

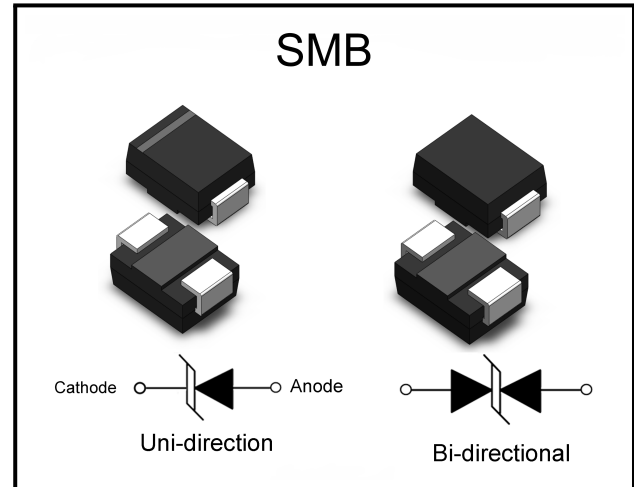
SMBJ3.3

Transient
Voltage Suppressor

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

Package



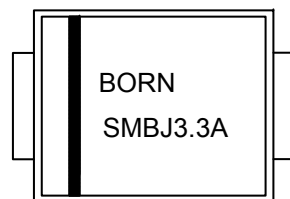
Mechanical Characteristics

- 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

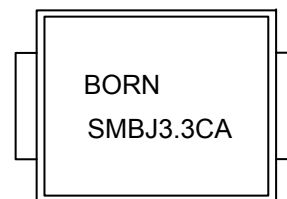
Applications

- Telecom
- Computer
- Industrial electronic
- Consumer electronic
- Automotive electronic

Making Code



Unidirection



Bidirection

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SMB	Tape/Reel, 13" reel	3000	EIA-481-1
	Tape/Reel, 7" reel	500	EIA-481-1

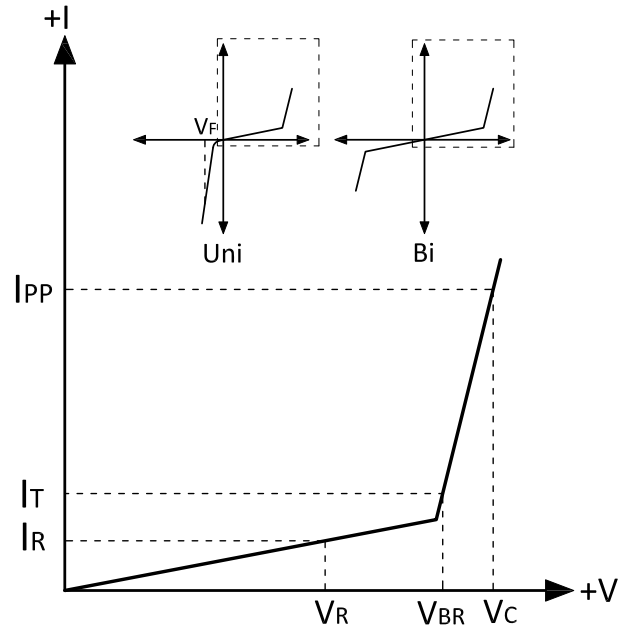


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Electrical Parameters

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}
V_{BR}	Breakdown Voltage - Maximum voltage that flows though 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



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

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform	P_{PPM}	600	W
Power Dissipation on Infinite Heat Sink at $T_L=75^{\circ}\text{C}$	P_D	5.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave	I_{FSM}	100	A
Operating Junction Temperature Range	T_J	-55 to 150	$^{\circ}\text{C}$
Storage Temperature Range	T_{STG}	-55 to 150	$^{\circ}\text{C}$

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

Part Number	Part Number	Reverse Stand-Off Voltage	Breakdown Voltage $V_{BR}@I_T$		Test Current I_T	Maximum Clamping Voltage $V_C @ I_{pp}$	Maximum Peak Pulse Current I_{pp}	Maximum Reverse Leakage $I_R @ V_R$
(Uni)	(Bi)	(V)	Min.(V)	Max.(V)	(mA)	(V)	(A)	(uA)
SMBJ3.3A	SMBJ3.3CA	3.3	4.0	7.0	10	8.7	69.1	200



