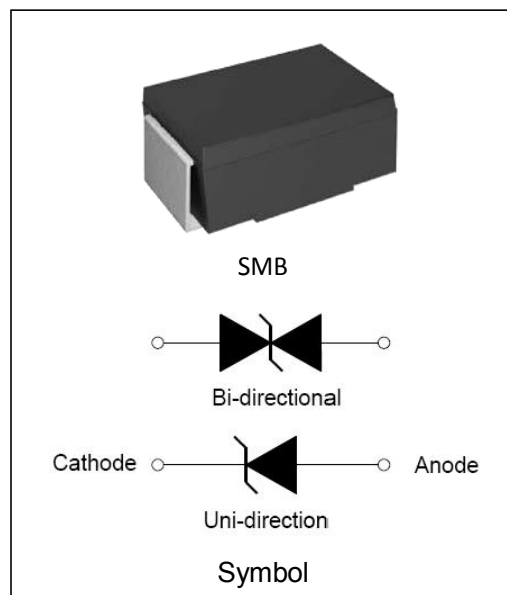


»Features

- Peak power dissipation 600W @10 x 1000 us Pulse
- Low profile package.
- Excellent clamping capability.
- Glass passivated junction.
- Fast response time: typically less than 1ps from 0 Volts to BV min
- IEC 61000-4-2 ESD 30KV(Air), 30KV(Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2
- EFT protection of data lines in accordance with IEC 61000-4-4
- Halogen free and RoHS compliant
- Lead-free finish



»Mechanical Characteristics

- CASE: SMB (DO-214AA) Molded Plastic over glass passivated junction.
- Mounting Position: Any
- Polarity: by cathode band denotes uni-directional device, none cathode band denotes bi-directional device.
- Terminal: Solder plated

»Maximum Ratings And Characteristics @ 25°C Ambient Temperature

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1)	P_{PPM}	Min 600	W
Power Dissipation on Infinite Heat Sink at $T_L=50^{\circ}\text{C}$	P_D	5	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	I_{PPM}	See Table 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2, 3)	I_{FSM}	100	A
Operating Junction Temperature Range	T_J	-55 to 150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^{\circ}\text{C}$

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^{\circ}\text{C}$ per Fig.2.

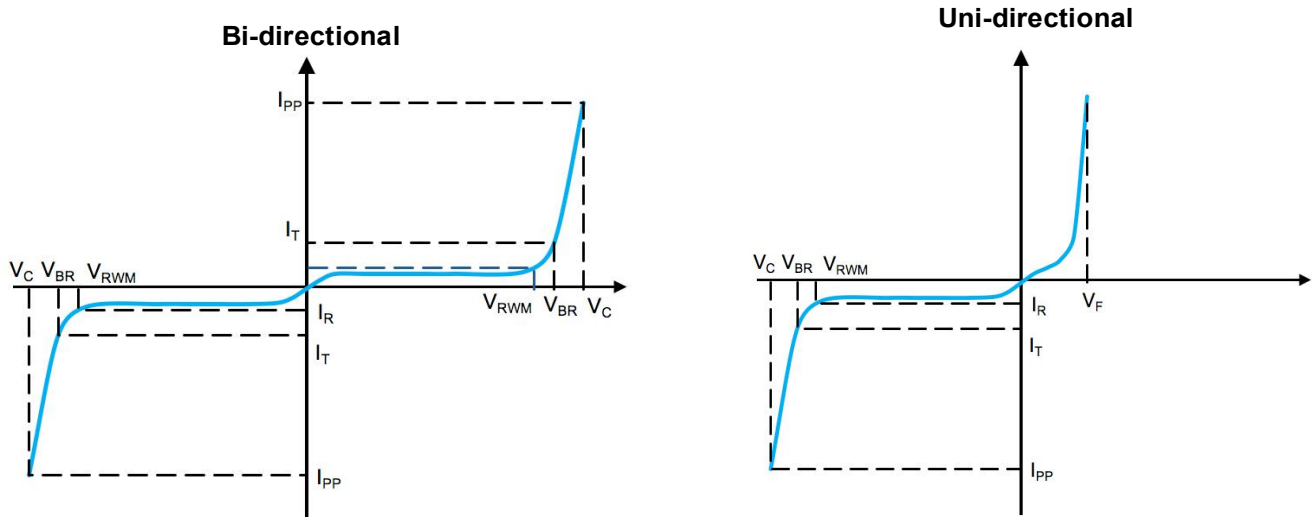
2. Mounted on $5.0 \times 5.0 \text{mm}^2$ (0.03mm thick) Copper Pads to each terminal.

3. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

»Electrical Specification @ Tamb 25°C

Type Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @ I_T	Breakdown Voltage Max. @ I_T	Test Current	Maximum Clamping Voltage @ I_{PP}	Peak Pulse Current	Reverse Leakage @ V_{RMW}
(Uni)	(Bi)	(Uni)	(Bi)	$V_{RMW}(V)$	$V_{BR \text{ MIN}}(V)$	$V_{BR \text{ MAX}}(V)$	$I_T (mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
SMBJ6.8A	SMBJ6.8CA	SMBJ 6.8A	SMBJ 6.8CA	5.8	6.45	7.14	10	10.5	58.1	500

»I-V Curve Characteristics



P_{PPM} Peak Pulse Power Dissipation - Max power dissipation

V_{RWM} Reverse Stand-off Voltage - Maximum voltage that can be applied to TVS without operation

V_{BR} Breakdown Voltage - Maximum voltage that flows though the TVS at a specified current (I_T)

V_C Clamping Voltage - Peak voltage measured across the TVS at a specified I_{PPM} (peak impulse current)

I_R Reverse Leakage Current - Current measured at V_R

V_F Forward Voltage Drop for Uni-directional

»Ratings and Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

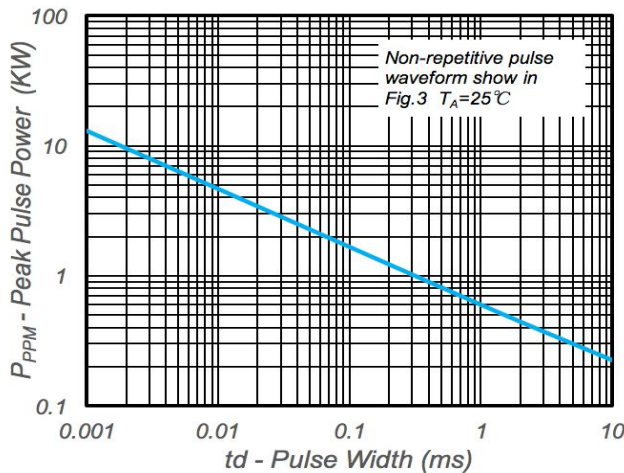


Fig. 1 - Peak Pulse Power Rating

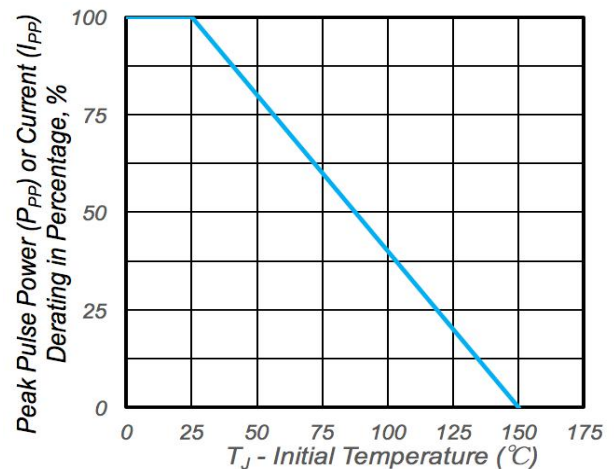


Fig. 2 - Pulse Derating Cure

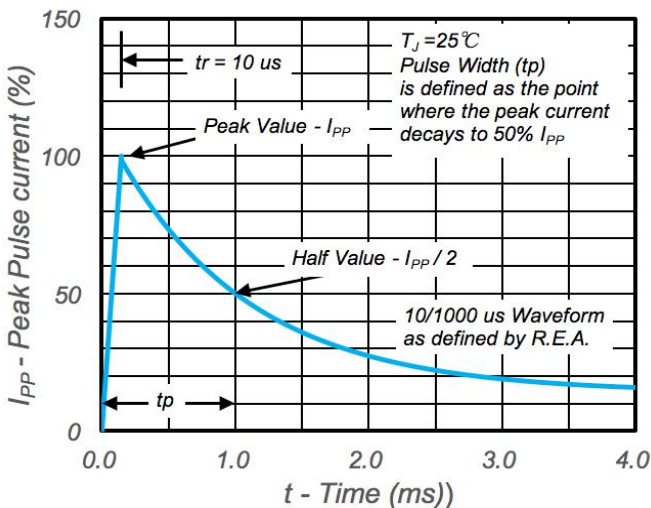


Fig. 3 - Pulse Waveform

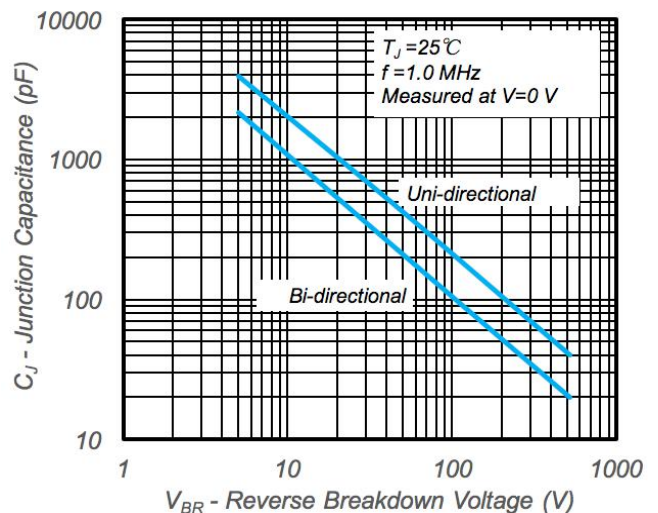
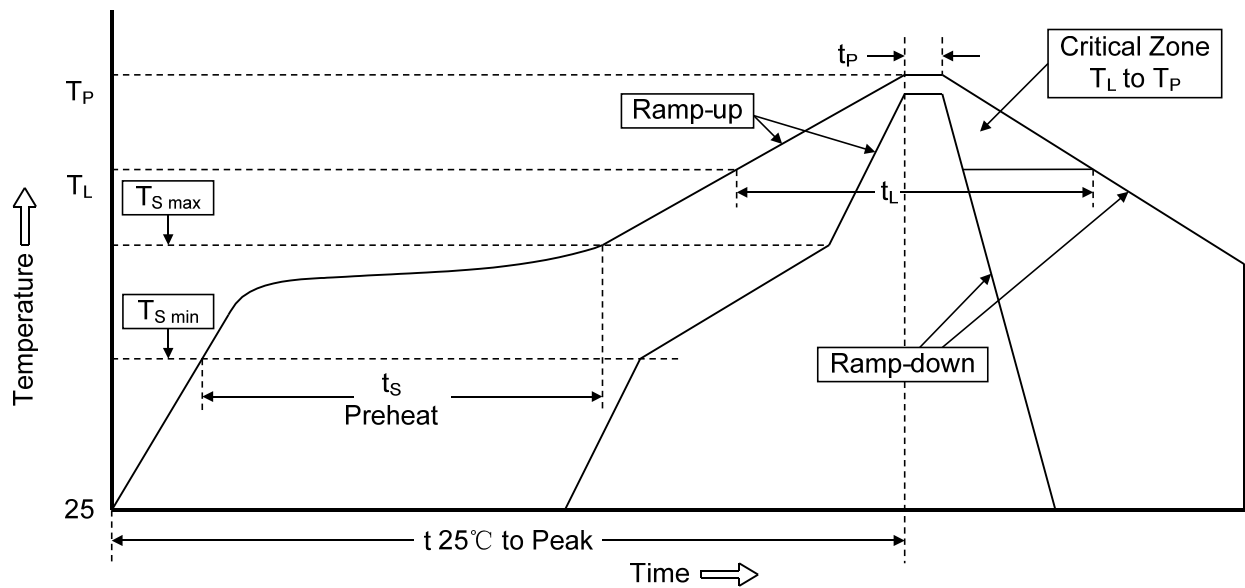


