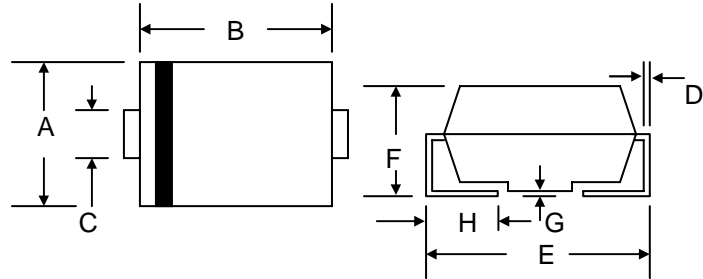


### Features

- Glass Passivated Die Construction
- 400W Peak Pulse Power Dissipation
- 180V – 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



### 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		

Datasheet.Directory

“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
Typical Thermal Resistance, Junction to Lead (Note 6)	$R_{\theta JL}$	30	$^\circ\text{C/W}$
Typical Thermal Resistance, Junction to Ambient (Note 6)	$R_{\theta JA}$	120	$^\circ\text{C/W}$
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°C.  
 5. Peak pulse power waveform is 10/1000 $\mu\text{s}$ .  
 6. Mounted on minimum recommended pad layout.



Fig. 1 Pulse Derating Curve

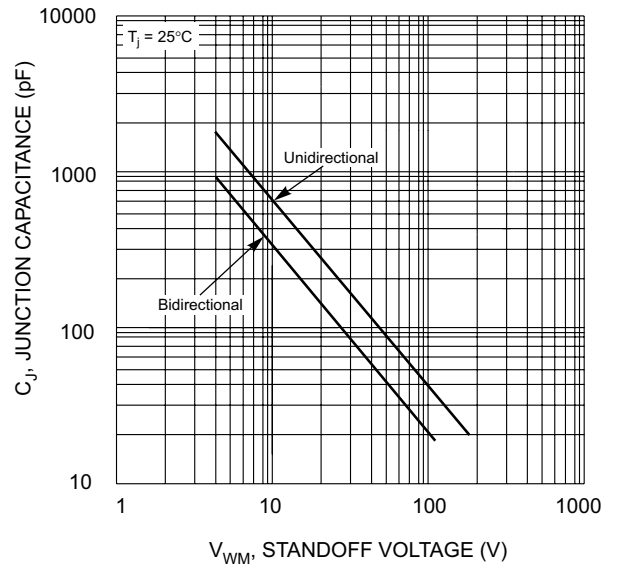


Fig. 2 Typical Junction Capacitance

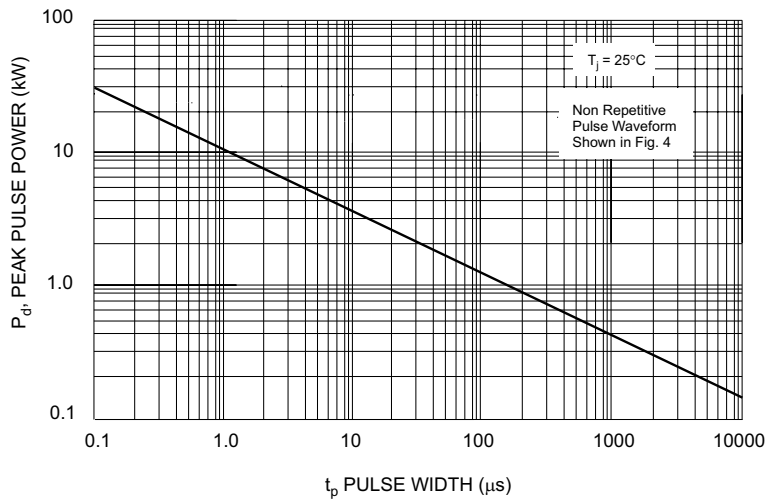


Fig. 3 Pulse Rating Curve



Fig. 4 Pulse Waveform

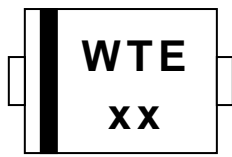
## UNI-DIRECTIONAL 400 WATT SURFACE MOUNT TVS

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	200.00	244.80	1	322.0	1.24	1
P4SMAJ180A	ST	180.00	200.00	220.00	1	292.0	1.37	1
P4SMAJ190	SU	190.00	211.00	258.40	1	340.0	1.18	1
P4SMAJ190A	SV	190.00	211.00	232.00	1	308.0	1.30	1
P4SMAJ200A	SX	200.00	224.00	247.00	1	324.0	1.23	1
P4SMAJ220A	GE	220.00	246.00	272.00	1	356.0	1.12	1
