

TVS Diodes

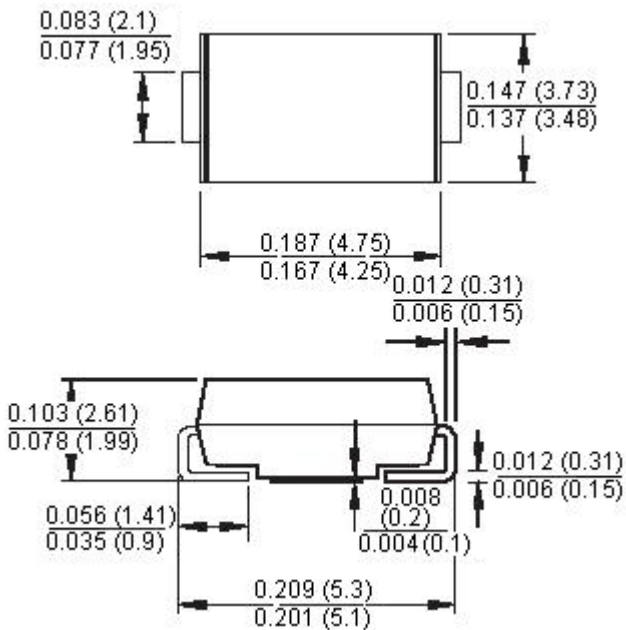
P6SMB Series



Features:

- For surface mounted application in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Excellent clamping capability
- Fast response time : typically less than 1 ps from 0 V to BV minimum
- Typical I_R less than 1 μA above 10 V
- High temperature soldering guaranteed : 260°C / 10 seconds at terminals
- Plastic material used carries
- 600 watts peak pulse power capability with a 10 × 1,000 μs waveform by 0.01% duty cycle

SMB/DO-214AA



Dimensions : Inches (Millimetres)

Mechanical Data

Case	: Moulded plastic
Terminals	: Pure tin plated lead free
Polarity	: Indicated by cathode band
Standard Packaging	: 12 mm tape (EIA STD RS-481)
Weight	: 0.093 g

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Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified

Type Number	Symbol	Value	Units
Peak Power Dissipation at $T_A = 25^\circ\text{C}$, $T_p = 1\text{ ms}$ (Note 1)	P_{PK}	Minimum 600	W
Steady State Power Dissipation	P_D	3	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) (Note 2, 3) - Unidirectional Only	I_{FSM}	100	A
Maximum Instantaneous Forward Voltage at 50 A for Unidirectional Only (Note 4)	V_F	3.5 / 5	V
Typical Thermal Resistance (Note 5)	$R_{\theta JC}$ $R_{\theta JA}$	10 55	$^\circ\text{C} / \text{W}$
Operating and Storage Temperature Range	T_J, T_{STG}	-65 to + 150	$^\circ\text{C}$

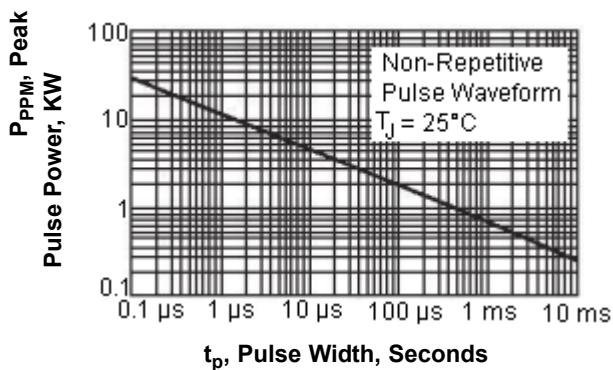
- Notes :**
1. Non-repetitive current pulse and derated above $T_A = 25^\circ\text{C}$
 2. Mounted on 5 mm² (0.013 mm thick) copper pads to each terminal
 3. 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum
 4. $V_F = 3.5\text{ V}$ on P6SMB6.8 thru P6SMB91 devices and $V_F = 5\text{ V}$ on P6SMB100 thru P6SMB220 devices
 5. Measured on P.C.B. with 0.27 × 0.27 Inch (7 × 7 mm) copper pad areas

Devices for bipolar applications

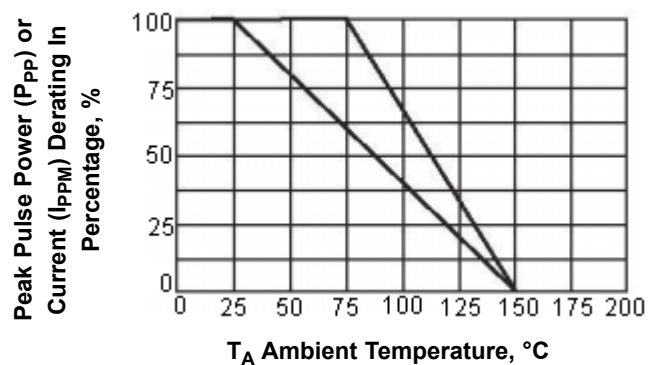
1. For bidirectional use C or CA suffix for types P6SMB6.8 through types P6SMB220A
2. Electrical characteristics apply in both directions

Ratings and Characteristic Curves

Peak Pulse Power Rating Curve



Pulse Derating Curve



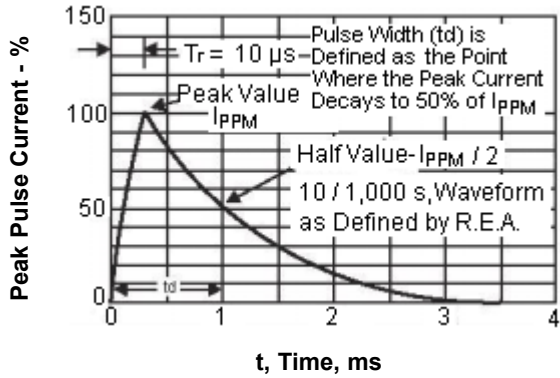
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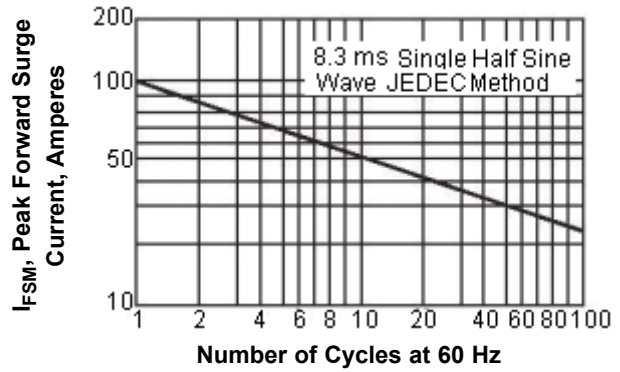


Ratings and Characteristic Curves

Clamping Power Pulse Waveform



Maximum Non-Repetitive Forward Surge Current Unidirectional Only



Typical Junction Capacitance (Unidirectional)

