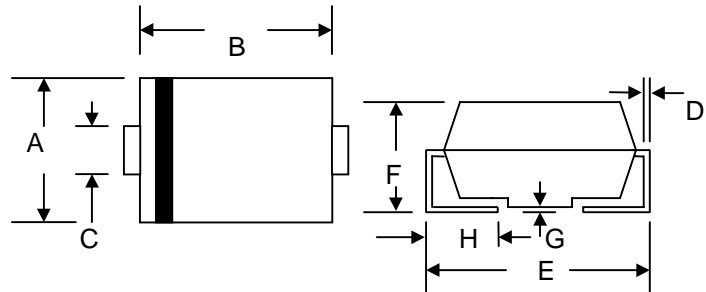


# 1.5SMCJ180 – 1.5SMCJ220CA

## 1500W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

### Features

- Glass Passivated Die Construction
- 1500W 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-214AB Low Profile Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking:  
 Unidirectional – Device Code and Cathode Band  
 Bidirectional – Device Code Only
- Weight: 0.21 grams (approx.)

SMC/DO-214AB		
Dim	Min	Max
A	5.59	6.22
B	6.60	7.11
C	2.75	3.25
D	0.152	0.305
E	7.75	8.13
F	2.00	2.62
G	0.051	0.203
H	0.76	1.27
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 10/1000 $\mu\text{S}$ Waveform (Note 1, 2) Figure 3	PPPM	1500 Minimum	W
Peak Pulse Current on 10/1000 $\mu\text{S}$ Waveform (Note 1) Figure 4	IPPM	See Table 1	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 2, 3)	IFSM	100	A
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 8.0mm<sup>2</sup> copper pads to each terminal.  
 3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

