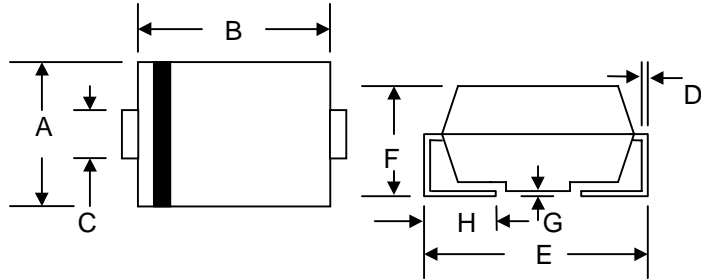


## 400W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

### Features

- Glass Passivated Die Construction
- 400W 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: SMA/DO-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band Except Bi-Directional
- Marking: Device Code
- Weight: 0.064 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version, Add “-LF” Suffix to Part Number, See Page 5**

SMA/DO-214AC		
Dim	Min	Max
A	2.50	2.90
B	4.00	4.60
C	1.20	1.60
D	0.152	0.305
E	4.80	5.28
F	2.00	2.44
G	0.051	0.203
H	0.76	1.52
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 @ $T_A=25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation at $T_A = 25^\circ\text{C}$ (Note 1, 2, 5) Figure 3	PPPM	400 Minimum	W
Peak Forward Surge Current (Note 3)	IFSM	40	A
Peak Pulse Current on 10/1000 $\mu\text{S}$ Waveform (Note 1) Figure 4	IPPM	See Table 1	A
Steady State Power Dissipation (Note 4)	PM(AV)	1.0	W
Operating and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

- Note: 1. Non-repetitive current pulse per Figure 4 and derated above  $T_A = 25^\circ\text{C}$  per Figure 1.  
 2. Mounted on 5.0mm<sup>2</sup> copper pad to each terminal.  
 3. 8.3ms single half sine-wave duty cycle = 4 pulses per minutes maximum.  
 4. Lead temperature at 75 $^\circ\text{C}$ .  
 5. Peak pulse power waveform is 10/1000 $\mu\text{S}$ .



Fig. 1 Pulse Derating Curve

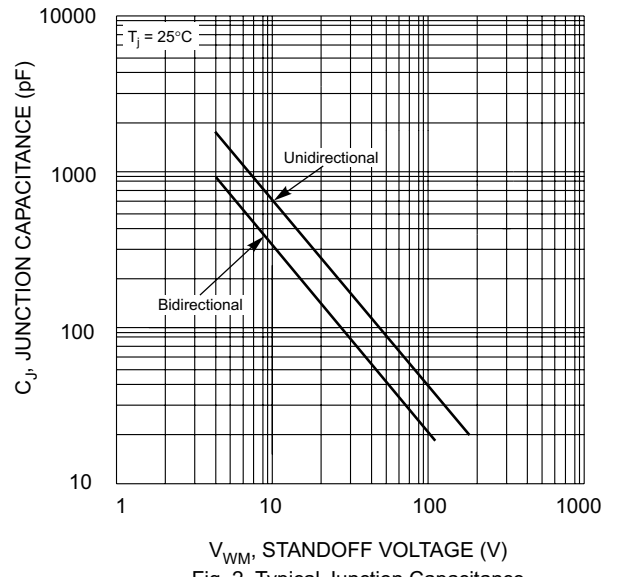


Fig. 2 Typical Junction Capacitance

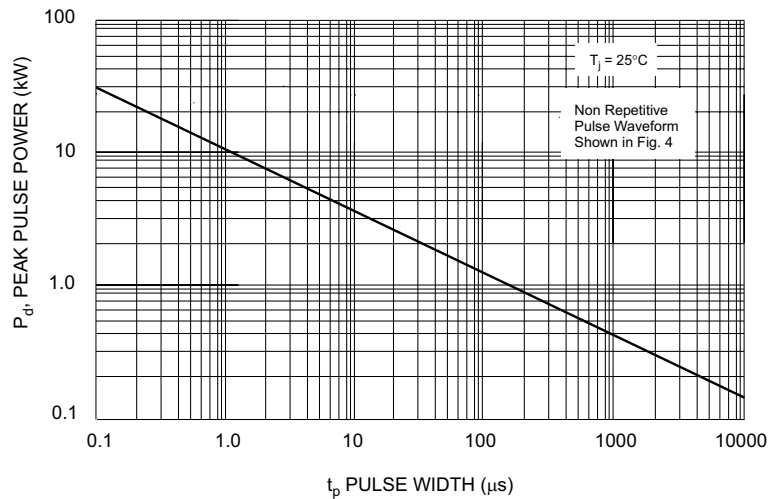


Fig. 3 Pulse Rating Curve

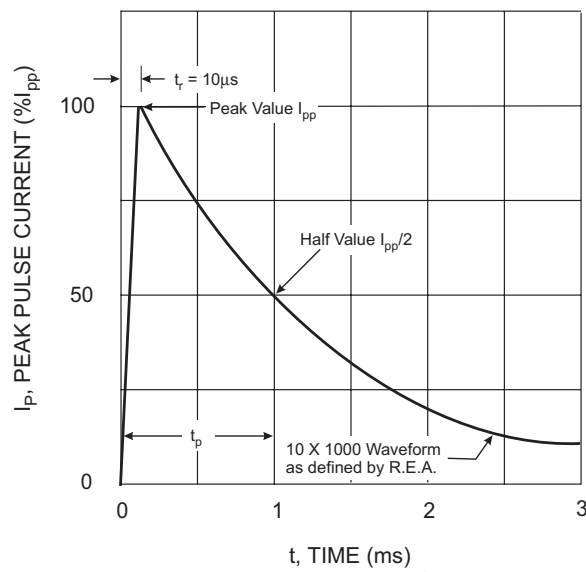


Fig. 4 Pulse Waveform

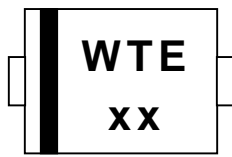
## UNI-DIRECTIONAL 400 WATT SURFACE MOUNT TVS

