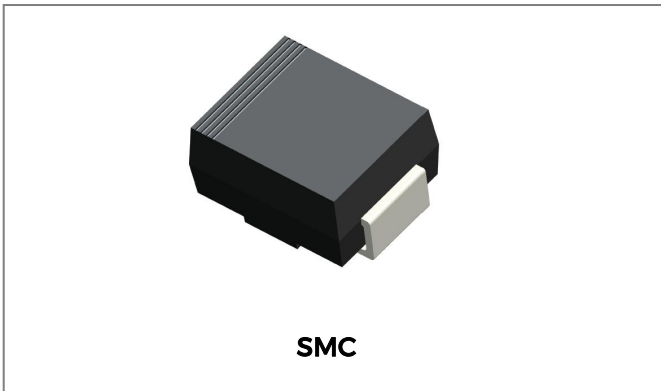


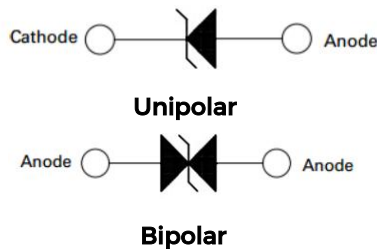
## SMCJ180A THRU SMCJ440CA SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR



### Features

- Glass Passivated Die Construction
- 1500W Peak Pulse Power Dissipation
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- “-A” is an AEC-Q101 qualified device
- 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: SMC Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD 750, Method 2026
- Polarity: Color band denoted positive end (cathode) except Bidirectional
- Weight:0.21 grams(approx.)

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

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us waveform (NOTE 1, 2, Fig.1)	P <sub>PPM</sub>	1500	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2),(Note 3)	I <sub>FSM</sub>	200	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only(Note 4)	V <sub>F</sub>	3.5/5.0	V
Typical Thermal Resistance Junction to Lead	R <sub>θJL</sub>	15	°C/W
Typical Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	75	°C/W
Operating Junction and Storage Temperature Range	T <sub>J</sub> ,T <sub>STG</sub>	-55 to 150	°C

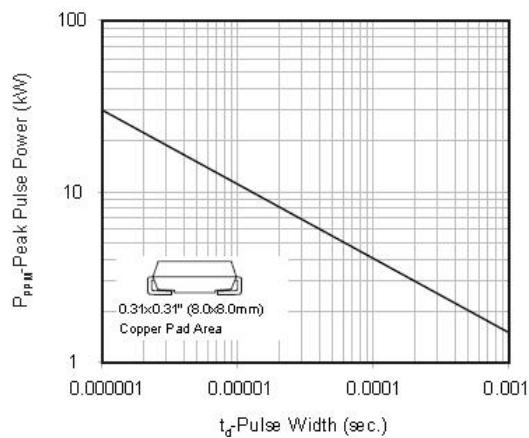
- Notes:**
1. Non-repetitive current pulse , per Fig. 3 and derated above TA = 25°C per Fig. 2.
  2. Mounted on 8.0x8.0mm Copper Pads to each terminal.
  3. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4pulses per minute maximum.
  4. V<sub>F</sub> < 3.5V for V<sub>BR</sub> ≤ 200V and V<sub>F</sub> < 5.0V for V<sub>BR</sub> ≥ 201V.

**Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified**

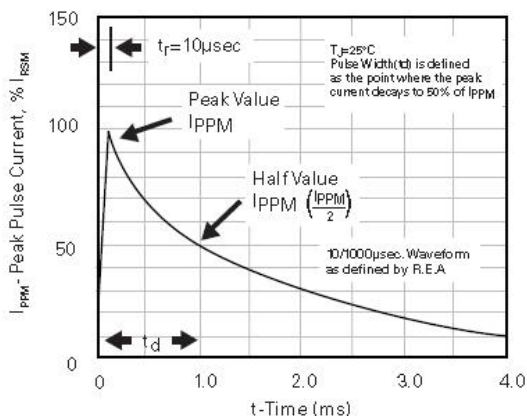
UNI-POLAR	BI-POLAR	DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT(MA)	MAXIMUM CLAMPING VOLTAGE @IPP VC(V)	PEAK PULSE CURRENT IPP(A)	REVERSE LEAKAGE @VRWM IR(μA)
		UNI	BI							
SMCJ180A	SMCJ180CA	GHT	BHT	180	201	222	1	292	5.1	1
SMCJ190A	SMCJ190CA	GHU	BHU	190	209	243	1	308	4.8	1
SMCJ200A	SMCJ200CA	GHV	BHV	200	224	247	1	324	4.6	1
SMCJ220A	SMCJ220CA	GHX	BHX	220	246	272	1	356	4.2	1
SMCJ250A	SMCJ250CA	GHZ	BHZ	250	279	309	1	405	3.7	1
SMCJ300A	SMCJ300CA	GJE	BJE	300	335	371	1	486	3.1	1
SMCJ350A	SMCJ350CA	GJG	BJG	350	391	432	1	567	2.6	1
SMCJ400A	SMCJ400CA	GJK	BJK	400	447	494	1	648	2.3	1
SMCJ440A	SMCJ440CA	GJM	BJM	440	492	543	1	713	2.1	1

**Ratings and Characteristics Curves**

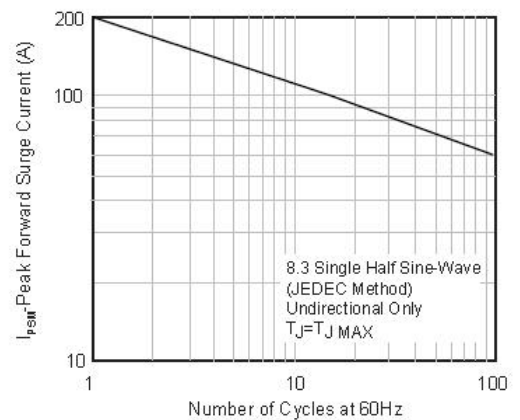
**Figure 1 - Peak Pulse Power Rating Curve**



