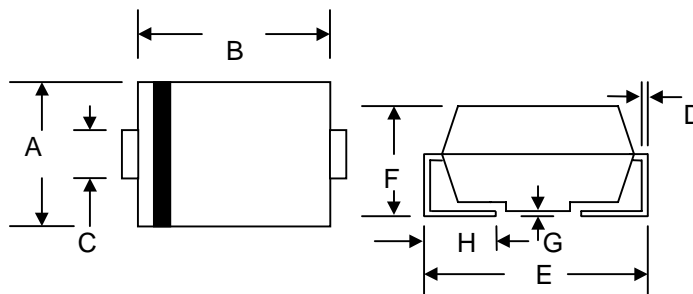


# 1.5SMCJ180 – 1.5SMCJ220CA

## 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<sub>A</sub>=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation 10/1000μS Waveform (Note 1, 2) Figure 3	PPPM	1500 Minimum	W
Peak Pulse Current on 10/1000μS 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 <sub>j</sub> , T <sub>STG</sub>	-55 to +150	°C

Note: 1. Non-repetitive current pulse, per Figure 4 and derated above T<sub>A</sub> = 25°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.

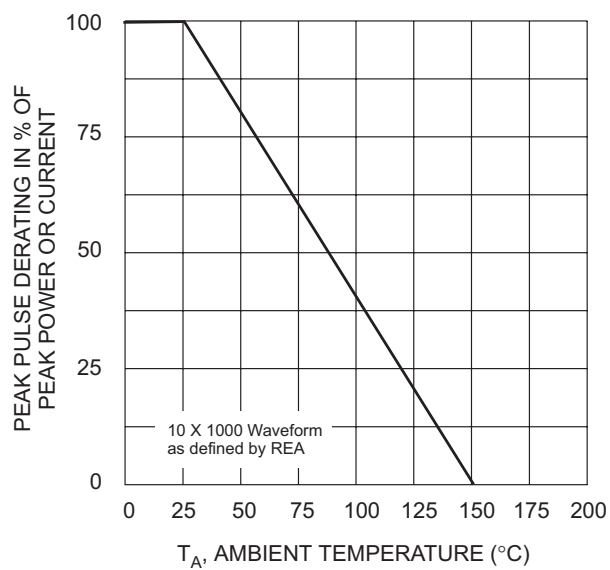


Fig. 1 Pulse Derating Curve

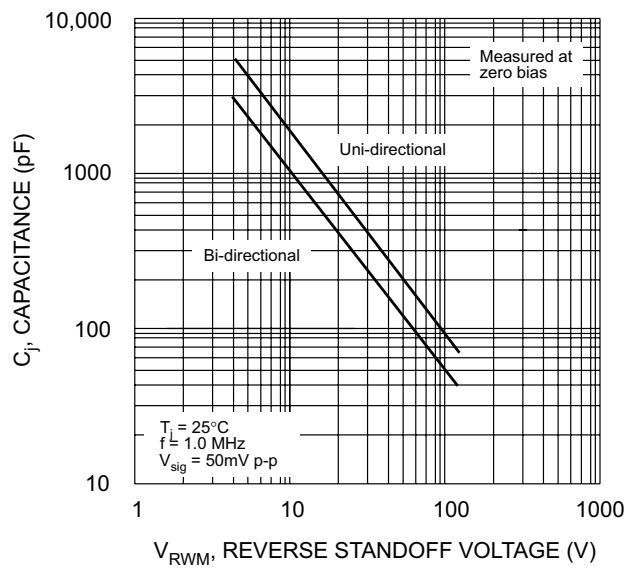


Fig. 2 Typical Junction Capacitance

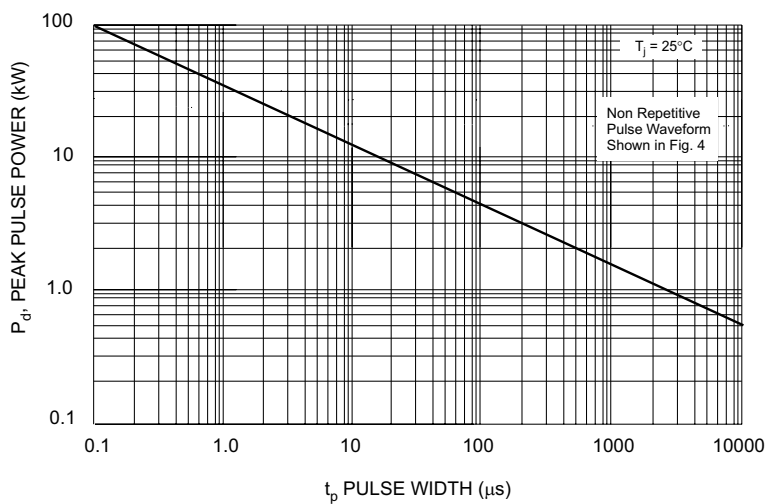


Fig. 3 Pulse Rating Curve

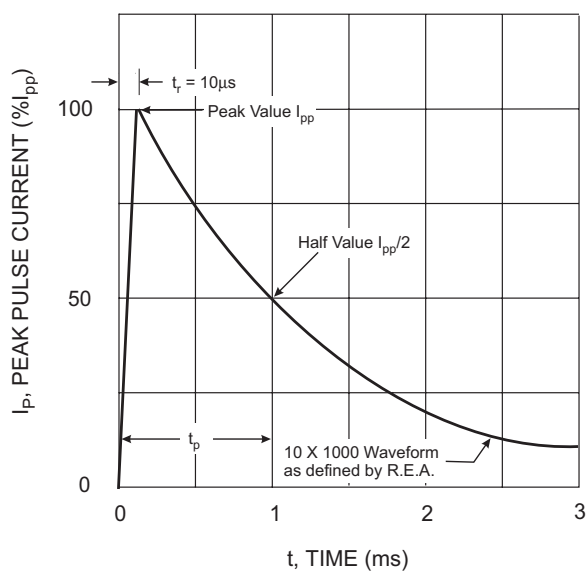


Fig. 4 Pulse Waveform

## 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

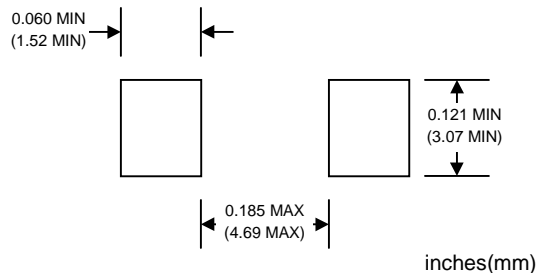
Product No.◆	Package Type	Shipping Quantity
1.5SMCJxx-T1	SMC	500/Tape & Reel
<b>1.5SMCJxx-T3</b>	SMC	3000/Tape & Reel
1.5SMCJxxA-T1	SMC	500/Tape & Reel
<b>1.5SMCJxxA-T3</b>	SMC	3000/Tape & Reel
1.5SMCJxxC-T1	SMC	500/Tape & Reel
<b>1.5SMCJxxC-T3</b>	SMC	3000/Tape & Reel
1.5SMCJxxCA-T1	SMC	500/Tape & Reel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



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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.

### 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>

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