

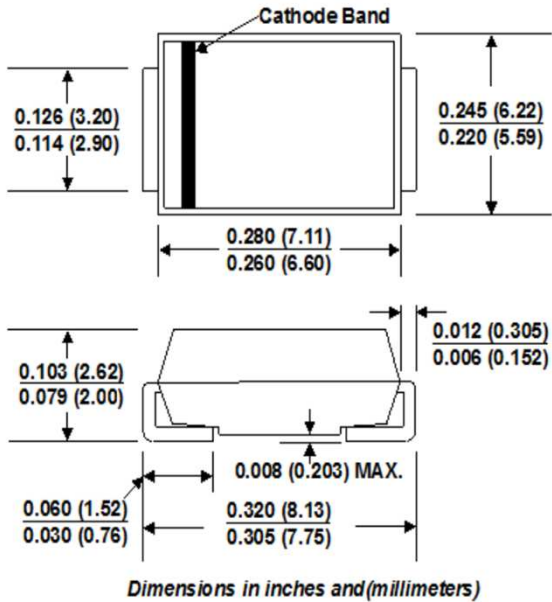
# 5.0SMDJ SERIES

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

### VOLTAGE-5.0 TO 170 Volts

### 5000 Watt Peak Pulse Power

#### DO-214AB (SMC J-Bend)



#### FEATURES

- ⊙ For surface mounted applications in order to optimize board space
- ⊙ Halogen-Free
- ⊙ RoHS compliant
- ⊙ Typical maximum temperature coefficient  $\Delta V_{BR}=0.1\% \times V_{BR} @ 25^{\circ}C \times \Delta T$
- ⊙ Low profile package
- ⊙ Built-in strain relief
- ⊙ Glass passivated junction
- ⊙ Low inductance
- ⊙ Excellent clamping capability
- ⊙ Repetition Rate (duty cycle): 0.01%
- ⊙ Fast response time: typically less than 1.0ps from 0 Volts to V(BR)
- ⊙ Typical IR less than  $2 \mu A$  above 12V.
- ⊙ High temperature soldering: 260°C/40 seconds at terminals
- ⊙ Plastic package has Underwriters Laboratory Flammability 94V-O
- ⊙ Matte Tin Lead-free plated

#### MECHANICAL DATA

**Case:** JEDEC DO214AB. Molded plastic over glass passivated junction  
**Terminal:** Solderable per MIL-STD-750, Method 2026  
**Polarity:** Color band denoted positive end (cathode) except Bidirectional  
**Standard Packaging:** 16mm tape (EIA STD RS-481)  
**Weight:** 0.007 ounce, 0.21 gram

#### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000μs waveform (Note 1,2 ,FIG.1)	$P_{PPM}$	Minimum 5000	Watts
Peak Pulse Current of on 10/1000μs waveform (Note 1,FIG.3)	$I_{PPM}$	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note2, 3)	$I_{FSM}$	300	Amps
Operating junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	°C

#### Notes :

- 1.Non-repetitive current pulse , per Fig. 3 and derated above  $T_A = 25^{\circ}C$  per Fig. 2 .
- 2.Mounted on 8.0mm x 8.0mm Copper Pads to each terminal
- 3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

**5.0SMDJ SERIES**  
**SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR**  
**VOLTAGE - 5.0 TO 170 Volts**  
**5000Watts Peak Pulse Power**