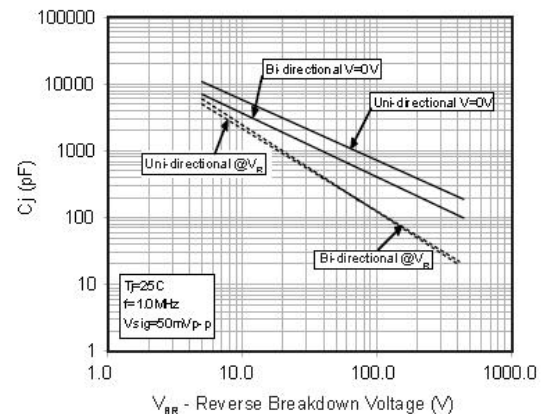
**Figure 3 - Pulse Waveform**



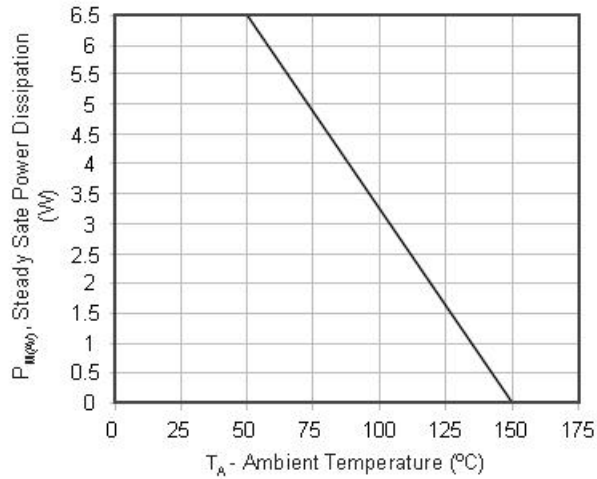
**Figure 2 - Pulse Derating Curve**



**Figure 4 - Typical Junction Capacitance**



**Figure 5 - Steady State Power Dissipation Derating Curve**

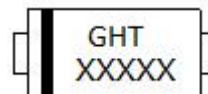


**Ordering Information**

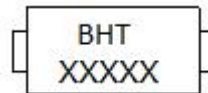
Device	Package	Shipping
SMCJ180A THRU SMCJ440CA	SMC (Pb-Free)	3000pcs / reel
SMCJ180ATR THRU SMCJ440CATR	SMC (Pb-Free)	3000pcs / reel

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

**Marking Diagram**



SMCJ180A



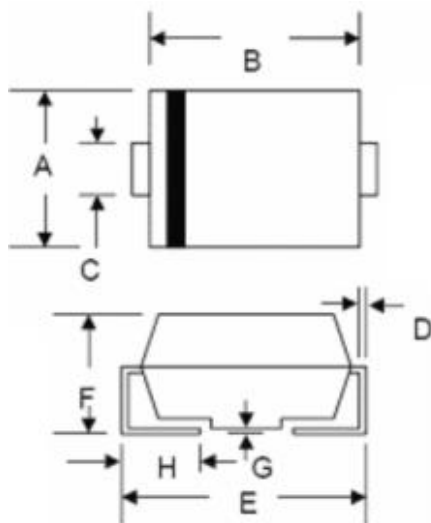
SMCJ180CA

Where XXXXX is YYWWL

- GHT/BHT = Marking code
- YY = Year
- WW = Week
- L = Lot Number

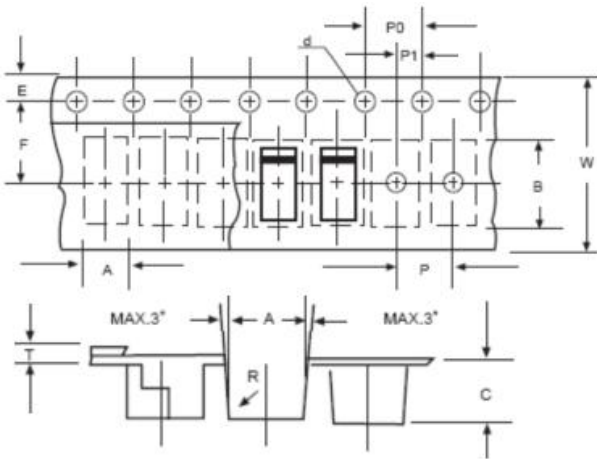
**Cautions:** Molding resin  
Epoxy resin UL94V-0

**Mechanical Dimensions SMC**



Dim.	SMC/DO-214AB			
	Min.	Max.	Min.	Max.
A	5.59	6.22	0.220	0.245
B	6.60	7.11	0.260	0.280
C	2.90	3.20	0.114	0.126
D	0.152	0.305	0.006	0.012
E	7.75	8.13	0.305	0.320
F	2.00	2.95	0.079	0.116
G	-	0.203	-	0.008
H	0.76	1.52	0.030	0.060
			In Millimeters	In inches

**Carrier Tape Specification SMC**



SYMBOL	Millimeters	
	Min.	Max.
A	5.90	6.10
B	8.20	8.40
C	2.40	2.60
d	1.40	1.60
E	1.40	1.60
F	7.60	7.70
P	7.90	8.10
P0	3.90	4.10
P1	3.90	4.10
T	-	0.600
W	15.80	16.20

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