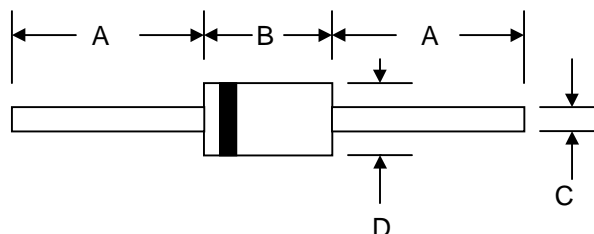


# SA180 – SA220CA

## 500W TRANSIENT VOLTAGE SUPPRESSORS

### Features

- Glass Passivated Die Construction
- 500W Peak Pulse Power Dissipation
- 180V – 220V Standoff Voltage
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O



### Mechanical Data

- Case: JEDEC DO-15 Low Profile Molded Plastic
- Terminals: Axial Leads, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band
- Marking:  
Unidirectional – Type Number and Cathode Band  
Bidirectional – Type Number Only
- Weight: 0.40 grams (approx.)

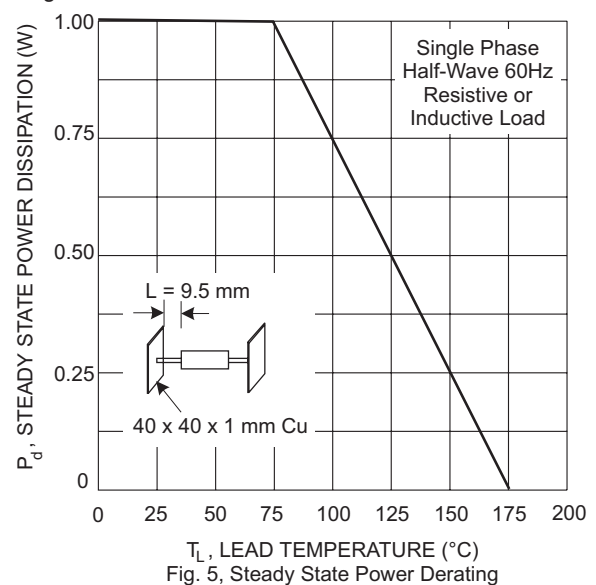
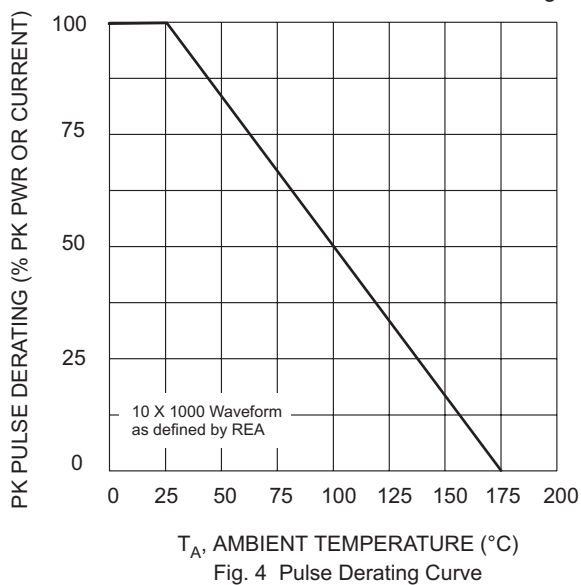
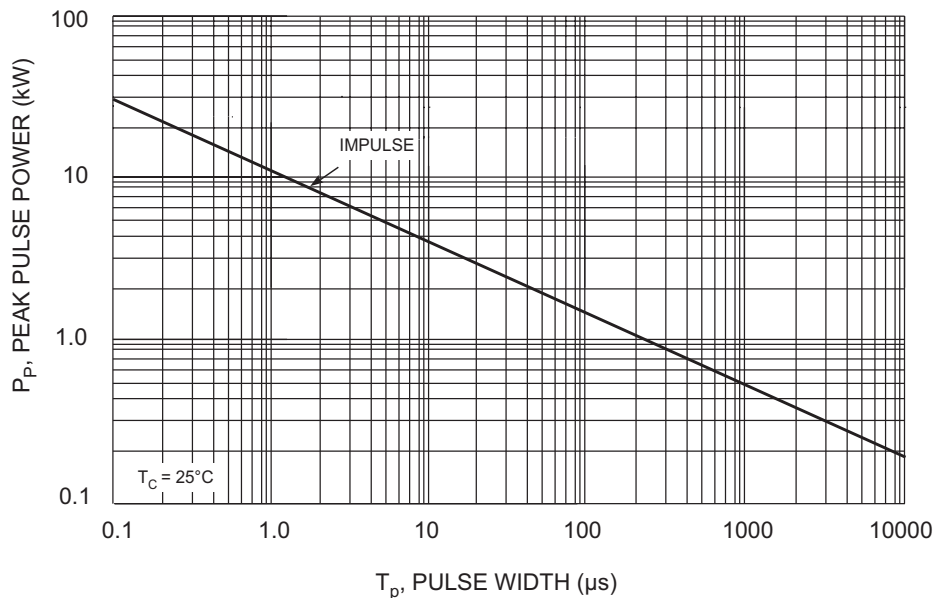
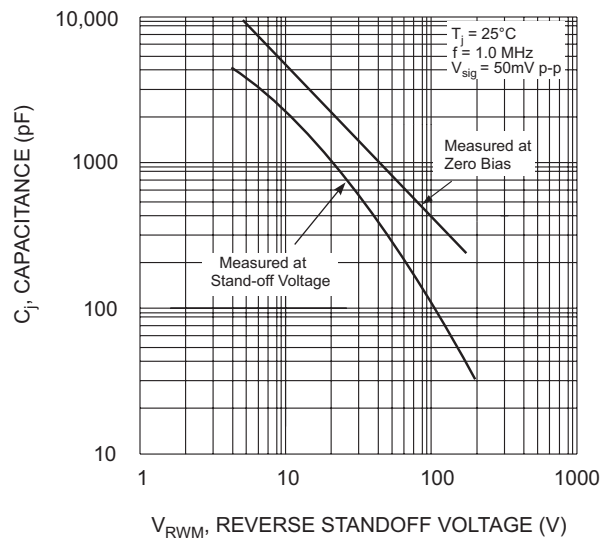
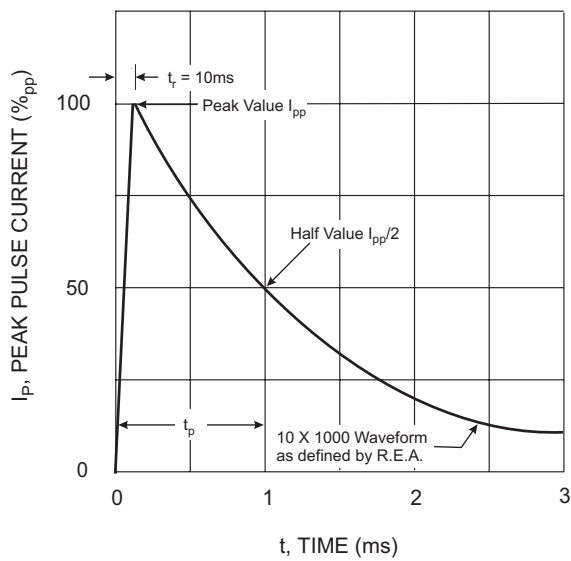
DO-15		
Dim	Min	Max
A	25.4	—
B	5.50	7.62
C	0.71	0.864
D	2.60	3.60
All Dimensions in mm		