5.0SMDJ PART NUMBER	DEVICE MARKING CODE		REVERSE STAND- OFF VOLTAGE V <sub>RWM</sub> (V)	BREAKDOWN VOLTAGE V <sub>BR</sub> (V) @I <sub>T</sub>		TEST CURRENT I <sub>T</sub> (mA)	MAXIMUM CLAMPING VOLTAGE @I <sub>pp</sub> V <sub>c</sub> (V)	PEAK PULSE CURRENT I <sub>pp</sub> (A)	REVERSE LEAKAGE @ V <sub>RWM</sub> I <sub>R</sub> (μA)
	Uni-polar	Bi-polar		MIN	MAX				
5.0SMDJ 5.0A-CA	5RDE	5DDE	5.0	6.40	7.00	10	9.2	543.6	1050
5.0SMDJ 6.0A-CA	5RDG	5DDG	6.0	6.67	7.37	10	10.3	485.5	1050
5.0SMDJ 6.5A-CA	5RDK	5DDK	6.5	7.22	7.98	10	11.2	446.5	750
5.0SMDJ 7.0A-CA	5PDM	5DDM	7.0	7.78	8.60	10	12.0	416.8	300
5.0SMDJ 7.5A-CA	5PDP	5DDP	7.5	8.33	9.21	1	12.9	387.7	150
5.0SMDJ 8.0A-CA	5PDR	5DDR	8.0	8.89	9.83	1	13.6	367.7	70
5.0SMDJ 8.5A-CA	5PDT	5DDT	8.5	9.44	10.40	1	14.4	347.3	30
5.0SMDJ 9.0A-CA	5PDV	5DDV	9.0	10.00	11.10	1	15.4	324.8	12
5.0SMDJ 10A-CA	5PDX	5DDX	10.0	11.10	12.30	1	17.0	294.2	6
5.0SMDJ 11A-CA	5PDZ	5DDZ	11.0	12.20	13.50	1	18.2	274.8	2
5.0SMDJ 12A-CA	5PEP	5BEP	12.0	13.30	14.70	1	19.9	252.0	2
5.0SMDJ 13A-CA	5PEQ	5BEQ	13.0	14.40	15.90	1	21.5	233.0	2
5.0SMDJ 14A-CA	5PER	5BER	14.0	15.60	17.20	1	23.2	216.0	2
5.0SMDJ 15A-CA	5PES	5BES	15.0	16.70	18.50	1	24.4	205.0	2
5.0SMDJ 16A-CA	5PET	5BET	16.0	17.80	19.70	1	26.0	193.0	2
5.0SMDJ 17A-CA	5PEU	5BEU	17.0	18.90	20.90	1	27.6	181.0	2
5.0SMDJ 18A-CA	5PEV	5BEV	18.0	20.00	22.10	1	29.2	172.0	2
5.0SMDJ 20A-CA	5PEW	5BEW	20.0	22.20	24.50	1	32.4	155.0	2
5.0SMDJ 22A-CA	5PEX	5BEX	22.0	24.40	26.90	1	35.5	141.0	2
5.0SMDJ 24A-CA	5PEZ	5BEZ	24.0	26.70	29.50	1	38.9	129.0	2
5.0SMDJ 26A-CA	5PFE	5BFE	26.0	28.90	31.90	1	42.1	119.0	2
5.0SMDJ 28A-CA	5PFG	5BFG	28.0	31.10	34.40	1	45.4	110.0	2
5.0SMDJ 30A-CA	5PFK	5BFK	30.0	33.30	36.80	1	48.4	103.0	2
5.0SMDJ 33A-CA	5PFM	5BFM	33.0	36.70	40.60	1	53.3	93.9	2
5.0SMDJ 36A-CA	5PFP	5BFP	36.0	40.00	44.20	1	58.1	86.1	2
5.0SMDJ 40A-CA	5PFR	5BFR	40.0	44.40	49.10	1	64.5	77.6	2
5.0SMDJ 43A-CA	5PFT	5BFT	43.0	47.80	52.80	1	69.4	72.1	2
5.0SMDJ 45A-CA	5PFV	5BFV	45.0	50.00	55.30	1	72.7	68.8	2
5.0SMDJ 48A-CA	5PFX	5BFX	48.0	53.30	58.90	1	77.4	64.7	2
5.0SMDJ 51A-CA	5PFZ	5BFZ	51.0	56.70	62.70	1	82.4	60.7	2
5.0SMDJ 54A-CA	5RGE	5BGE	54.0	60.00	66.30	1	87.1	57.5	2
5.0SMDJ 58A-CA	5PGG	5BGG	58.0	64.40	71.20	1	93.6	53.5	2
5.0SMDJ 60A-CA	5PGK	5BGK	60.0	66.70	73.70	1	96.8	51.7	2
5.0SMDJ 64A-CA	5PGM	5BGM	64.0	71.10	78.60	1	103.0	48.6	2
5.0SMDJ 70A-CA	5PGP	5BGP	70.0	77.80	86.00	1	113.0	44.3	2
5.0SMDJ 75A-CA	5PGR	5BGR	75.0	83.30	92.10	1	121.0	41.4	2
5.0SMDJ 78A-CA	5PGT	5BGT	78.0	86.70	95.80	1	126.0	39.7	2
5.0SMDJ 85A-CA	5PGV	5BGV	85.0	94.40	104.00	1	137.0	36.5	2
5.0SMDJ 90A	5PGX	-	90.0	100.00	111.00	1	146.0	34.3	2
5.0SMDJ 100A	5PGZ	-	100.0	111.00	123.00	1	162.0	30.9	2
5.0SMDJ 110A	5PHE	-	110.0	122.00	135.00	1	177.0	28.3	2
5.0SMDJ 120A	5PHG	-	120.0	133.00	147.00	1	193.0	26.0	2
5.0SMDJ 130A	5PHK	-	130.0	144.00	159.00	1	209.0	24.0	2
5.0SMDJ 150A	5PHM	-	150.0	167.00	185.00	1	243.0	20.6	2
5.0SMDJ 160A	5PHP	-	160.0	178.00	197.00	1	259.0	19.3	2
5.0SMDJ 170A	5PHR	-	170.0	189.00	209.00	1	275.0	18.2	2

