marking on bi-directional types

■Maximum Ratings (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Max
Peak power dissipation, with a 10/1000us waveform (1) (2) (Fig.1)	PPPM	W	600
Peak pulse current, with a 10/1000us waveform(1)	I _{PPM}	A	See Next Table
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only (2)	I _{FSM}	A	100
Operating junction and storage temperature range	T _J ,T _{STG}	°C	-55 to +150

■Thermal Characteristics (T_a=25°C Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	Conditions	VALUE
Thermal resistance(Typical)	R _{θJL}	°C/W	junction to lead	20
	R _{θJA}	°C/W	junction to ambient	100



SMBJ6.8CA

Notes:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above $T_A = 25^\circ\text{C}$ per Fig.2.
- (2) Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal.

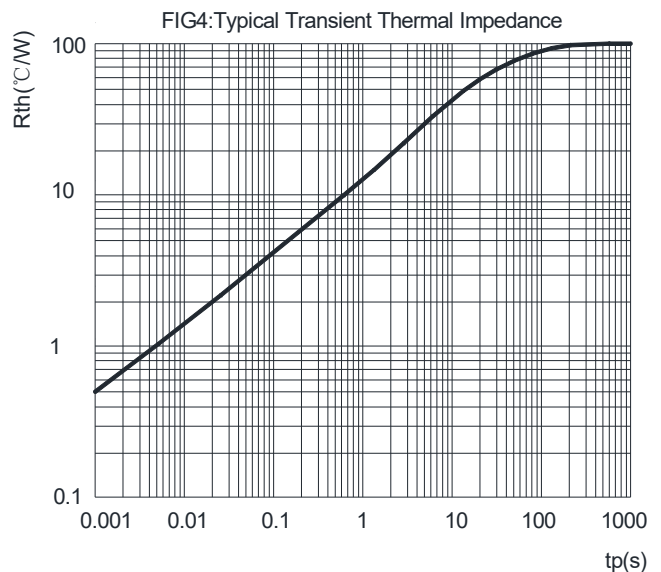
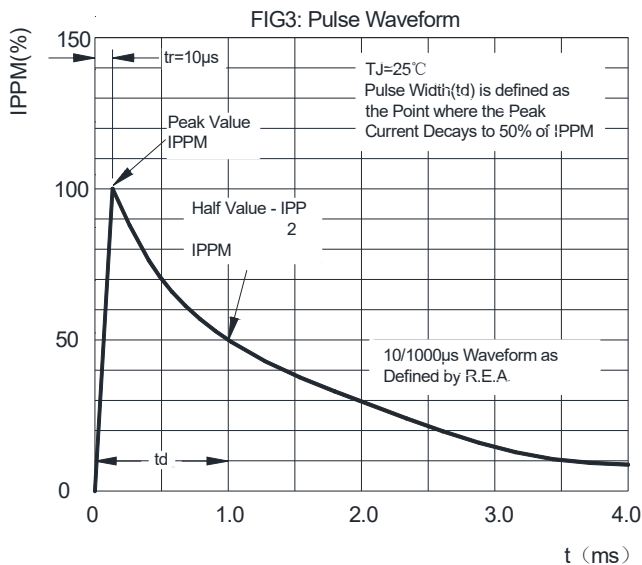
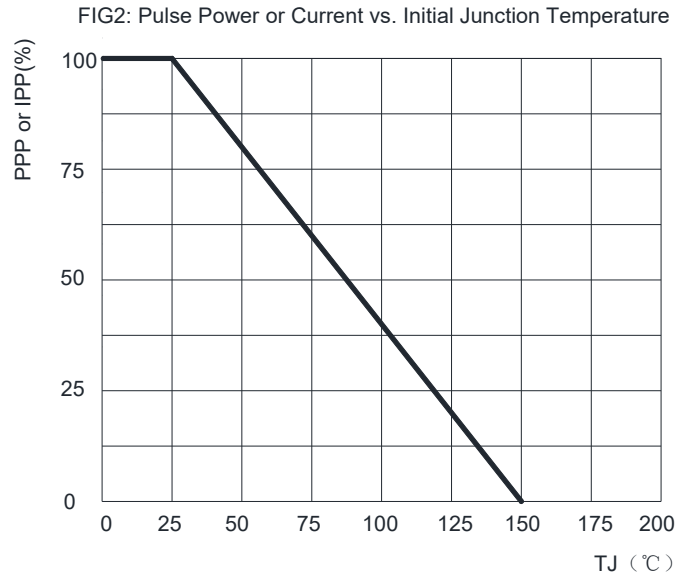
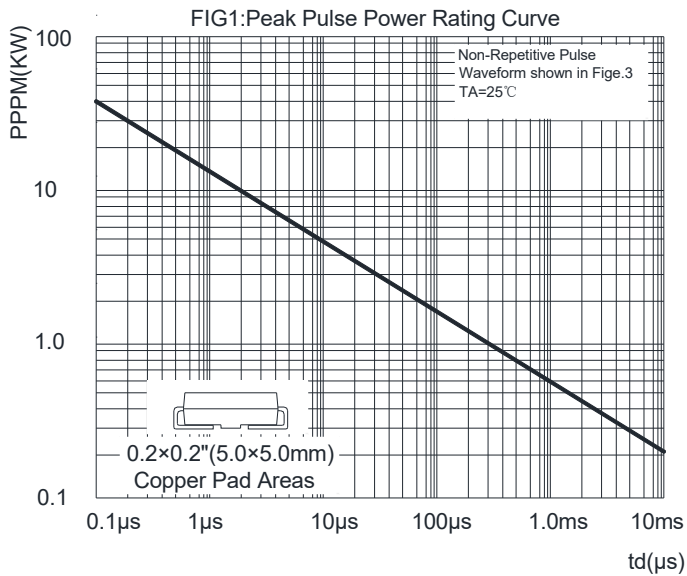
■ Electrical Characteristics ($T_A = 25^\circ\text{C}$ Unless otherwise specified)

