Technical Data
Data Sheet N2105, Rev. A

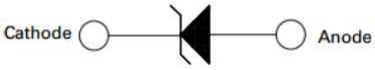
SMBJ220A THRU SMBJ440CA SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

SMB

Features

- Glass Passivated Die Construction
- 600W Peak Pulse Power Dissipation
- 220V- 440V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O
- Terminals finish: 100% Pure Tin
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

Circuit Diagram



Unipolar

Bipolar

Mechanical Data

- Case: SMB Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD 750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Weight:0.093 grams(approx.)

Maximum Ratings and Thermal Characteristics@T_A=25°C unless otherwise specified

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation by 10x1000μs Waveform(Note 1)	P_{PPM}	600	W
Peak forward surge current, 8.3 ms single half sine wave unidirectional only((Note 2)	I_{FSM}	100	A
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	°C/W
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to 150	°C

Notes: (1) Non-repetitive current pulse per Fig.5 and derated above T_A= 25°C per Fig.1;
(2) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

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Electrical Characteristics @T_A=25°C unless otherwise specified

UNI-POLAR	BI-POLAR	DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT(MA)	MAXMUM CLAMPING VOLTAGE @IPP VC(V)	PEAK PULSE CURRENT IPP(A)	REVERSE LEAKAGE @VRWM IR(uA)
		UNI	BI							
SMBJ220A	SMBJ220CA	PX	EX	220	246	272	1	356	1.7	1
SMBJ250A	SMBJ250CA	PZ	EZ	250	279	309	1	405	1.5	1
SMBJ300A	SMBJ300CA	QE	FE	300	335	371	1	486	1.3	1
SMBJ350A	SMBJ350CA	QG	FG	350	391	432	1	567	1.1	1
SMBJ400A	SMBJ400CA	QP	FK	400	447	494	1	648	0.9	1
SMBJ440A	SMBJ440CA	QM	FM	440	492	543	1	713	0.8	1

