Transient Voltage Suppression
Diodes Surface Mount

Features:

- Ideal for automated placement
- Glass passivated chip junction
- Available in uni-directional and bi-directional
- 600 W peak pulse power capability with a 10/1000μs waveform, repetitive rate (duty cycle):0.01%
- Very fast response time
- Low incremental surge resistance
- Solder dip 260°C, 40seconds

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, automotive and telecommunication.

Mechanical Data:

Case	: SMB molded plastic Epoxy meets UL 94V-0 flammability rating
Terminals	: Matte tin plated leads,solderable per J-STD-002B and JESD22-B102D
Polarity	: Colour band denotes cathode end
Reverse Voltage	: 440Volts
Power Dissipation	: 600 Watts

Maximum Ratings and Electrical Characteristics:

T_A = 25 °C unless otherwise noted.

Characteristics	Symbol	Value	Unit
Peak Pulse Power Dissipation at T_A = 25ºC by 10x1000μs waveform (Note 1), (Note 2)	P_{PPM}	600	Watts
Power Dissipation on Infinite Heat Sink at T_A = 50°C	$P_{M(AV)}$	5	
Peak forward surge current 8.3ms Single Half Sine-Wave Uni-Directional only	I_{FSM}	100	Amps
Maximum Instantaneous Forward Voltage at 50A for Uni-Directional only (Note 4)	V_F	3.5V / 5	Volts
Typical Thermal Resistance Junction to Lead	R_{UJA}	100	°C/W
Typical Thermal Resistance Junction to Ambient	R_{UJL}	20	°C/W
Operating Temperature Range	T_J	-65 to +150	°C
Storage Temperature Range	T_{STG}		

Notes:

1. Non-repetitive current pulse,per Fig.3 and derated above TA=25°C per Fig.2.
2. Mounted on 5mm × 5mm copper pad to each terminal
3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only.
4. V_F <3.5V for V_{BR}<200V and V_F<6.5V for V_{BR}>201V
5. The typical data above is for reference only

Part Number		Reverse Stand off Voltage VR	Breakdown Voltage VBR (Volts) @ IT		Test Current	Max. Clamping Voltage VC @ Ipp	Peak Pulse Current Ipp	Max. Reverse Leakage IR@ VR
Unidirectional	**Bidirectional**	**V_{WM} (V)**	**Min.**	**Max.**	**I_T (mA)**	**V_C (V)**	**I_{PPM} (Amps)**	**I_D (µA)**
-	SMBJ100CA	100	111	123	1	162	3.7	1
SMBJ18A	SMBJ18CA	18	20	22.1	1	29.2	20.6	1
SMBJ200A	-	200	224	247	1	324	1.9	1
-	SMBJ24CA	24	26.7	29.5	1	38.9	15.5	1
SMBJ33A	SMBJ33CA	33	36.7	40.6	1	53.3	11.3	1
SMBJ36A	SMBJ36CA	36	40	44.2	1	58.1	10.4	1
SMBJ40A	SMBJ40CA	40	44.4	49.1	1	64.5	9.3	1
SMBJ48A	SMBJ48CA	48	53.3	58.9	1	77.4	7.8	1
SMBJ70A	-	70	77.8	86	1	113	5.3	1

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 ±10% and Vc is 5% higher than with A parts).

Ratings and Characteristic Curves

Figure 1 - Peak Pulse Power Rating

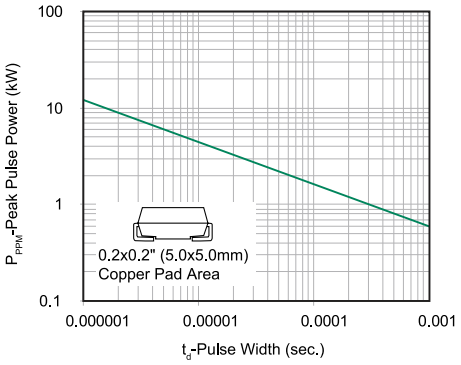


Figure 2 - Pulse Derating Curve

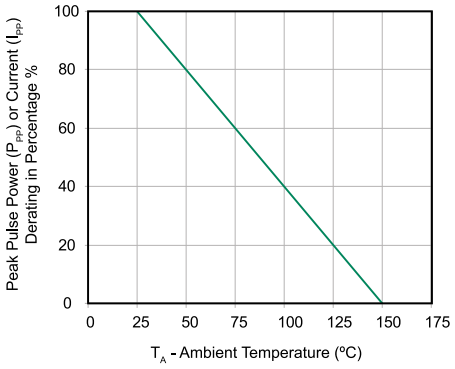


Figure 3 - Pulse Waveform

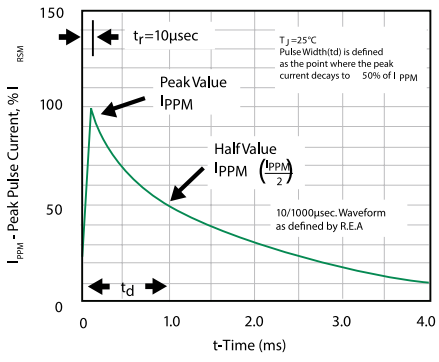


Figure 4 -Typical Junction Capacitance

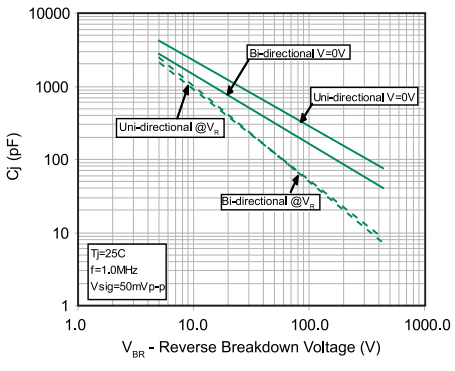


Figure 5 - Steady State Power Dissipation Derating Curve

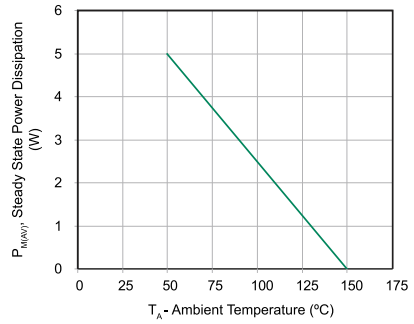
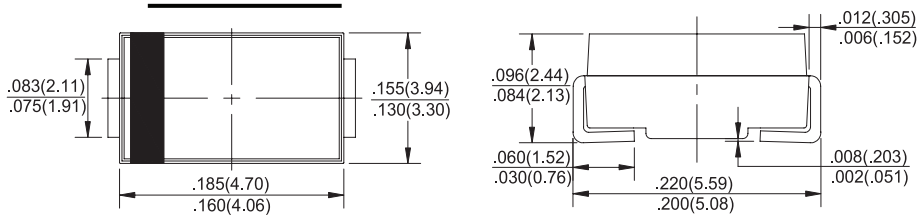


Figure 6 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only

Dimensions:

SMB



Dimensions : Inches (Millimetres)

Part Number Table

Description	Part Number
Transient Voltage Suppression Diodes Surface Mount	SMBJ100CA
	SMBJ18A
	SMBJ18CA
	SMBJ200A
	SMBJ24CA
	SMBJ33A
	SMBJ33CA
	SMBJ36A
	SMBJ36CA
	SMBJ40A
	SMBJ40CA
	SMBJ48A
	SMBJ48CA
	SMBJ70A