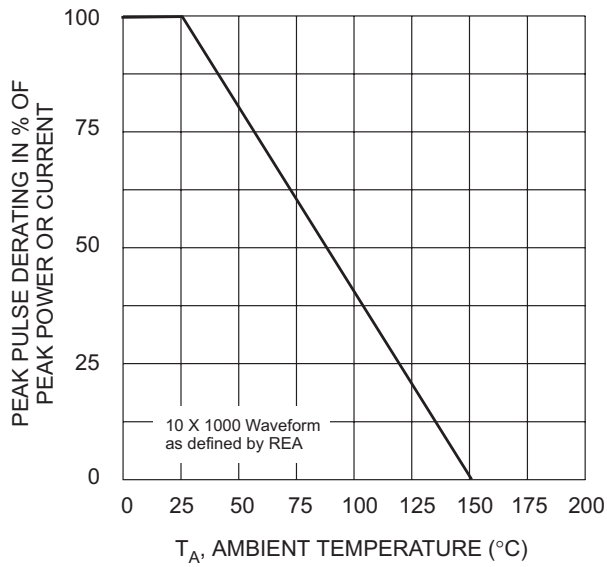


Fig. 1 Pulse Derating Curve

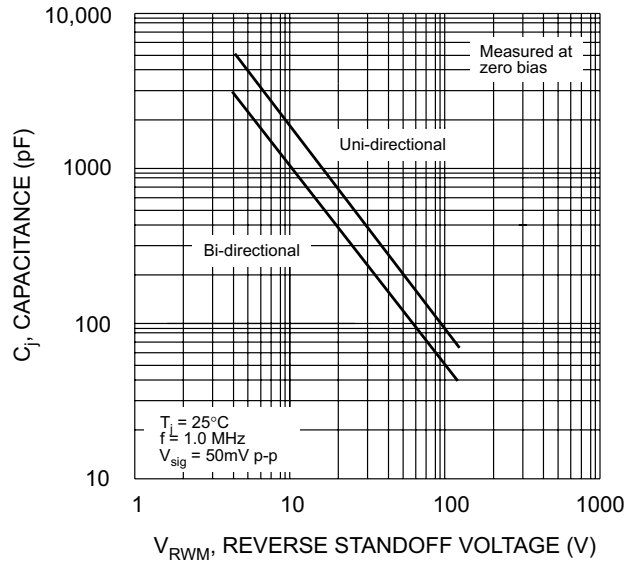


Fig. 2 Typical Junction Capacitance

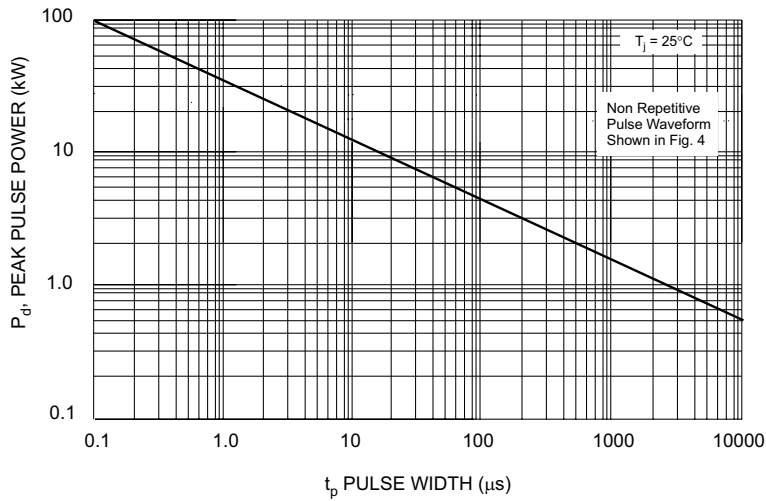


Fig. 3 Pulse Rating Curve

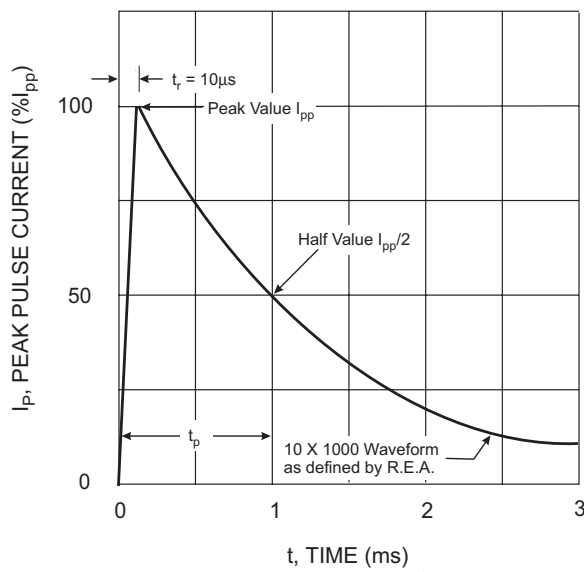


Fig. 4 Pulse Waveform

## UNI-DIRECTIONAL 1500 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)
1.5SMCJ180	GHS	180.00	198.00	253.80	1	322.0	4.7	5
1.5SMCJ180A	GHT	180.00	198.00	230.40	1	292.0	5.1	5
1.5SMCJ190	GHU	190.00	209.00	267.90	1	340.0	4.4	5
1.5SMCJ190A	GHV	190.00	209.00	243.20	1	308.0	4.8	5
1.5SMCJ200	GHW	200.00	220.00	282.00	1	358.0	4.1	5
1.5SMCJ200A	GHX	200.00	220.00	256.00	1	324.0	4.6	5
1.5SMCJ210	GHY	210.00	231.00	296.10	1	376.0	4.0	5
1.5SMCJ210A	GHZ	210.00	231.00	268.80	1	340.0	4.4	5
1.5SMCJ220	GID	220.00	242.00	310.20	1	394.0	3.8	5
1.5SMCJ220A	GIE	220.00	242.00	281.60	1	356.0	4.2	5

## BI-DIRECTIONAL 1500 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)
1.5SMCJ180C	BHS	180.00	198.00	253.80	1	322.0	4.7	5
1.5SMCJ180CA	BHT	180.00	198.00	230.40	1	292.0	5.1	5
1.5SMCJ190C	BHU	190.00	209.00	267.90	1	340.0	4.4	5
1.5SMCJ190CA	BHV	190.00	209.00	243.20	1	308.0	4.8	5
1.5SMCJ200C	BHW	200.00	220.00	282.00	1	358.0	4.1	5
1.5SMCJ200CA	BHX	200.00	220.00	256.00	1	324.0	4.6	5
1.5SMCJ210C	BHY	210.00	231.00	296.10	1	376.0	4.0	5
1.5SMCJ210CA	BHZ	210.00	231.00	268.80	1	340.0	4.4	5
1.5SMCJ220C	BID	220.00	242.00	310.20	1	394.0	3.8	5
1.5SMCJ220CA	BIE	220.00	242.00	281.60	1	356.0	4.2	5

## ORDERING INFORMATION

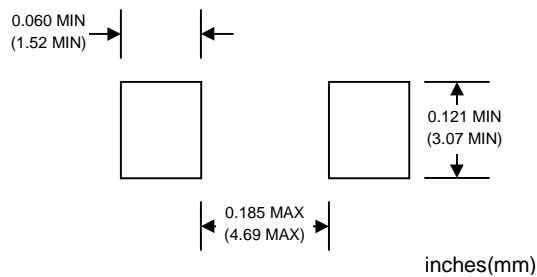
Product No.♦	Package Type	Shipping Quantity
1.5SMCJxx-T1	SMC	500/Tape & Reel
<b>1.5SMCJxx-T3</b>	SMC	3000/Tape & Reel
1.5SMCJxxA-T1	SMC	500/Tape & Reel
<b>1.5SMCJxxA-T3</b>	SMC	3000/Tape & Reel
1.5SMCJxxC-T1	SMC	500/Tape & Reel
<b>1.5SMCJxxC-T3</b>	SMC	3000/Tape & Reel
1.5SMCJxxCA-T1	SMC	500/Tape & Reel
<b>1.5SMCJxxCA-T3</b>	SMC	3000/Tape & Reel

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

♦T1 suffix refers to a 7" reel. T3 suffix refers to a 13" reel.

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

## RECOMMENDED FOOTPRINT



Won-Top Electronics Co., Ltd (WTE) has checked all information carefully and believes it to be correct and accurate. However, WTE cannot assume any responsibility for inaccuracies. Furthermore, this information does not give the purchaser of semiconductor devices any license under patent rights to manufacturer. WTE reserves the right to change any or all information herein without further notice.

**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.

**Won-Top Electronics Co., Ltd.**

No. 44 Yu Kang North 3rd Road, Chine Chen Dist., Kaohsiung, Taiwan

**Phone:** 886-7-822-5408 or 886-7-822-5410

**Fax:** 886-7-822-5417

**Email:** sales@wontop.com

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

*We power your everyday.*