For bidirectional type having V<sub>rw</sub> of 10 volts and less, the IR limit is double.

# 5.0SMDJ SERIES

## RATINGS AND CHARACTERISTIC CURVES

### Ratings and

### Characteristic Curves ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Peak Pulse Power Rating

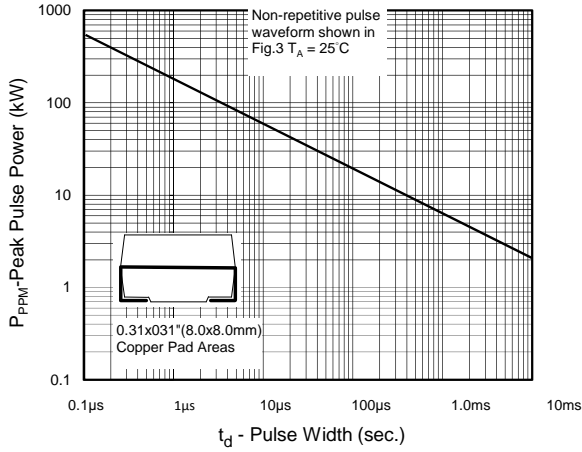


Fig.2 - Pulse Derating Curve

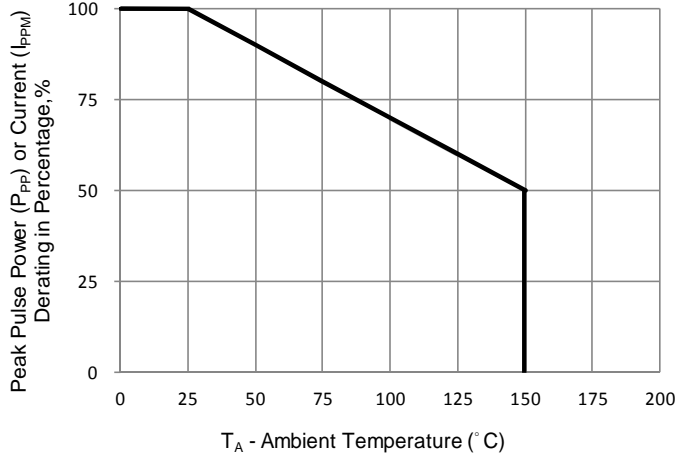


Fig.3 - Pulse Waveform

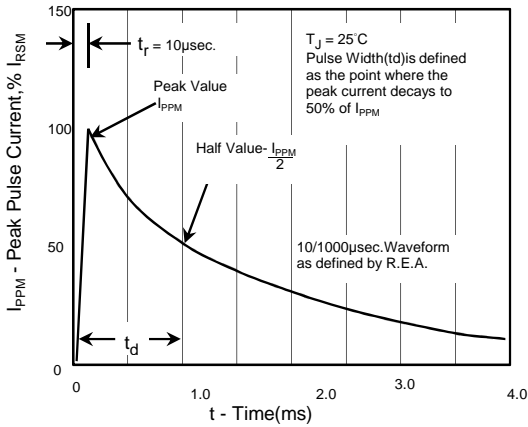


Fig. 4 - Typical Junction Capacitance

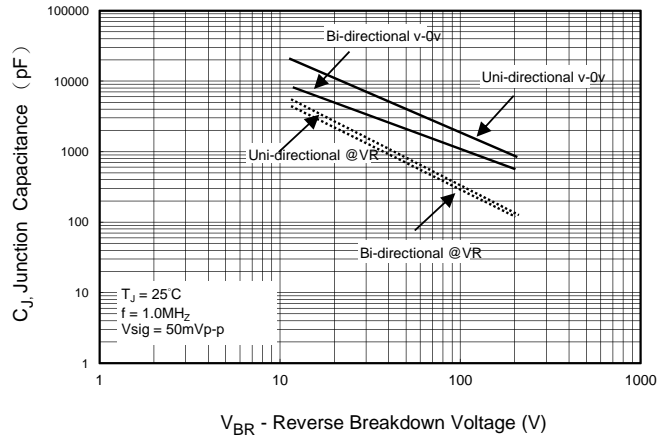


Fig. 5 - Steady State Power Derating Curve

