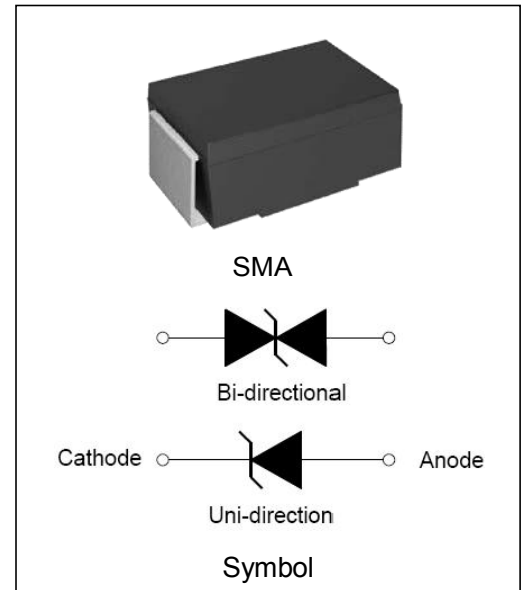


## »Features

- Peak power dissipation 400W @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: SMAJ (DO-214AC) 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 <sub>PPM</sub>	Min 400	W
Power Dissipation on Infinite Heat Sink at T <sub>L</sub> =50°C	P <sub>D</sub>	3.3	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	I <sub>PPM</sub>	See Table 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2. 3)	I <sub>FSM</sub>	60	A
Operating Junction Temperature Range	T <sub>J</sub>	-55 to 150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to 150	°C

Notes: 1. Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub>=25°C per Fig.2.

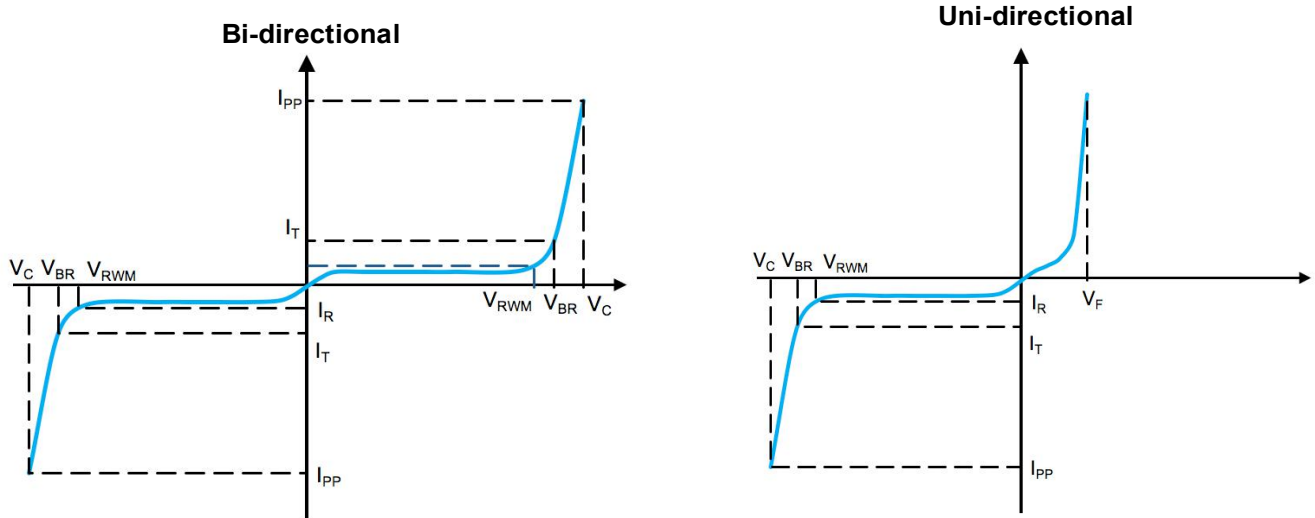
2. Mounted on 5.0x5.0mm<sup>2</sup> (0.03mm thick) Copper Pads to each terminal.