Ratings and Characteristic Curves

Figure 1 : Peak Pulse Power Rating

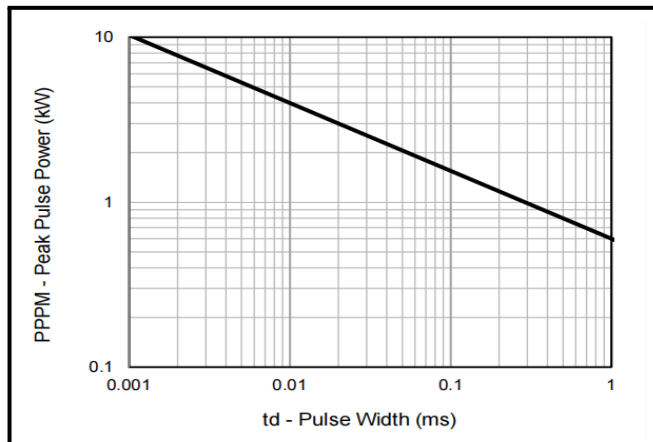


Figure 2 : Pulse Derating Curve

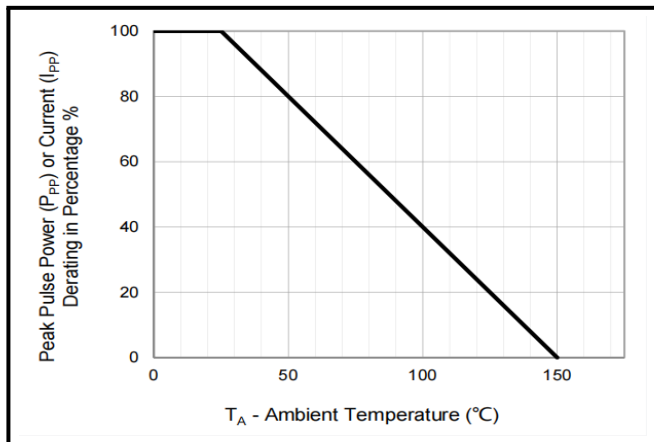


Figure 3 : Pulse Waveform

