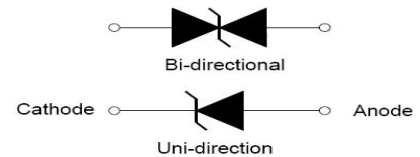


»Features

- Excellent clamping capability
- Low leakage current
- Low capacitance
- High surge capability
- Glass passivated chip
- Epoxy resin package
- Built-in strain relief
- Will not fatigue
- RoHS Compliant
- Fast response time:
typically less than 1.0ps from 0 Volts to V_{BR} min



SMA (DO-214AC)



»Mechanical Characteristics

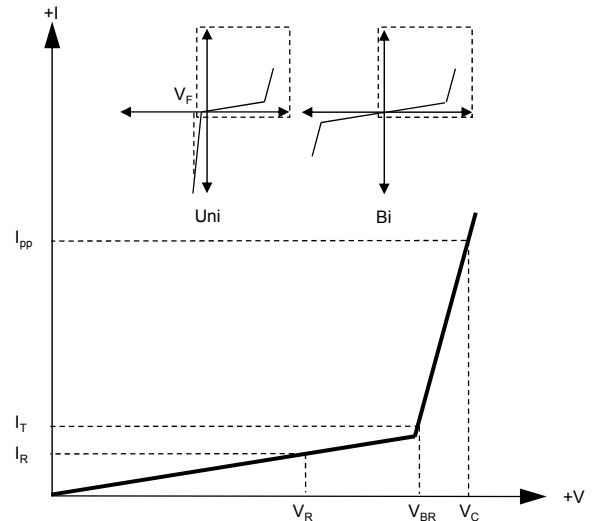
- Package: SMB plastic package.
- Lead Finish: Matte Tin
- Case Material: Epoxy Molding Compound.
- UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020

»Applications

- Telecom
- Computer
- Industrial electronic
- Consumer electronic

»Electrical Parameters

Parameter	Definition
C_J	Junction Capacitance - typical capacitance measured with 0V or V_R bias
I_{PP}	Peak Pulse Current - maximum rated peak impulse current
V_C	Clamping Voltage - Peak voltage measured across the suppressor at a specified I_{ppm} (peak impulse current)
V_{BR}	Breakdown Voltage - Maximum voltage that flows through the TVS at a specified test current (I_T)
I_R	Leakage Current - maximum peak off-state current measured at V_R
V_R	Peak Off-state Voltage - maximum voltage that can be applied while maintaining off state



»Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMA	Tape/Reel, 13" reel	5000	EIA-481-1
	Tape/Reel, 7" reel	2000	EIA-481-1

»Absolute Maximum Ratings ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Operating junction and storage temperature range	T_J/T_{STG}	-55 to +150	$^{\circ}\text{C}$
Steady state power dissipation at $T_L=75^{\circ}\text{C}$	$P_{M(AV)}$	1.0	W
Peak pulse power dissipation on 10/1000 μs waveform	P_{PP}	400	W
Maximum instantaneous forward voltage at 25A for unidirectional	V_F	5.0	V
Peak forward surge current, 8.3ms single half sine wave (Note 1)	I_{FSM}	40	A
Typical thermal resistance junction to lead	$R_{\theta JL}$	30	$^{\circ}\text{C/W}$
Typical thermal resistance junction to ambient	$R_{\theta JA}$	120	$^{\circ}\text{C/W}$

Notes1:

Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum

»Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

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)	$V_{RMW}(V)$	$V_{BR\ MIN}(V)$	$V_{BR\ MAX}(V)$	$I_T\ (mA)$	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$
SMAJ3.3A	SMAJ3.3CA	SMAJ 3.3A	SMAJ 3.3CA	3.3	4.20	6.55	1.0	8.7	47.6	150

»Typical Performance Characteristics ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig.1 - Pulse Derating Curve