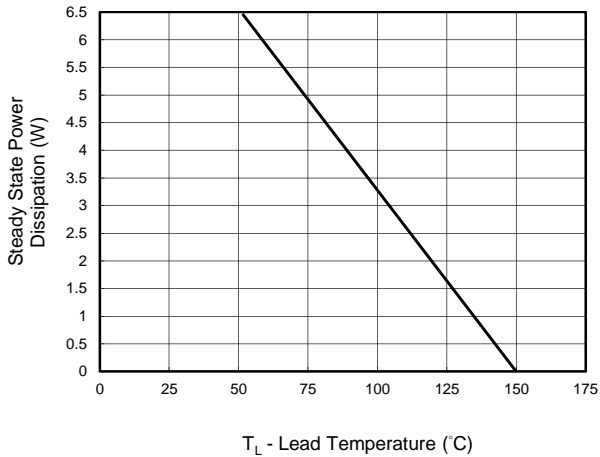
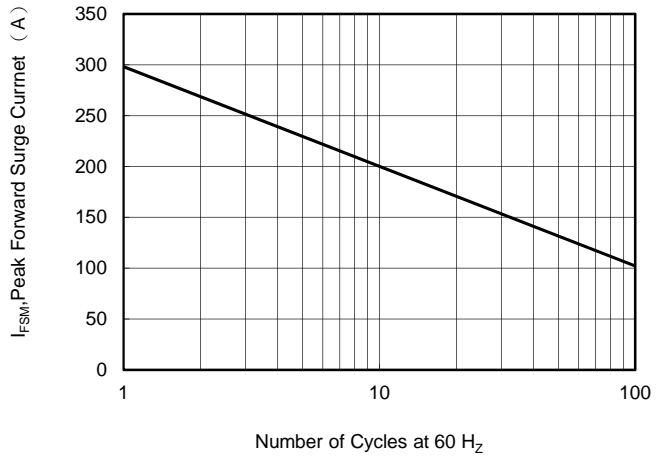


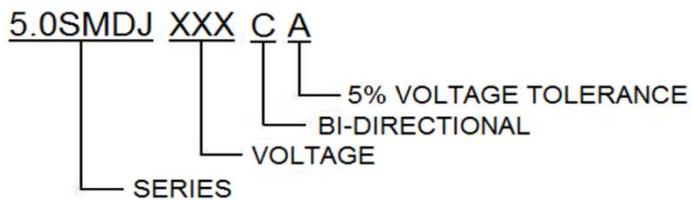
Fig.6 - Maximum Non-repetitive Forward Surge current uni-directional only



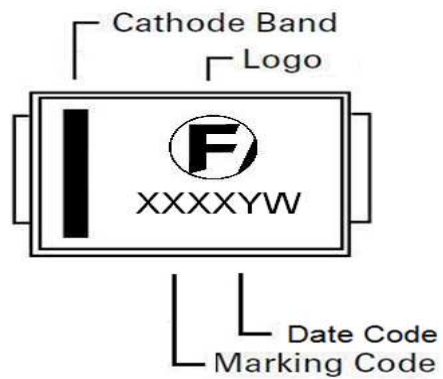
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## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

### Part Numbering System



### Part Marking System



### Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
5.0SMDJxxxXX	DO-214AB	3000	Tape & Reel - 16mm/13" tape	EIA STD RS-481
5.0SMDJxxxXX	DO-214AB	500	Tape & Reel - 16mm/ 7" tape	EIA STD RS-481