P4SMAJ250A	GF	250.00	279.00	309.00	1	405.0	0.99	1
P4SMAJ300A	GG	300.00	335.00	371.00	1	486.0	0.82	1
P4SMAJ350A	GH	350.00	391.00	432.00	1	567.0	0.71	1
P4SMAJ400A	GK	400.00	447.00	494.00	1	648.0	0.62	1
P4SMAJ440A	GL	440.00	492.00	543.00	1	713.0	0.56	1

## BI-DIRECTIONAL 400 WATT SURFACE MOUNT TVS

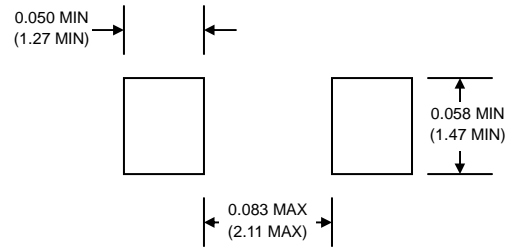
BI-DIRECTIONAL PART NO.	DEVICE MARKING CODE	REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc (V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @VRWM IR (uA)
P4SMAJ180C	YS	180.00	200.00	244.80	1	322.0	1.24	1
P4SMAJ180CA	YT	180.00	200.00	220.00	1	292.0	1.37	1
P4SMAJ190C	YU	190.00	211.00	258.40	1	340.0	1.18	1
P4SMAJ190CA	YV	190.00	211.00	232.00	1	308.0	1.30	1
P4SMAJ200CA	YX	200.00	224.00	247.00	1	324.0	1.23	1
P4SMAJ220CA	ZE	220.00	246.00	272.00	1	356.0	1.12	1
P4SMAJ250CA	ZF	250.00	279.00	309.00	1	405.0	0.99	1
P4SMAJ300CA	ZG	300.00	335.00	371.00	1	486.0	0.82	1
P4SMAJ350CA	ZH	350.00	391.00	432.00	1	567.0	0.71	1
P4SMAJ400CA	ZK	400.00	447.00	494.00	1	648.0	0.62	1
P4SMAJ440CA	ZL	440.00	492.00	543.00	1	713.0	0.56	1

## MARKING INFORMATION



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

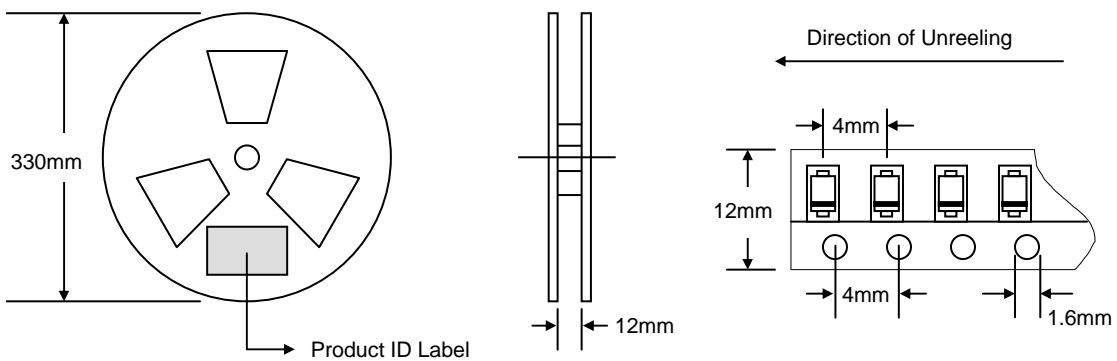
## RECOMMENDED FOOTPRINT



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

*We power your everyday.*