UNI-DIRECTIONAL PART NO.	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 (uA)
P4SMAJ180	SS	180.00	198.00	253.80	1	322.0	1.2	1
P4SMAJ180A	ST	180.00	198.00	230.40	1	292.0	1.3	1
P4SMAJ190	SU	190.00	209.00	267.90	1	340.0	1.2	1
P4SMAJ190A	SV	190.00	209.00	243.20	1	308.0	1.3	1
P4SMAJ200	SW	200.00	220.00	282.00	1	358.0	1.1	1
P4SMAJ200A	SX	200.00	220.00	256.00	1	324.0	1.2	1
P4SMAJ210	SY	210.00	231.00	296.10	1	376.0	1.1	1
P4SMAJ210A	SZ	210.00	231.00	268.80	1	340.0	1.2	1
P4SMAJ220	GD	220.00	242.00	310.20	1	394.0	1.0	1
P4SMAJ220A	GE	220.00	242.00	281.60	1	356.0	1.1	1

## BI-DIRECTIONAL 400 WATT SURFACE MOUNT TVS

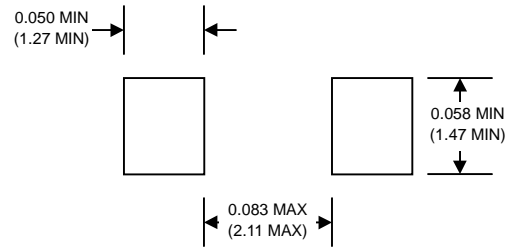
BI-DIRECTIONAL PART NO.	DEVICE MARKING CODE	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
P4SMAJ180C	YS	180.00	198.00	253.80	1	322.0	1.2	1
P4SMAJ180CA	YT	180.00	198.00	230.40	1	292.0	1.3	1
P4SMAJ190C	YU	190.00	209.00	267.90	1	340.0	1.2	1
P4SMAJ190CA	YV	190.00	209.00	243.20	1	308.0	1.3	1
P4SMAJ200C	YW	200.00	220.00	282.00	1	358.0	1.1	1
P4SMAJ200CA	YX	200.00	220.00	256.00	1	324.0	1.2	1
P4SMAJ210C	YY	210.00	231.00	296.10	1	376.0	1.1	1
P4SMAJ210CA	YZ	210.00	231.00	268.80	1	340.0	1.2	1
P4SMAJ220C	ZD	220.00	242.00	310.20	1	394.0	1.0	1
P4SMAJ220CA	ZE	220.00	242.00	281.60	1	356.0	1.1	1

## MARKING INFORMATION



Cathode = Polarity Band Except Bi-Directional Types  
 WTE = Manufacturer's Logo  
 xx = Device Code, See Page 3

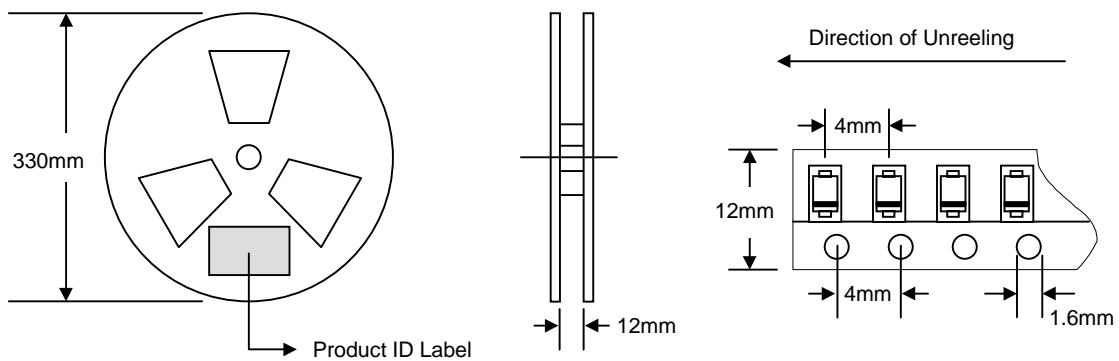
## RECOMMENDED FOOTPRINT



inches(mm)

## PACKAGING INFORMATION

### TAPE & REEL



Reel Diameter (mm)	Quantity (PCS)	Inner Box Size L x W x H (mm)	Quantity (PCS)	Carton Size L x W x H (mm)	Quantity (PCS)	Approx. Gross Weight (KG)
330	7,500	340 x 337 x 45	15,000	370 x 370 x 420	120,000	17.5

**Note:** 1. Paper reel, white or gray color.  
 2. Components are packed in accordance with EIA standard 481-1 and 481-2.

## ORDERING INFORMATION

Product No.	Package Type	Shipping Quantity
P4SMAJxx-T3	SMA	7500/Tape & Reel

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version, add “-LF” suffix to part number above. For example, P4SMAJ180-T3-LF.**

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**Internet:** <http://www.wontop.com>

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