

# 5.0SMDJ Transient Voltage Suppressor Diode Series

**BOURNS®**

## Electrical Characteristics (@ T<sub>A</sub> = 25 °C Unless Otherwise Noted)

Unidirectional Device		Bidirectional Device		Breakdown Voltage V <sub>BR</sub> (Volts)			Reverse Standoff Voltage	Maximum Reverse Leakage @ V <sub>RWM</sub>	Maximum Clamping Voltage @ I <sub>pp</sub> (10/1000 μs)	Maximum Peak Pulse Current (10/1000 μs)	Maximum Clamping Voltage @ I <sub>pp</sub> (8/20 μs)	Maximum Peak Pulse Current (8/20 μs)
Part Number	Part Marking	Part Number	Part Marking	Min.	Max.	@ I <sub>T</sub> (mA)	V <sub>RWM</sub> (V)	I <sub>R</sub> (μA)	V <sub>C</sub> (V)	I <sub>pp</sub> (A)	V <sub>C</sub> (V)	I <sub>pp</sub> (A)
5.0SMDJ5.0A	5RDE	5.0SMDJ5.0CA	5DDE	6.40	7.00	10	5.0	1050	9.2	543.6	12.0	4077.0
5.0SMDJ6.0A	5RDG	5.0SMDJ6.0CA	5DDG	6.67	7.37	10	6.0	1050	10.3	485.5	13.4	3641.3
5.0SMDJ6.5A	5RDK	5.0SMDJ6.5CA	5DDK	7.22	7.98	10	6.5	750	11.2	446.5	14.6	3348.8
5.0SMDJ7.0A	5PDM	5.0SMDJ7.0CA	5DDM	7.78	8.60	10	7.0	300	12.0	416.8	15.6	3126.0
5.0SMDJ7.5A	5PDP	5.0SMDJ7.5CA	5DDP	8.33	9.21	1	7.5	150	12.9	387.7	16.8	2907.8
5.0SMDJ8.0A	5PDR	5.0SMDJ8.0CA	5DDR	8.89	9.83	1	8.0	70	13.6	367.7	17.7	2757.8
5.0SMDJ8.5A	5PDT	5.0SMDJ8.5CA	5DDT	9.44	10.40	1	8.5	30	14.4	347.3	18.7	2604.8
5.0SMDJ9.0A	5PDV	5.0SMDJ9.0CA	5DDV	10.00	11.10	1	9.0	12	15.4	324.8	20.0	2436.0
5.0SMDJ10A	5PDX	5.0SMDJ10CA	5DDX	11.10	12.30	1	10.0	6	17.0	294.2	22.1	2206.5
5.0SMDJ11A	5PDZ	5.0SMDJ11CA	5DDZ	12.20	13.50	1	11.0	2	18.2	274.8	23.7	2061.0
5.0SMDJ12A	5PEP	5.0SMDJ12CA	5BEP	13.30	14.70	1	12.0	2	19.9	252.0	25.9	1890.0
5.0SMDJ13A	5PEQ	5.0SMDJ13CA	5BEQ	14.40	15.90	1	13.0	2	21.5	233.0	28.0	1747.5
5.0SMDJ14A	5PER	5.0SMDJ14CA	5BER	15.60	17.20	1	14.0	2	23.2	216.0	30.2	1620.0
5.0SMDJ15A	5PES	5.0SMDJ15CA	5BES	16.70	18.50	1	15.0	2	24.4	205.0	31.7	1537.5
5.0SMDJ16A	5PET	5.0SMDJ16CA	5BET	17.80	19.70	1	16.0	2	26.0	193.0	33.8	1447.5
5.0SMDJ17A	5PEU	5.0SMDJ17CA	5BEU	18.90	20.90	1	17.0	2	27.6	181.0	35.9	1357.5
5.0SMDJ18A	5PEV	5.0SMDJ18CA	5BEV	20.00	22.10	1	18.0	2	29.2	172.0	38.0	1290.0
5.0SMDJ20A	5PEW	5.0SMDJ20CA	5BEW	22.20	24.50	1	20.0	2	32.4	155.0	42.1	1162.5