“C” Suffix Designates Bi-directional Devices  
 “A” Suffix Designates 5% Tolerance Devices  
 No Suffix Designates 10% Tolerance Devices

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

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation at T <sub>A</sub> = 25°C (Note 1, 2, 5) Figure 3	PPPM	500 Minimum	W
Peak Forward Surge Current (Note 3)	IFSM	70	A
Peak Pulse Current on 10/1000μS Waveform (Note 1) Figure 1	IPPM	See Table 1	A
Steady State Power Dissipation (Note 2, 4)	P <sub>M(AV)</sub>	1.0	W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +175	°C

Note: 1. Non-repetitive current pulse, per Figure 1 and derated above T<sub>A</sub> = 25°C per Figure 4.  
 2. Mounted on 40mm<sup>2</sup> copper pad.  
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum.  
 4. Lead temperature at 75°C = T<sub>L</sub>.  
 5. Peak pulse power waveform is 10/1000μS.



## UNI-DIRECTIONAL 500 WATT AXIAL LEAD TVS

UNI-DIRECTIONAL PART NUMBER	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 (uA)
SA180	180.00	198.00	253.80	1	322.0	1.6	3
SA180A	180.00	198.00	230.40	1	292.0	1.7	3
SA190	190.00	209.00	267.90	1	340.0	1.5	3
SA190A	190.00	209.00	243.20	1	308.0	1.6	3
SA200	200.00	220.00	282.00	1	358.0	1.4	3
SA200A	200.00	220.00	256.00	1	324.0	1.5	3
SA210	210.00	231.00	296.10	1	376.0	1.3	3
SA210A	210.00	231.00	268.80	1	340.0	1.5	3
SA220	220.00	242.00	310.20	1	394.0	1.3	3
SA220A	220.00	242.00	281.60	1	356.0	1.4	3

## BI-DIRECTIONAL 500 WATT AXIAL LEAD TVS

BI-DIRECTIONAL PART NUMBER	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 (uA)
SA180C	180.00	198.00	253.80	1	322.0	1.6	3
SA180CA	180.00	198.00	230.40	1	292.0	1.7	3
SA190C	190.00	209.00	267.90	1	340.0	1.5	3
SA190CA	190.00	209.00	243.20	1	308.0	1.6	3
SA200C	200.00	220.00	282.00	1	358.0	1.4	3
SA200CA	200.00	220.00	256.00	1	324.0	1.5	3
SA210C	210.00	231.00	296.10	1	376.0	1.3	3
SA210CA	210.00	231.00	268.80	1	340.0	1.5	3
SA220C	220.00	242.00	310.20	1	394.0	1.3	3
SA220CA	220.00	242.00	281.60	1	356.0	1.4	3

## ORDERING INFORMATION

Product No.♦	Package Type	Shipping Quantity
SAxx-T3	DO-15	4000/Tape & Reel
<b>SAxx-TB</b>	DO-15	3000/Tape & Box
SAxx	DO-15	1000 Units/Box
SAxxA-T3	DO-15	4000/Tape & Reel
<b>SAxxA-TB</b>	DO-15	3000/Tape & Box
SAxxA	DO-15	1000 Units/Box
SAxxC-T3	DO-15	4000/Tape & Reel
<b>SAxxC-TB</b>	DO-15	3000/Tape & Box
SAxxC	DO-15	1000 Units/Box
SAxxCA-T3	DO-15	4000/Tape & Reel
<b>SAxxCA-TB</b>	DO-15	3000/Tape & Box
SAxxCA	DO-15	1000 Units/Box

Products listed in **bold** are WTE **Preferred** devices.

♦T3 suffix refers to a 13" reel. TB suffix refers to Ammo Pack.

Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.

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**WARNING:** DO NOT USE IN LIFE SUPPORT EQUIPMENT. WTE power semiconductor products are not authorized for use as critical components in life support devices or systems without the express written approval.

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