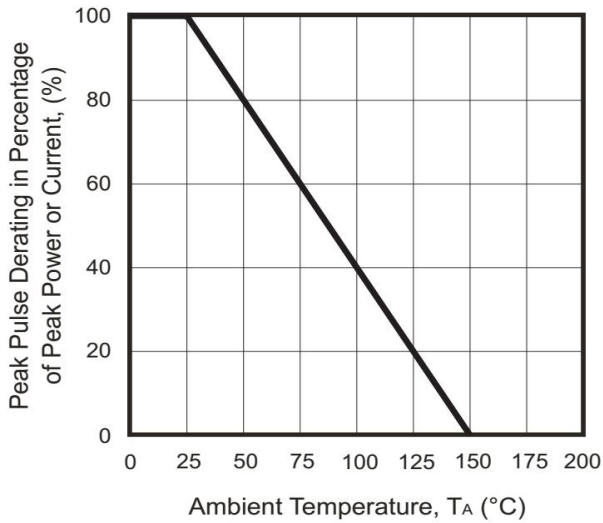


Fig.2 - Maximum Non-Repetitive Surge Current

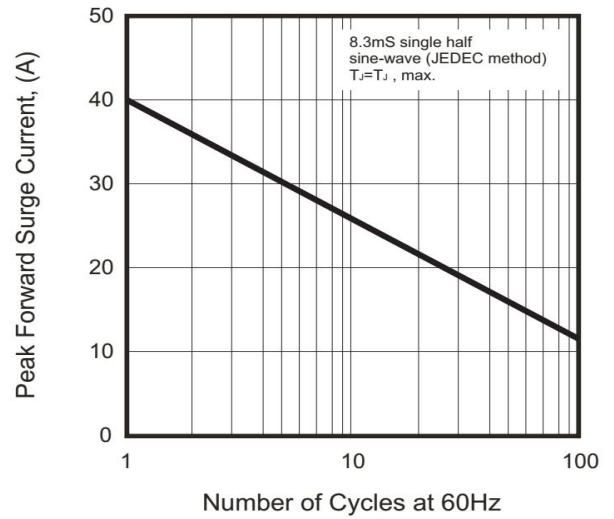


Fig.3 - Steady State Power Derating Curve

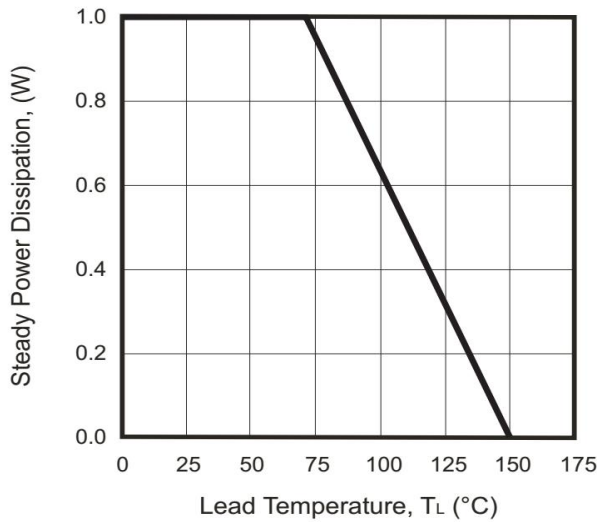