5.0SMDJ22A	5PEX	5.0SMDJ22CA	5BEX	24.40	26.90	1	22.0	2	35.5	141.0	46.2	1057.5
5.0SMDJ24A	5PEZ	5.0SMDJ24CA	5BEZ	26.70	29.50	1	24.0	2	38.9	129.0	50.6	967.5
5.0SMDJ26A	5PFE	5.0SMDJ26CA	5BFE	28.90	31.90	1	26.0	2	42.1	119.0	54.7	892.5
5.0SMDJ28A	5PFG	5.0SMDJ28CA	5BFG	31.10	34.40	1	28.0	2	45.4	110.0	59.0	825.0
5.0SMDJ30A	5PFK	5.0SMDJ30CA	5BFK	33.30	36.80	1	30.0	2	48.4	103.0	62.9	772.5
5.0SMDJ33A	5PFM	5.0SMDJ33CA	5BFM	36.70	40.60	1	33.0	2	53.3	93.9	69.3	704.3
5.0SMDJ36A	5PFP	5.0SMDJ36CA	5BFP	40.00	44.20	1	36.0	2	58.1	86.1	75.5	648.8
5.0SMDJ40A	5PFR	5.0SMDJ40CA	5BFR	44.40	49.10	1	40.0	2	64.5	77.6	83.9	582.0
5.0SMDJ43A	5PFT	5.0SMDJ43CA	5BFT	47.80	52.80	1	43.0	2	69.4	72.1	90.2	540.8
5.0SMDJ45A	5PFV	5.0SMDJ45CA	5BFV	50.00	55.30	1	45.0	2	72.7	68.8	94.5	516.0
5.0SMDJ48A	5PFX	5.0SMDJ48CA	5BFX	53.30	58.90	1	48.0	2	77.4	64.7	100.6	483.3
5.0SMDJ51A	5PFZ	5.0SMDJ51CA	5BFZ	56.70	62.70	1	51.0	2	82.4	60.7	107.1	455.3
5.0SMDJ54A	5RGE	5.0SMDJ54CA	5BGE	60.00	66.30	1	54.0	2	87.1	57.5	113.2	431.3
5.0SMDJ58A	5PGG	5.0SMDJ58CA	5BGG	64.40	71.20	1	58.0	2	93.6	53.5	121.7	401.3
5.0SMDJ60A	5PGK	5.0SMDJ60CA	5BGK	66.70	73.70	1	60.0	2	96.8	51.7	125.8	387.8
5.0SMDJ64A	5PGM	5.0SMDJ64CA	5BGM	71.10	78.60	1	64.0	2	103.0	48.6	133.9	364.5
5.0SMDJ70A	5PGP	5.0SMDJ70CA	5BGP	77.80	86.00	1	70.0	2	113.0	44.3	146.9	332.3
5.0SMDJ75A	5PGR	5.0SMDJ75CA	5BGR	83.30	92.10	1	75.0	2	121.0	41.4	157.3	310.5
5.0SMDJ78A	5PGT	5.0SMDJ78CA	5BGT	86.70	95.80	1	78.0	2	126.0	39.7	163.8	297.8
5.0SMDJ85A	5PGV	5.0SMDJ85CA	5BGV	94.40	104.00	1	85.0	2	137.0	36.5	178.1	273.8
5.0SMDJ90A	5PGX			100.00	111.00	1	90.0	2	146.0	34.3	189.8	257.3
5.0SMDJ100A	5PGZ			111.00	123.00	1	100.0	2	162.0	30.9	210.6	231.8
5.0SMDJ110A	5PHE			122.00	135.00	1	110.0	2	177.0	28.3	230.1	212.3
5.0SMDJ120A	5PHG			133.00	147.00	1	120.0	2	193.0	26.0	250.9	195.0
5.0SMDJ130A	5PHK			144.00	159.00	1	130.0	2	209.0	24.0	271.7	180.0
5.0SMDJ150A	5PHM			167.00	185.00	1	150.0	2	243.0	20.6	315.9	154.5
5.0SMDJ160A	5PHP			178.00	197.00	1	160.0	2	259.0	19.3	336.7	144.8
5.0SMDJ170A	5PHR			189.00	209.00	1	170.0	2	275.0	18.2	357.5	136.5

Specifications are subject to change without notice.

