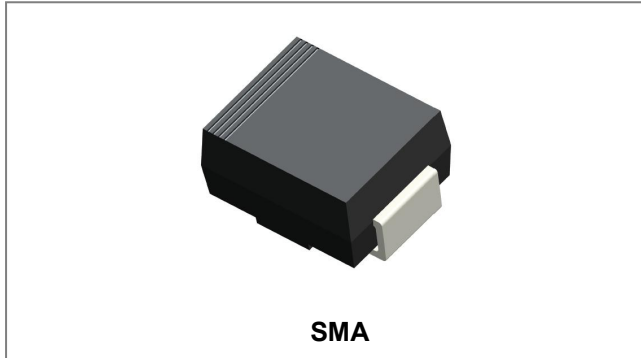


## SMAJ400A SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR



### Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- 400W peak pulse power capability
- Excellent clamping capability
- Low incremental surge resistance
- This is a Pb – Free Device
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

### Circuit Diagram



### Mechanical Data

- Case: SMA Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD 750, Method 2026
- Polarity: Color band denotes cathode except Bipolar
- Mounting Position: Any

### Maximum Ratings and Thermal Characteristics@T<sub>A</sub>=25°C unless otherwise specified

Parameter	Symbol	Value	Units
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C
Typical Thermal Resistance Junction to Lead	R <sub>θJL</sub>	30	°C/W
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	120	°C/W
Peak Pulse Power Dissipation at T <sub>A</sub> =25°C by 10x1000µs Waveform (Fig.1)(Note 1)	P <sub>PPM</sub>	Minimum 400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2)	I <sub>FSM</sub>	60	A
Power Dissipation on Infinite Heat Sink at T <sub>L</sub> =75°C (Fig.5)	P <sub>M(AV)</sub>	3.3	W

- Notes:** 1. Non-repetitive current pulse, per Fig. 3 and derated above T<sub>A</sub> = 25°C per Fig. 2.  
2. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

### Ordering Information

Device	Package	Shipping
SMAJ400A	SMA (Pb-Free)	5000pcs / reel
SMAJ400ATR	SMA (Pb-Free)	5000pcs / 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



Where XXXXX is YYWWL

TK = Marking Code  
YY = Year  
WW = Week  
L = Lot Number

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

- China - Germany - Korea - Singapore - United States •
- <http://www.smc-diodes.com> - [sales@smc-diodes.com](mailto:sales@smc-diodes.com) •

**Electrical Characteristics @  $T_A=25^\circ\text{C}$  unless otherwise specified**

Part Number	Marking Code	Reverse Stand off Voltage $V_R$	Breakdown Voltage $V_{BR}$ (Volts) @ $I_T$		Test Current $I_T$	Maximum Clamping Voltage $V_C$ @ $I_{pp}$	Maximum Peak Pulse Current $I_{pp}$	Maximum Reverse Leakage $I_R$ @ $V_R$
		(Volts)	MIN.	MAX.	(mA)	(Volts)	(A)	( $\mu\text{A}$ )
SMAJ400A	TK	400.0	447	494	1	648	0.6	1