Fig.4 - Peak Pulse Power Rating Curve

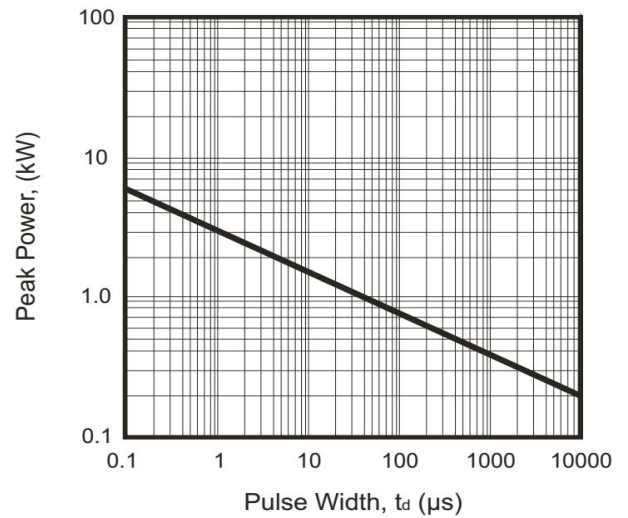


Fig.5 - Pulse Waveform

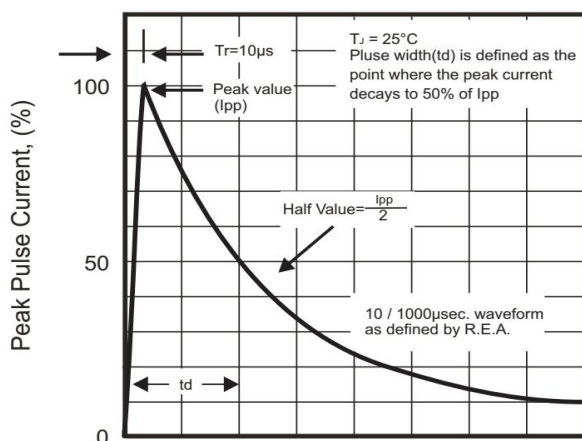
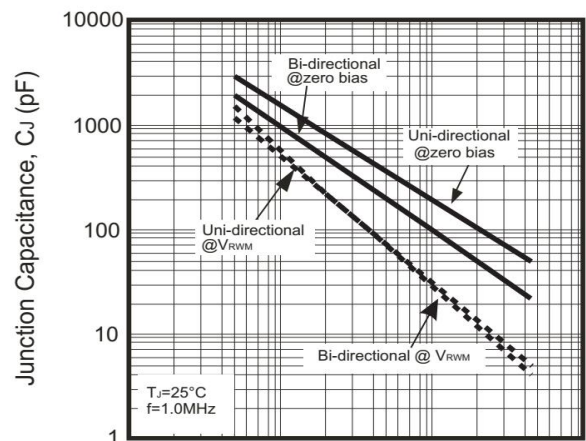
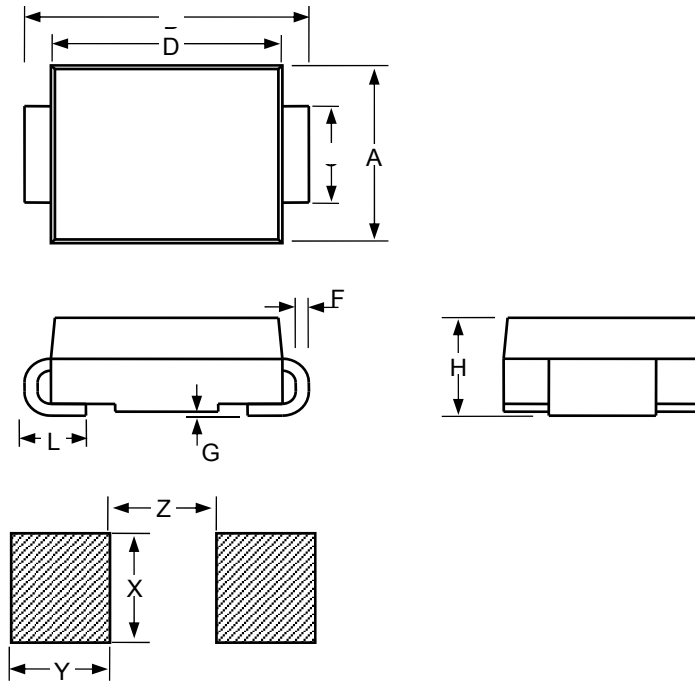