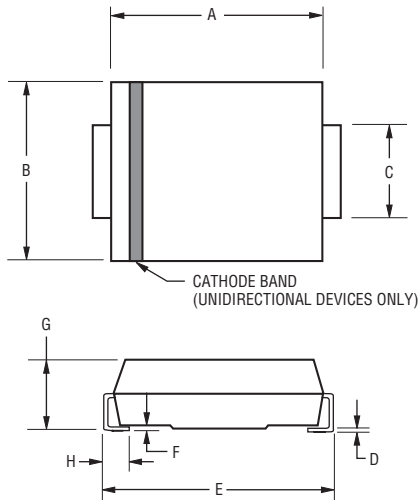
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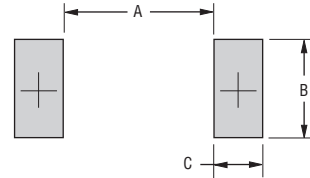
## Product Dimensions



Dimension	SMC (DO-214AB)
A	$\frac{6.60 - 7.11}{(0.260 - 0.280)}$
B	$\frac{5.59 - 6.22}{(0.220 - 0.245)}$
C	$\frac{2.90 - 3.20}{(0.114 - 0.126)}$
D	$\frac{0.15 - 0.31}{(0.006 - 0.012)}$
E	$\frac{7.75 - 8.13}{(0.305 - 0.320)}$
F	$\frac{0.05 - 0.20}{(0.002 - 0.008)}$
G	$\frac{2.01 - 2.62}{(0.080 - 0.103)}$
H	$\frac{0.76 - 1.52}{(0.030 - 0.060)}$

DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Recommended Footprint



Dimension	SMC (DO-214AB)
A (Max.)	$\frac{4.69}{(0.185)}$
B (Min.)	$\frac{3.07}{(0.121)}$
C (Min.)	$\frac{1.53}{(0.060)}$

DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Physical Specifications

Encapsulation ..... Molded plastic per UL Class 94V-0  
 Polarity..... Cathode band indicates unidirectional device  
 No cathode band indicates bidirectional device

## Environmental Specifications

Moisture Sensitivity Level..... 1  
 ESD Classification (HBM)..... 3B

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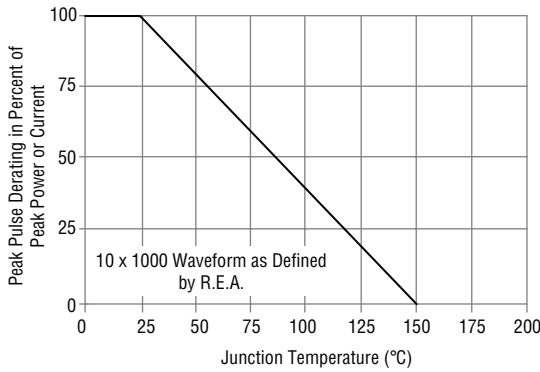
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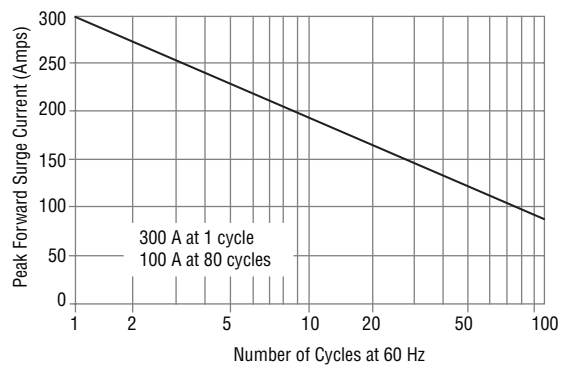
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## Rating & Characteristic Curves