**Ratings and Characteristics Curves**

Figure 1 - Peak Pulse Power Rating Curve

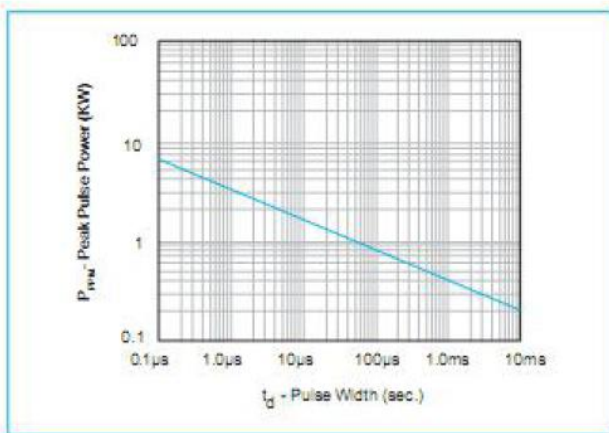


Figure 2 - Pulse Derating Curve

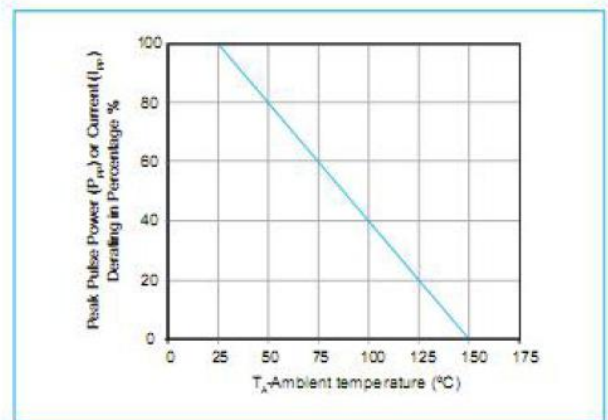


Figure 3 - Pulse Waveform

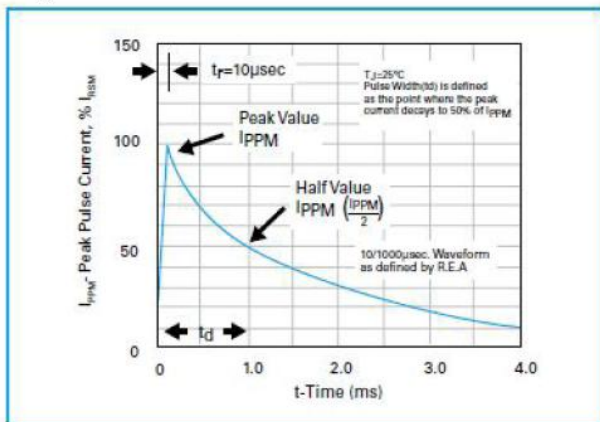


Figure 4 - Typical Junction Capacitance

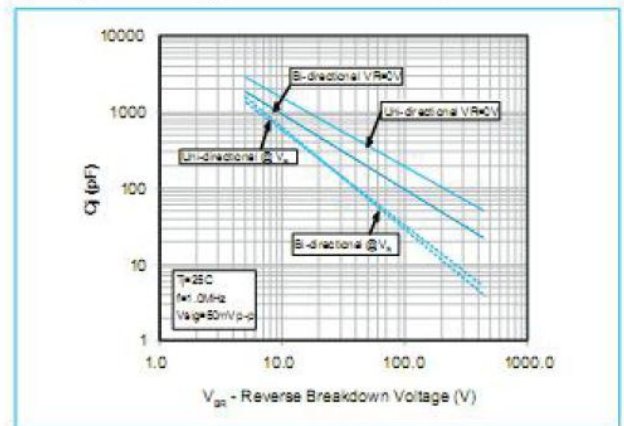
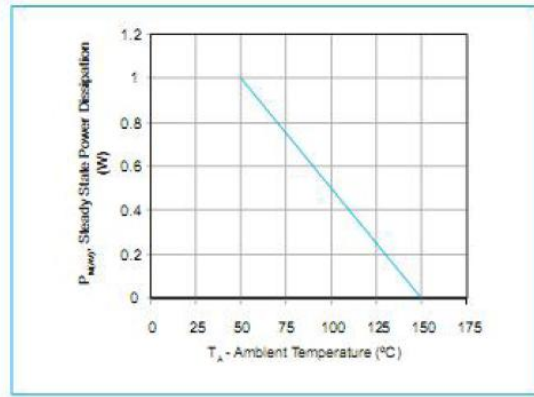
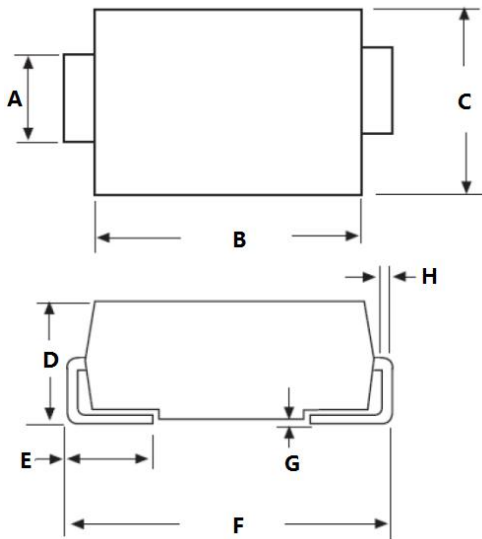


Figure 5 - Steady State Power Dissipation Derating Curve

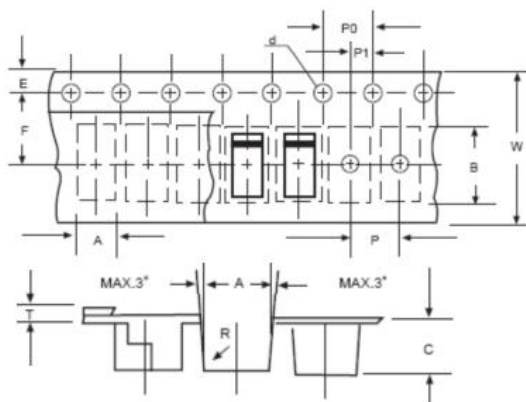


**Mechanical Dimensions SMA(Inches/Millimeters)**



SYMBOL	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	1.25	1.65	0.049	0.065
B	3.95	4.60	0.156	0.181
C	2.25	2.95	0.089	0.116
D	1.95	2.90	0.077	0.114
E	0.75	1.60	0.030	0.063
F	4.80	5.60	0.189	0.220
G	0.05	0.20	0.002	0.008
H	0.15	0.41	0.006	0.016

**Carrier Tape Specification SMA**



SYMBOL	Millimeters	
	Min.	Max.
A	2.97	3.17
B	5.70	5.90
C	2.32	2.52
d	1.40	1.60
E	1.40	1.60
F	5.60	5.70
P	3.90	4.10
P0	3.90	4.10
P1	1.90	2.10
T	0.25	0.35
W	11.80	12.20



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