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 <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RMW</sub>
(Uni)	(Bi)	(Uni)	(Bi)	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMAJ6.8A	SMAJ6.8CA	SMAJ 6.8A	SMAJ 6.8CA	5.8	6.45	7.14	10	10.5	39.5	500

»I-V Curve Characteristics



- P<sub>PPM</sub>** Peak Pulse Power Dissipation - Max power dissipation
- V<sub>RWM</sub>** Reverse Stand-off Voltage - Maximum voltage that can be applied to TVS without operation
- V<sub>BR</sub>** Breakdown Voltage – Maximum voltage that flows though the TVS at a specified current ( $I_T$ )
- V<sub>C</sub>** Clamping Voltage – Peak voltage measured across the TVS at a specified  $I_{PPM}$  (peak impulse current)
- I<sub>R</sub>** Reverse Leakage Current – Current measured at  $V_R$
- V<sub>F</sub>** Forward Voltage Drop for Uni-directional

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

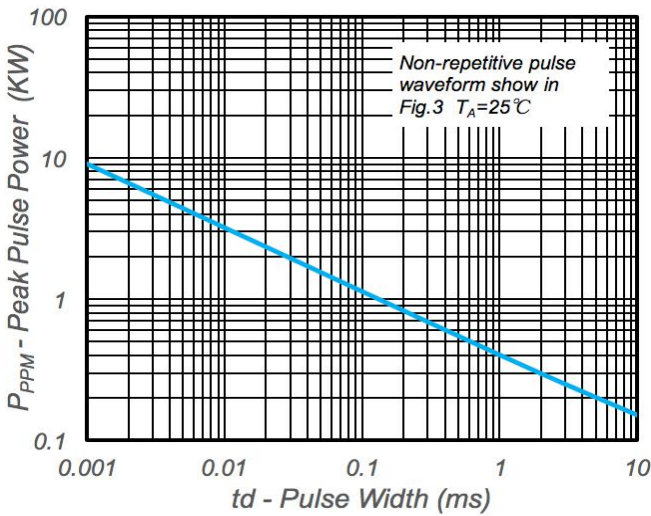


Fig.1 Peak Pulse Power Rating

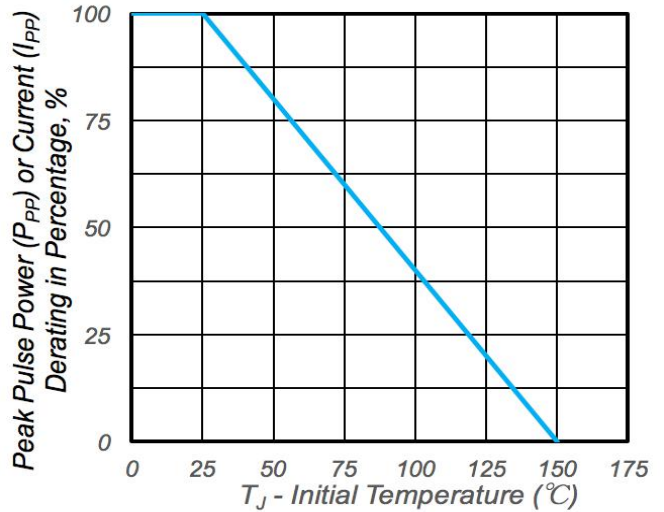


Fig.2 Pulse Derating Curve

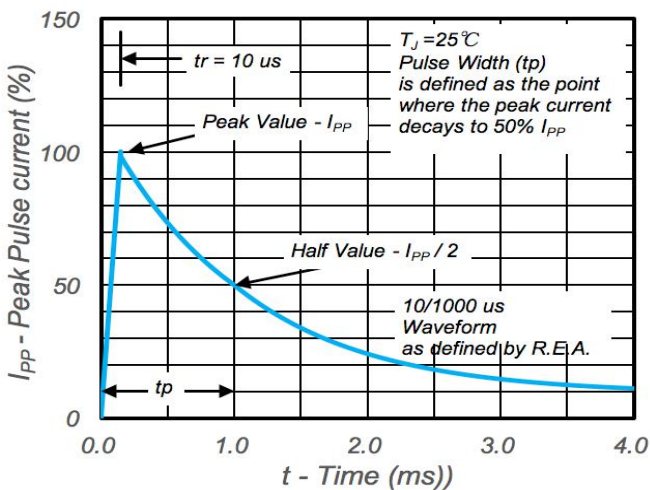


Fig.3 Pulse Waveform

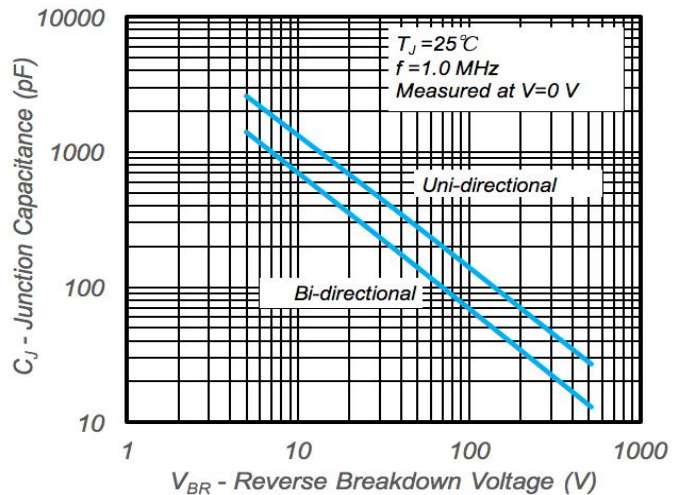
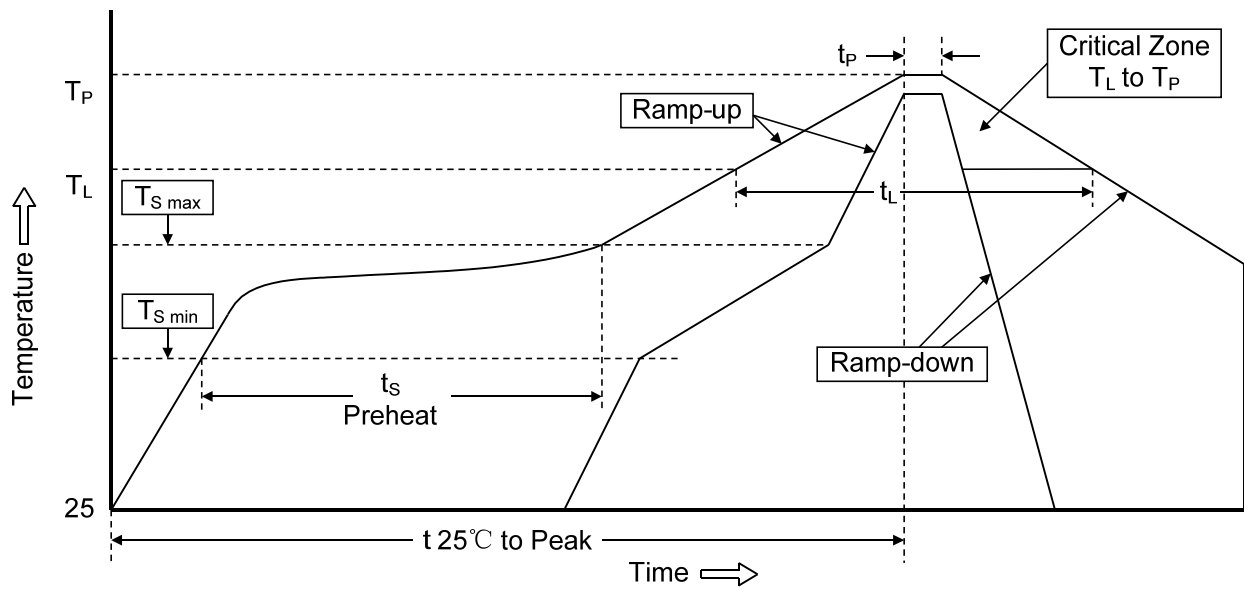


Fig.4 Typical Junction Capacitance

»Recommended Soldering Conditions

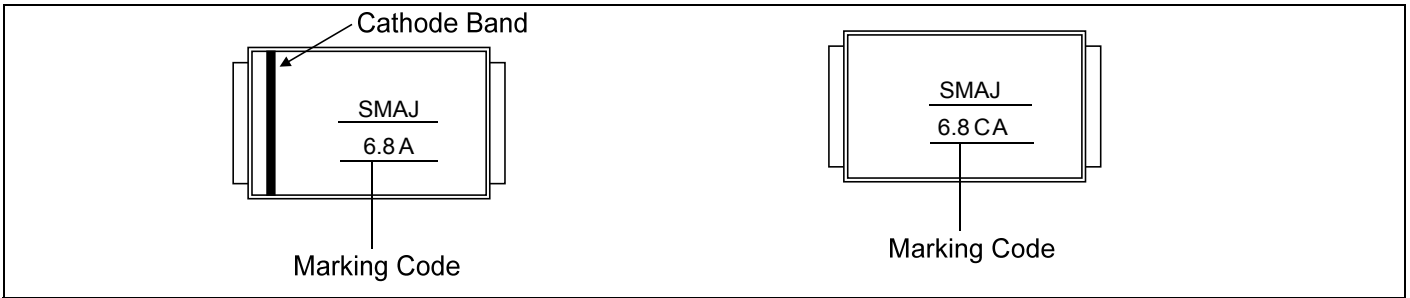
Reflow Soldering



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.