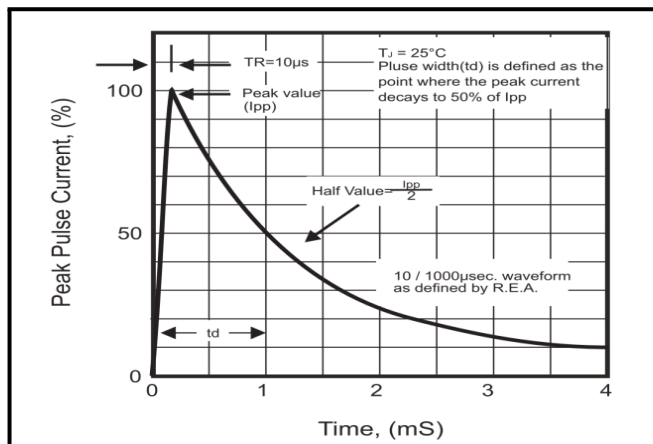


Figure 4 : Maximum Non-Repetitive Surge Current

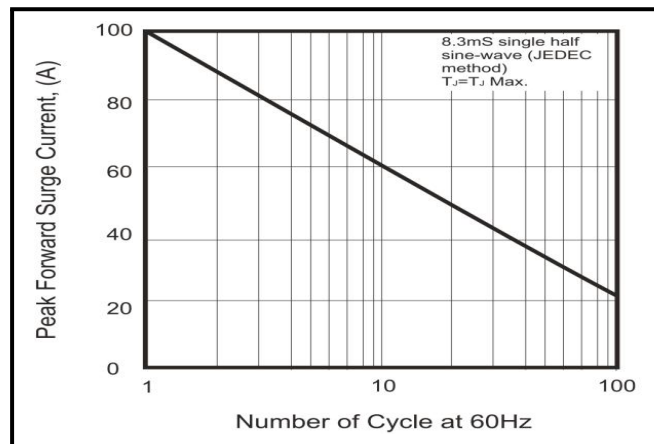
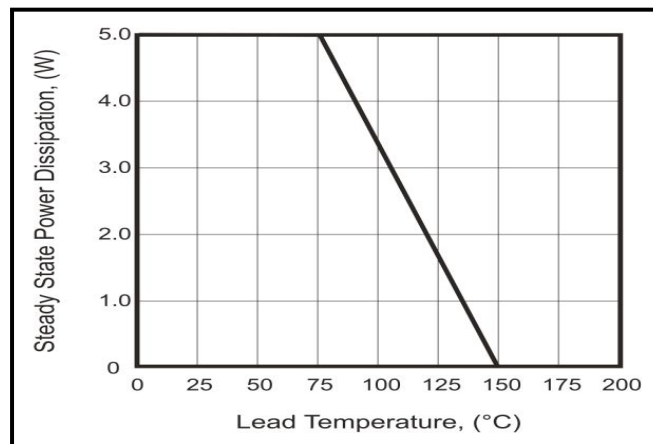
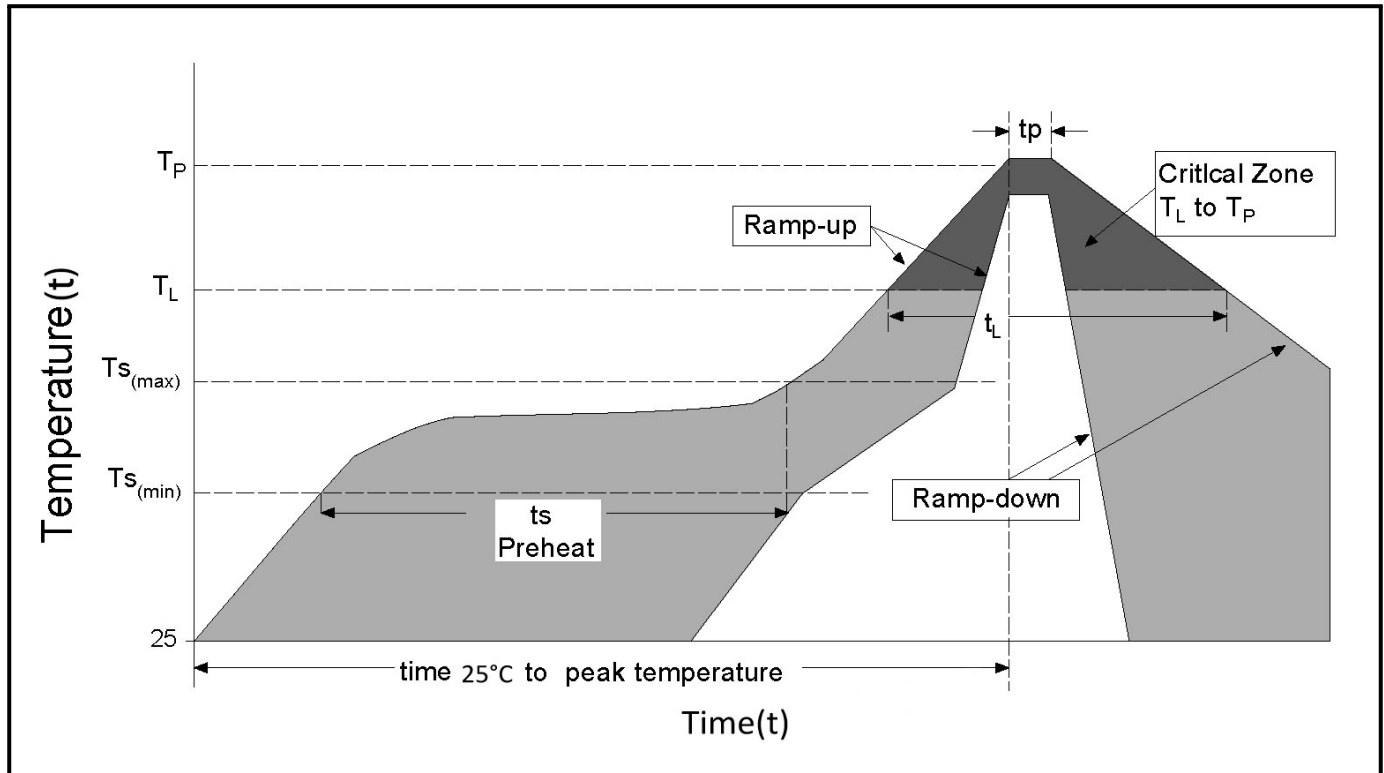