Part Number (Bi)	Breakdown Voltage $V_{BR}@I_T$			Maximum Reverse Leakage $I_R^{(6)}@V_{RWM}$ (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current $I_{PP}^{(5)}$ (A)	Maximum Clamping Voltage V_c @ I_{PP} (V)
	Min(V)	Max (V)	$I_T^{(4)}$ (mA)				
SMBJ6.8CA	6.46	7.14	10	1000	5.8	57.14	10.5

Notes:

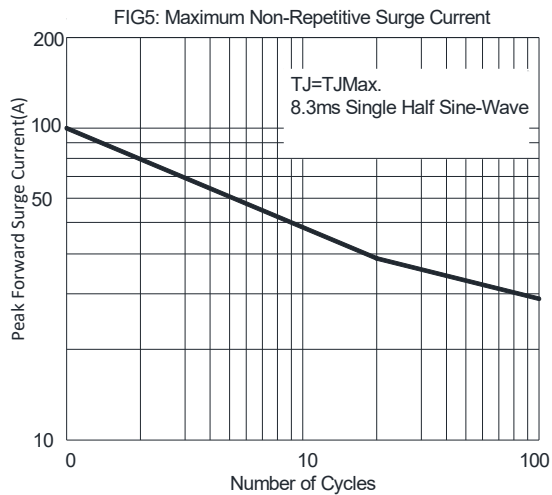
- (4) Pulse test: $t_p \leq 50\text{ms}$.
- (5) Surge current waveform per Fig. 3 and derated per Fig.2.
- (6) For bi-directional types having V_{RWM} of 10 V and less, the I_R limit is doubled.

■ Characteristics (Typical)





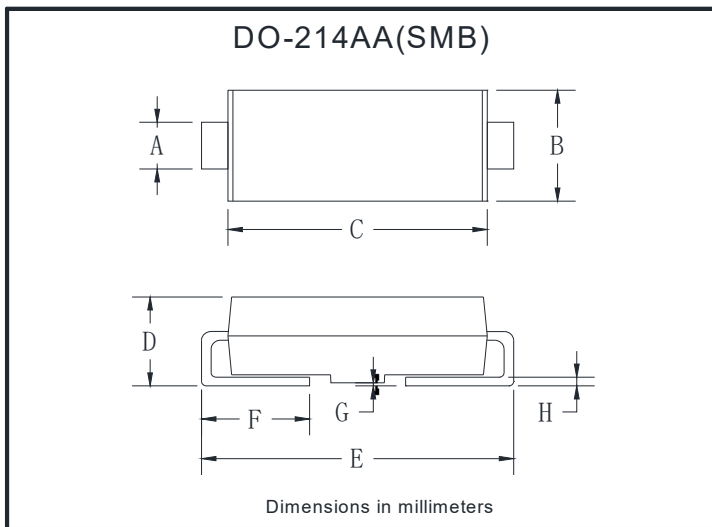
SMBJ6.8CA



■ Ordering Information (Example)

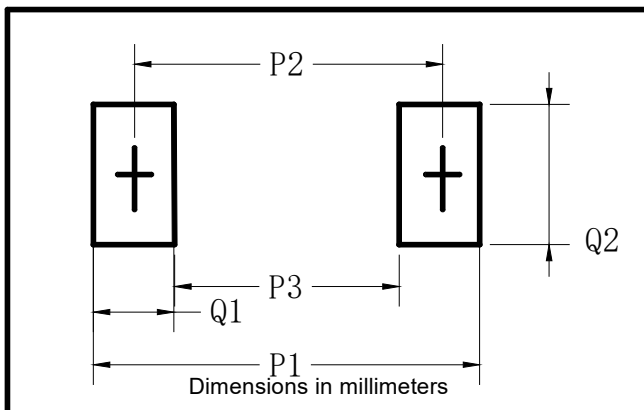
PREFERRED P/N	PACKING CODE	UNIT WEIGHT(g)	MINIMUM PACKAGE(pcs)	INNER BOX QUANTITY(pcs)	OUTER CARTON QUANTITY(pcs)	DELIVERY MODE
SMBJ6.8CA	F1	0.0975	3000	/	48000	13" reel

■ Outline Dimensions



DO-214AA(SMB)		
Dim	Min	Max
A	1.85	2.15
B	3.30	3.94
C	4.25	4.75
D	1.99	2.61
E	5.21	5.59
F	0.90	1.41
G	0.05	0.20
H	0.15	0.31

■ Suggested pad layout



DO-214AA(SMB)	
Dim	Millimeters
P1	6.8
P2	4.3
P3	1.8
Q1	2.5
Q2	2.3



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