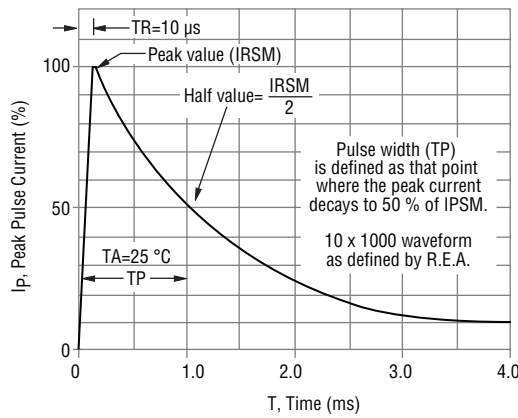
### Pulse Derating Curve



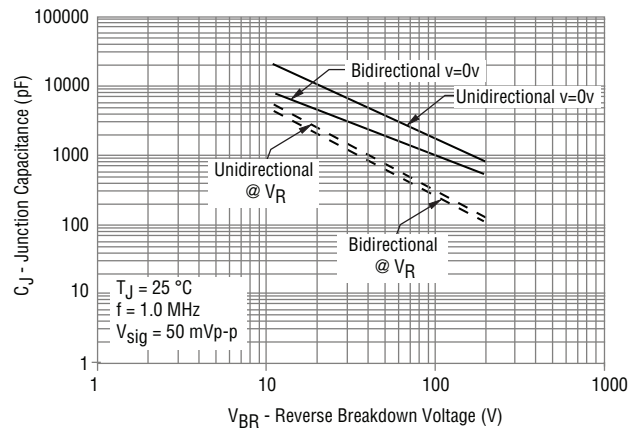
### Maximum Non-Repetitive Surge Current