Figure 5 : Steady State Power Derating Curve



Soldering Parameters



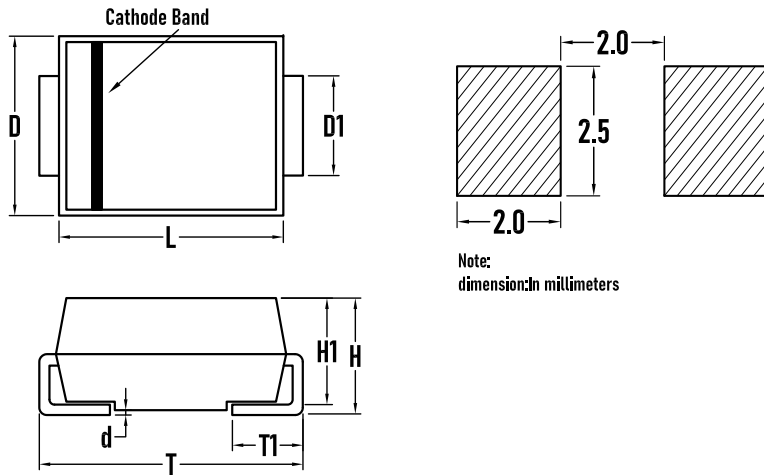
Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min ($T_{S(min)}$)	150°C
	- Temperature Max ($T_{S(max)}$)	200°C
	- Time (min to max) (t_s)	60 - 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (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



SMBJ3.3

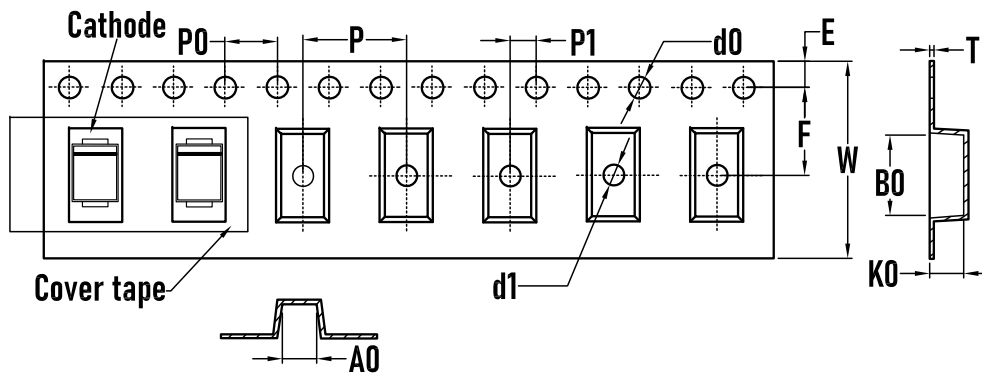
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Outline Drawing - SMB



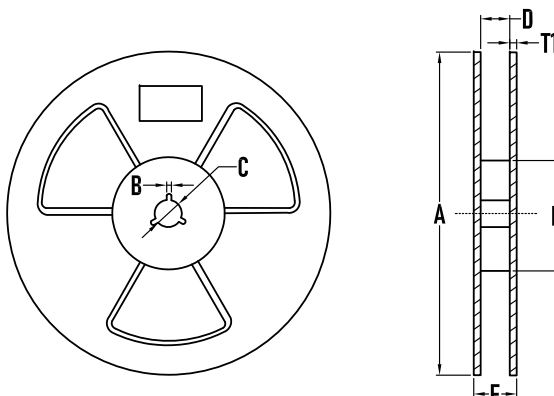
SYMBOL	MILLIMETER		Inches	
	MIN	MAX	MIN	MAX
D	3.3	3.9	0.130	0.154
D1	1.7	2.3	0.067	0.091
T	5.1	5.7	0.201	0.224
T1	0.8	1.6	0.031	0.063
d	—	0.3	—	0.012
H1	2.0	2.4	0.079	0.094
H	2.1	2.5	0.083	0.098
L	4.0	4.7	0.157	0.185

Packaging Tape - SMB



SYMBOL	MILLIMETER
A0	3.60±0.1
B0	5.45±0.1
d0	1.50±0.1
d1	1.50±0.1
E	1.75±0.1
F	5.50±0.1
K0	2.30±0.1
P	8.00±0.1
P0	4.00±0.1
P1	2.00±0.1
W	12.00±0.1
T	0.22±0.02

Packaging Reel



SYMBOL	MILLIMETER
A	323±2
B	3.0±0.2
C	15.0±0.5
D	13±2
E	73±2
T1	2.2±0.2
Quantity	3000PCS

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

Revision: 2022-Jan-1-B