Fig. 4 - Typical Junction Capacitance

»Recommended Soldering Conditons

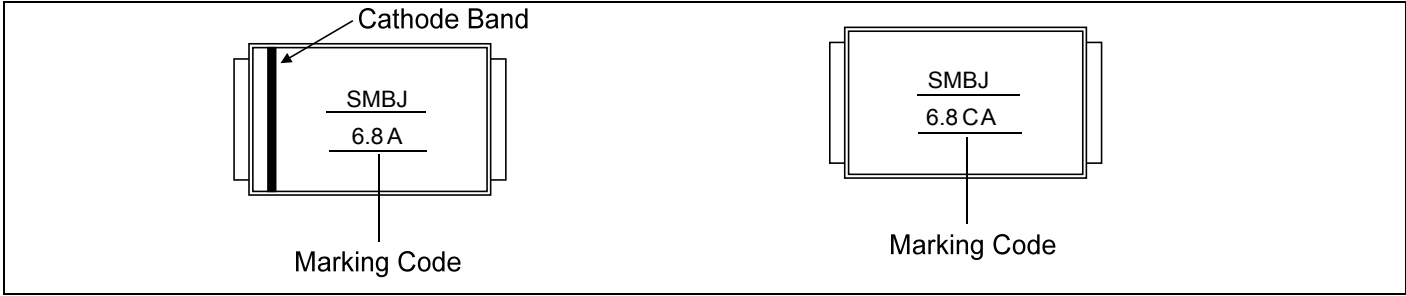
Reflow Soldering



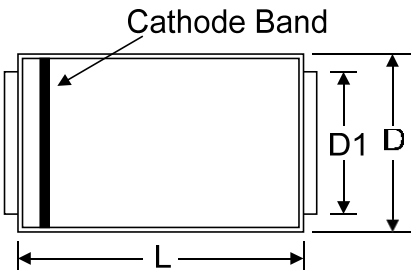
Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S \min}$) -Temperature Max ($T_{S \max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S \max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_p)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

»Marking Code



»Package Outline Dimensions and Pad Layouts (DO-214AA)