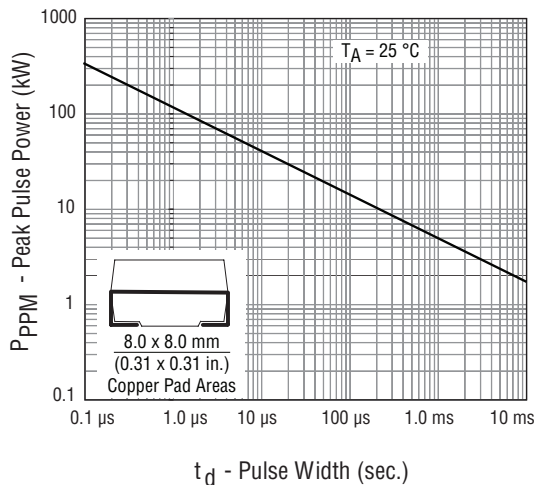
### Pulse Waveform



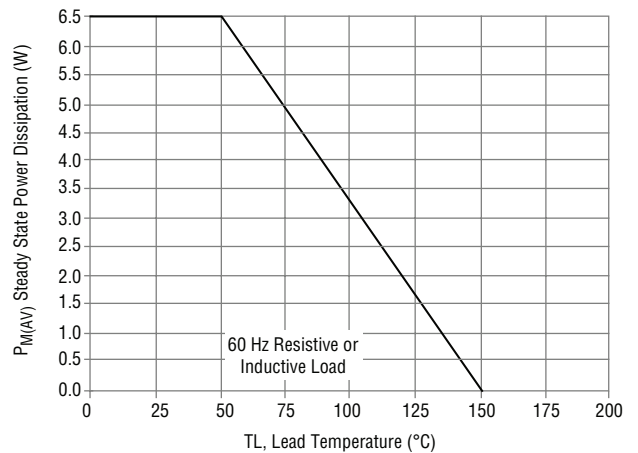
### Typical Junction Capacitance



### Pulse Rating Curve



### Steady State Power Derating Curve



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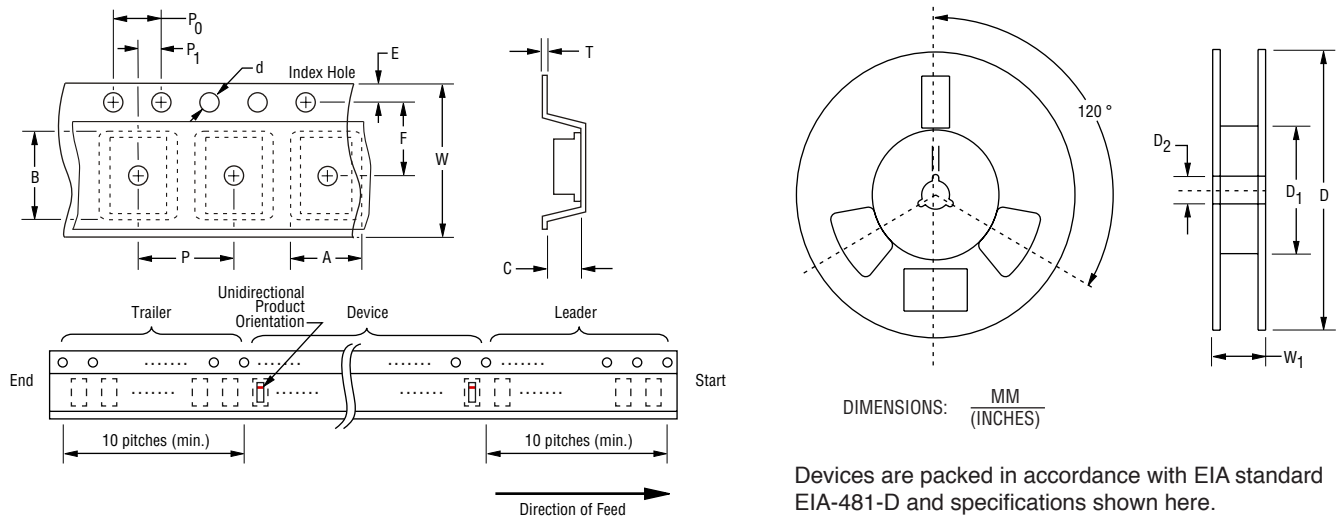
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# 5.0SMDJ Transient Voltage Suppressor Diode Series

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## Packaging Information

The product will be dispensed in tape and reel format (see diagram below).



Devices are packed in accordance with EIA standard EIA-481-D and specifications shown here.

Item	Symbol	SMC (DO-214AB)	
		7-Inch Reel	13-Inch Reel
Carrier Width	A	$6.0 \pm 0.20$ (0.236 ± 0.079)	
Carrier Length	B	$8.3 \pm 0.20$ (0.327 ± 0.008)	
Carrier Depth	C	$2.5 \pm 0.20$ (0.098 ± 0.008)	
Sprocket Hole	d	$1.50 \pm 0.10$ (0.059 ± 0.004)	
Reel Outside Diameter	D	$\frac{178}{(7.008)}$	$\frac{330}{(12.992)}$
Reel Inner Diameter	D <sub>1</sub>	$\frac{50.0}{(1.969)}$ MIN.	
Feed Hole Diameter	D <sub>2</sub>	$\frac{13.0 + 0.50/-0.20}{(0.512 + 0.020/-0.008)}$	
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$	
Punch Hole Position	F	$\frac{7.50 \pm 0.10}{(0.295 \pm 0.004)}$	
Punch Hole Pitch	P	$\frac{8.00 \pm 0.10}{(0.315 \pm 0.004)}$	
Sprocket Hole Pitch	P <sub>0</sub>	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$	
Embossment Center	P <sub>1</sub>	$\frac{2.00 \pm 0.10}{(0.079 \pm 0.004)}$	
Overall Tape Thickness	T	$\frac{0.30 \pm 0.10}{(0.012 \pm 0.004)}$	
Tape Width	W	$\frac{16.00 \pm 0.30}{(0.630 \pm 0.012)}$	
Reel Width	W <sub>1</sub>	$\frac{22.4}{(0.882)}$ MAX.	
Quantity per Reel	--	500	3,000

REV. 03/20

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