Ratings and Characteristics Curves

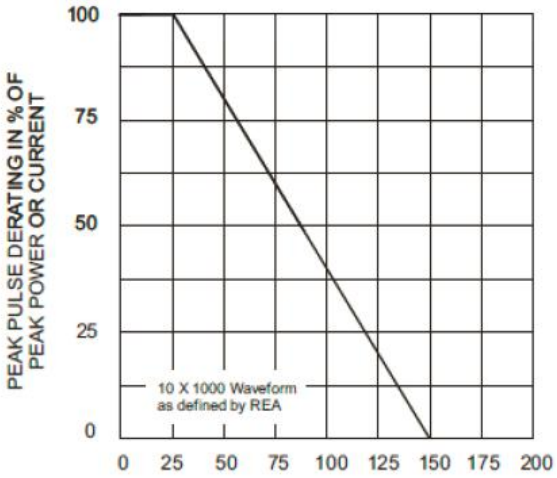

Fig. 1 - Pulse Derating Curve

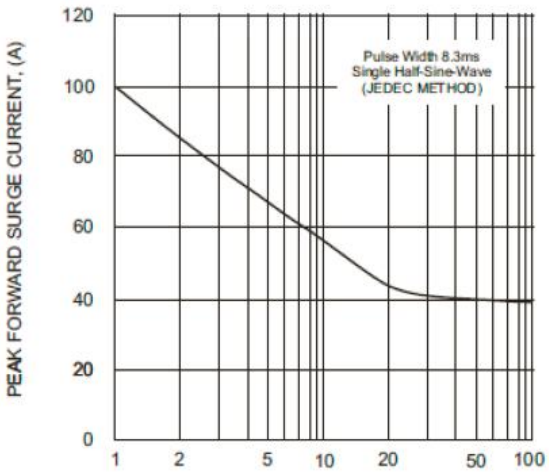

Fig. 2 - Maximum Non-Repetitive Surge Current

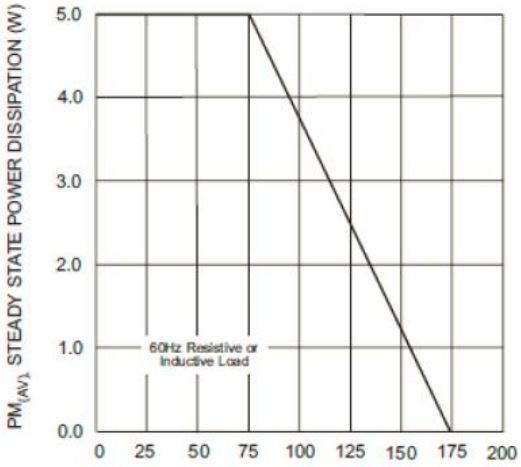

Fig. 3 - Steady State Power Derating Curve

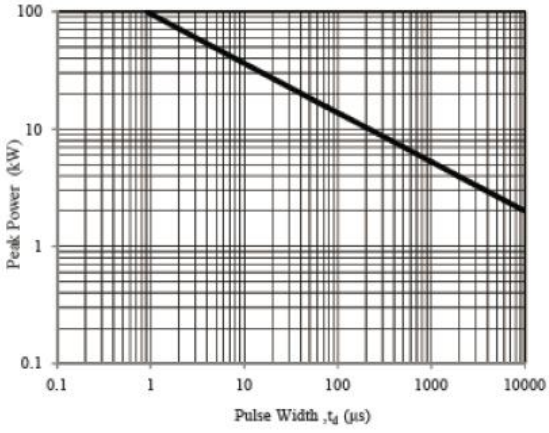

Fig. 4 - Peak Pulse Power Rating Curve

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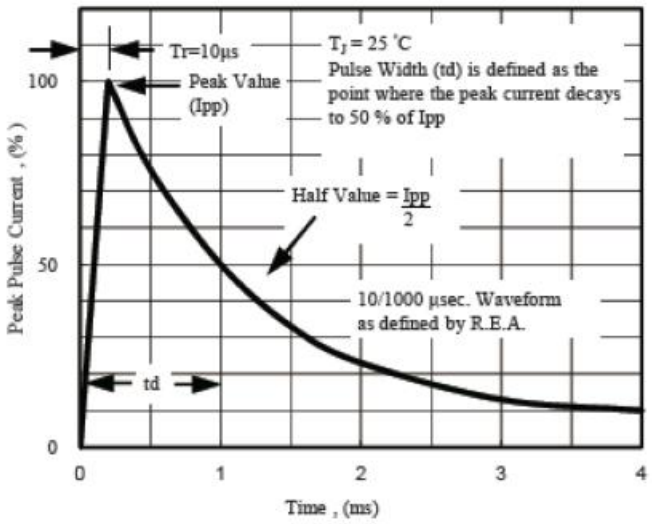


Fig. 5 - Pulse Waveform

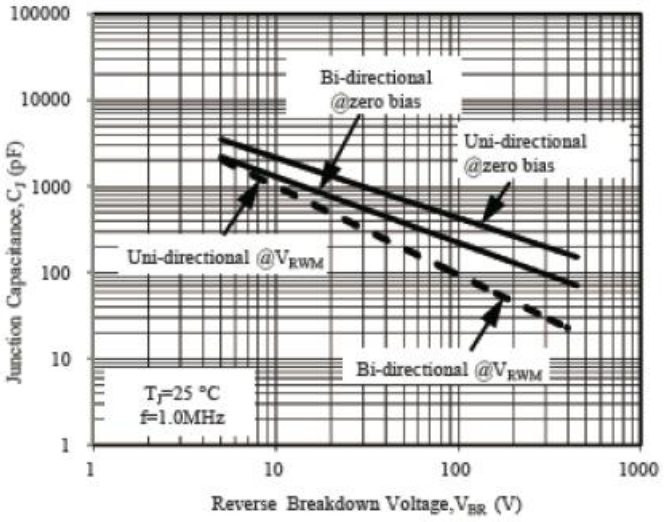


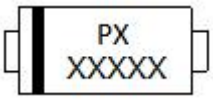
Fig. 6 - Typical Junction Capacitance

Ordering Information

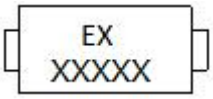
Device	Package	Shipping
SMBJ220A THRU SMBJ440CA	SMB (Pb-Free)	3000pcs / reel
SMBJ220ATR THRU SMBJ440CATR	SMB (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



SMBJ220A



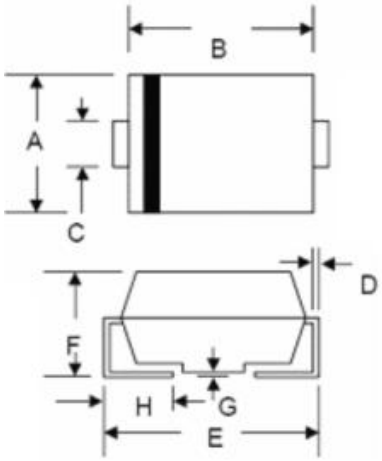
SMBJ220CA

Where XXXXX is YYWWL

PX/EX = Marking code
YY = Year
WW = Week
L = Lot Number

Cautions: Molding resin
Epoxy resin UL:94V-0

Mechanical Dimensions SMB



	SMB/DO-214AA			
Dim.	**Min.**	**Max.**	**Min.**	**Max.**
A	**3.30**	**3.94**	**0.130**	**0.155**
B	**4.06**	**4.80**	**0.160**	**0.189**
C	**1.80**	**2.20**	**0.071**	**0.087**
D	**0.152**	**0.305**	**0.006**	**0.012**
E	**4.80**	**5.60**	**0.189**	**0.220**
F	**2.10**	**2.60**	**0.083**	**0.102**
G	**0.051**	**0.203**	**0.002**	**0.008**
H	**0.76**	**1.52**	**0.030**	**0.060**
	In Millimeters		**In inches**	

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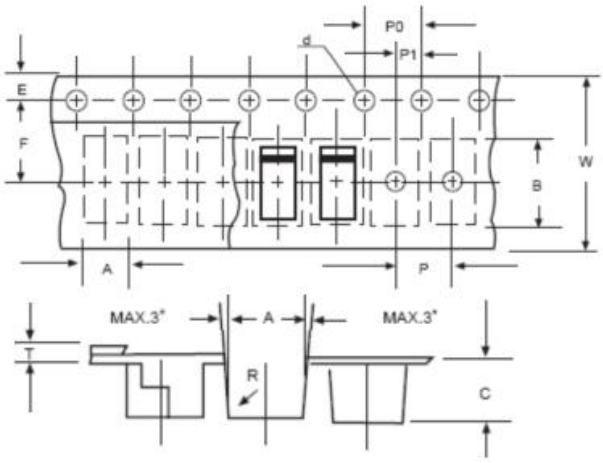
Carrier Tape Specification SMB



SYMBOL	Millimeters	
	Min.	Max.
A	3.99	4.19
B	5.72	5.92
C	3.23	3.43
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	7.90	8.10
P0	3.90	4.10
P1	1.90	2.10
T	-	0.60
W	11.80	12.20

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