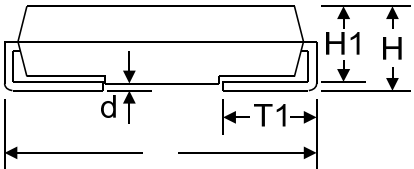


Cathode Band

L

D1

D



H1

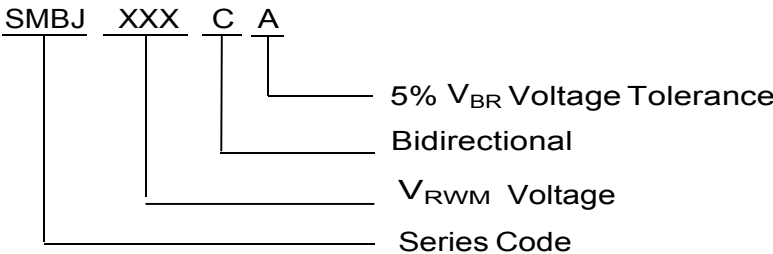
H

d

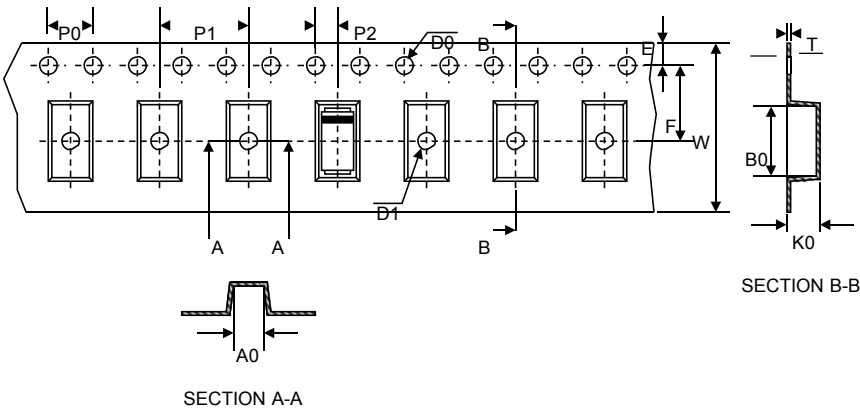
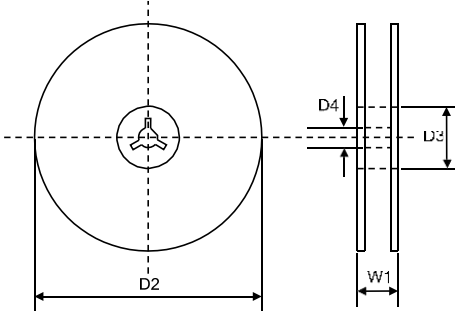
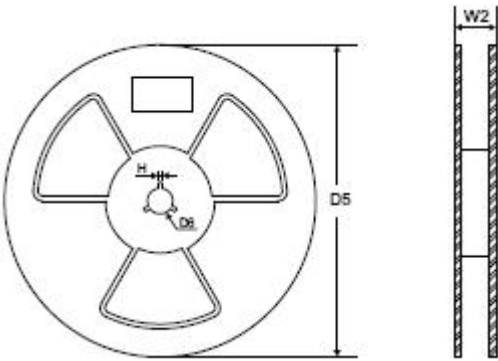
T1

Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	4.29	4.70	0.169	0.186
D	3.40	3.79	0.134	0.150
D1	1.85	2.25	0.073	0.089
T	5.10	5.48	0.201	0.216
T1	0.76	1.52	0.030	0.060
d	-	0.203	-	0.008
H	2.00	2.50	0.079	0.098
H1	1.98	2.29	0.078	0.090

»Ordering Information



»Packaging

Tape 	<table> <tr> <th>Symbol</th><th>Dimension(mm)</th></tr> <tr><td>W</td><td>12.00±0.20</td></tr> <tr><td>P0</td><td>4.00±0.10</td></tr> <tr><td>P1</td><td>8.00±0.10</td></tr> <tr><td>P2</td><td>2.00±0.10</td></tr> <tr><td>D0</td><td>Φ1.55±0.10</td></tr> <tr><td>D1</td><td>Φ1.5±0.10</td></tr> <tr><td>E</td><td>1.75±0.10</td></tr> <tr><td>F</td><td>5.50±0.10</td></tr> <tr><td>A0</td><td>3.86±0.15</td></tr> <tr><td>B0</td><td>5.65±0.10</td></tr> <tr><td>K0</td><td>2.75±0.15</td></tr> <tr><td>T</td><td>0.25±0.05</td></tr> </table>	Symbol	Dimension(mm)	W	12.00±0.20	P0	4.00±0.10	P1	8.00±0.10	P2	2.00±0.10	D0	Φ1.55±0.10	D1	Φ1.5±0.10	E	1.75±0.10	F	5.50±0.10	A0	3.86±0.15	B0	5.65±0.10	K0	2.75±0.15	T	0.25±0.05
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7" Reel 	<table> <tr><td>D2</td><td>Φ178.0±2.0</td></tr> <tr><td>D3</td><td>Φ50.0Min.</td></tr> <tr><td>D4</td><td>Φ13.0±0.5</td></tr> <tr><td>W1</td><td>16.0±2.0</td></tr> <tr><td colspan="2">Quantity: 500PCS</td></tr> </table>	D2	Φ178.0±2.0	D3	Φ50.0Min.	D4	Φ13.0±0.5	W1	16.0±2.0	Quantity: 500PCS																	
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W1	16.0±2.0																										
Quantity: 500PCS																											
13" Reel 	<table> <tr><td>D5</td><td>Φ330.0±2.0</td></tr> <tr><td>D6</td><td>Φ13.5±0.5</td></tr> <tr><td>H</td><td>2.5±1.0</td></tr> <tr><td>W2</td><td>16.0±2.0</td></tr> <tr><td colspan="2">Quantity: 3000PCS</td></tr> </table>	D5	Φ330.0±2.0	D6	Φ13.5±0.5	H	2.5±1.0	W2	16.0±2.0	Quantity: 3000PCS																	
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