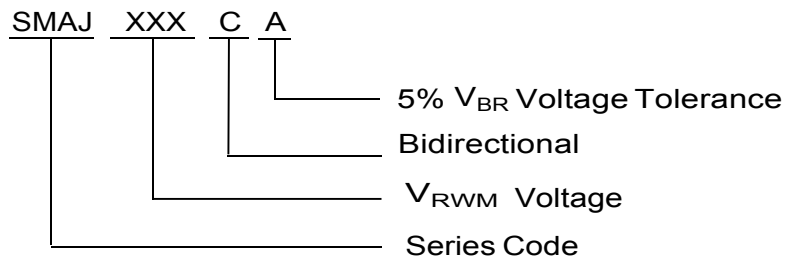
»Marking Code



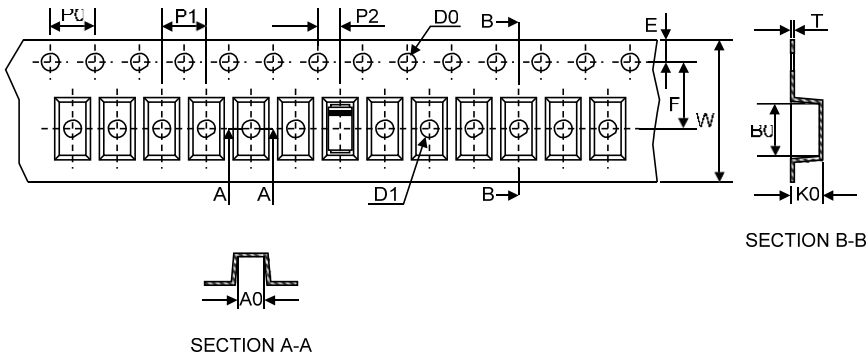
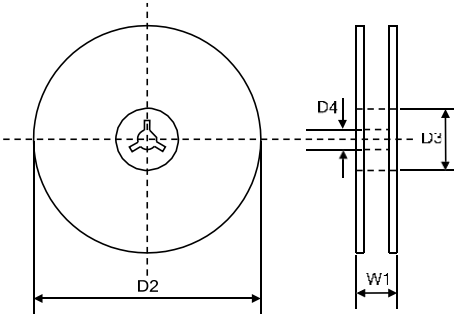
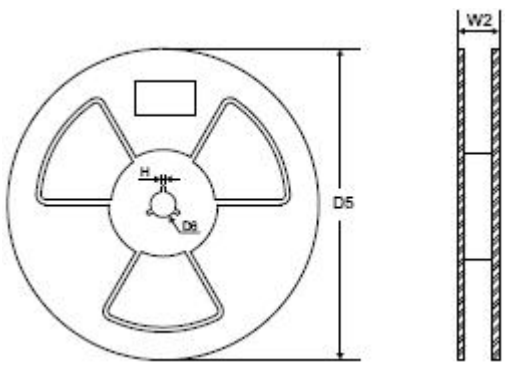
»Package Outline Dimensions and Pad Layouts (DO-214AC)

Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	4.06	4.57	0.160	0.180
D	2.40	2.84	0.095	0.112
D1	1.30	1.60	0.052	0.063
T	5.01	5.39	0.197	0.213
T1	0.76	1.52	0.030	0.060
d	-	0.203	-	0.008
H	2.15	2.65	0.085	0.104
H1	2.03	2.47	0.080	0.097

»Ordering Information



»Packaging

Tape	Symbol	Dimension(mm)
	W	12.00±0.20
	P0	4.00±0.10
	P1	4.00±0.10
	P2	2.00±0.10
	D0	Φ1.5±0.10
	D1	Φ1.5±0.10
	E	1.75±0.10
	F	5.50±0.05
	A0	2.79±0.10
	B0	5.33±0.10
	K0	2.55±0.15
	T	0.25±0.05
	7" Reel	D2
	D3	Φ50.0Min.
	D4	Φ13.0±0.5
	W1	16.0±2.0
	Quantity:2000PCS	
13" Reel	D5	Φ330.0±2.0
	D6	Φ13.5±0.5
	H	2.5±1.0
	W2	16.0±2.0
	Quantity: 5000PCS	

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