Fig.6 - Typical Junction Capacitance

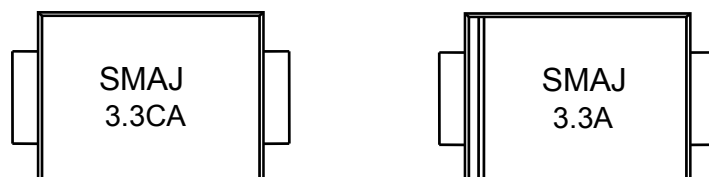


»Package Dimensions

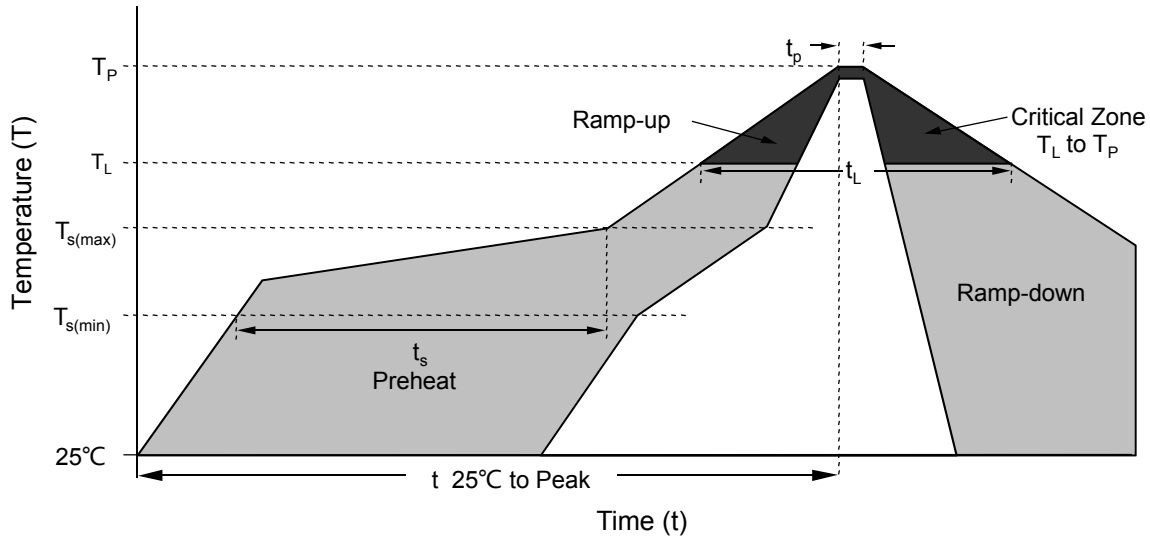


SMA						
Dimension	Inches			Millimeters		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.1		0.11	2.54		2.8
B	0.194		0.223	4.93		5.66
C	0.051		0.067	1.3		1.7
D	0.157		0.177	3.99		4.5
F	0.006		0.012	0.152		0.305
G	-		0.008	-		0.203
H	0.078		0.095	1.98		2.42
L	0.03		0.06	0.76		1.52
X		0.085			2.16	
Y		0.07			1.78	
Z		0.079			2	

»Marking Information

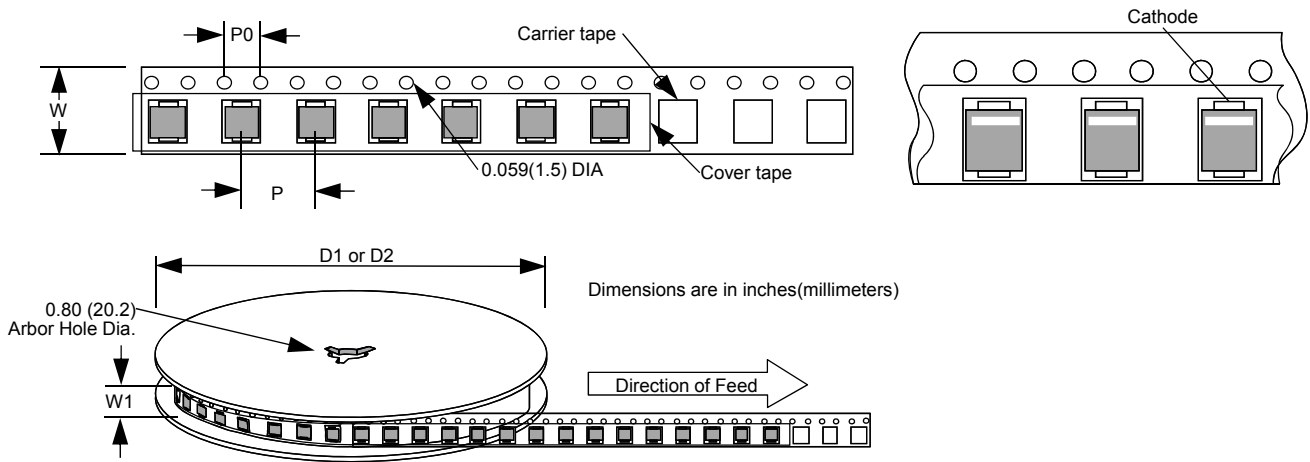


»Soldering Parameters



Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_{s(min)}$)	150°C
	- Temperature Max ($T_{s(max)}$)	200°C
	- Time (min to max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (t_L)	60 – 150 secs
Peak Temperature (T_P)		260 ^{+0/-5} °C
Time within 5°C of actual peak Temperature (t_p)		20 – 40 secs
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (t)		8 minutes Max.
Do not exceed		260°C

»Tape and Reel Specification



Dimension	Inches			Millimeters		
	MIN	NOM	MAX	MIN	NOM	MAX
P		0.157			4	
P0		0.157			4	
W		0.472			12	
W1		0.492			12.5	
D1		7			177.8	
D2		13			330.2	

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