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SMLJ Transient Voltage Suppressor Diode Series

BOURNS®

Electrical Characteristics (@ T_A = 25 °C Unless Otherwise Noted)

Unidirectional Device		Bidirectional Device		Breakdown Voltage V _{BR} (Volts)			Working Peak Reverse Voltage	Maximum Reverse Leakage @ V _{RWM}	Maximum Reverse Voltage @ I _{RSM}	Maximum Reverse Surge Current
Part Number	Part Marking	Part Number	Part Marking	Min.	Max.	@ I _T (mA)	V _{RWM} (Volts)	I _R (μA)	V _{RSM} (Volts)	I _{RSM} (Amps)
SMLJ5.0A	HDE	SMLJ5.0CA	IDE	6.40	7.00	10	5	1000	9.2	326.00
SMLJ6.0A	HDG	SMLJ6.0CA	IDG	6.67	7.37	10	6	1000	10.3	291.30
SMLJ6.5A	HDK	SMLJ6.5CA	IDK	7.22	7.98	10	6.5	500	11.2	267.90
SMLJ7.0A	HDM	SMLJ7.0CA	IDM	7.78	8.60	10	7	200	12	250.00
SMLJ7.5A	HDP	SMLJ7.5CA	IDP	8.33	9.21	1	7.5	100	12.9	232.60
SMLJ8.0A	HDR	SMLJ8.0CA	IDR	8.89	9.83	1	8	50	13.6	220.60
SMLJ8.5A	HDT	SMLJ8.5CA	IDT	9.44	10.4	1	8.5	25	14.4	208.40
SMLJ9.0A	HDV	SMLJ9.0CA	IDV	10.0	11.1	1	9	10	15.4	194.80
SMLJ10A	HDX	SMLJ10CA	IDX	11.1	12.3	1	10	5	17	176.40
SMLJ11A	HDZ	SMLJ11CA	IDZ	12.2	13.5	1	11	5	18.2	164.80
SMLJ12A	HEE	SMLJ12CA	IEE	13.3	14.7	1	12	5	19.9	150.60
SMLJ13A	HEG	SMLJ13CA	IEG	14.4	15.9	1	13	5	21.5	139.40
SMLJ14A	HEK	SMLJ14CA	IEK	15.6	17.2	1	14	5	23.2	129.40
SMLJ15A	HEM	SMLJ15CA	IEM	16.7	18.5	1	15	5	24.4	123.00
SMLJ16A	HEP	SMLJ16CA	IEP	17.8	19.7	1	16	5	26	115.40
SMLJ17A	HER	SMLJ17CA	IER	18.9	20.9	1	17	5	27.6	106.60
SMLJ18A	HET	SMLJ18CA	IET	20.0	22.1	1	18	5	29.2	102.80
SMLJ20A	HEV	SMLJ20CA	IEV	22.2	24.5	1	20	5	32.4	92.60
SMLJ22A	HEX	SMLJ22CA	IEX	24.4	26.9	1	22	5	35.5	84.40
SMLJ24A	HEZ	SMLJ24CA	IEZ	26.7	29.5	1	24	5	38.9	77.20
SMLJ26A	HFE	SMLJ26CA	IFE	28.9	31.9	1	26	5	42.1	71.20
SMLJ28A	HFG	SMLJ28CA	IFG	31.1	34.4	1	28	5	45.4	66.00
SMLJ30A	HFK	SMLJ30CA	IFK	33.3	36.8	1	30	5	48.4	62.00
SMLJ33A	HFM	SMLJ33CA	IFM	36.7	40.6	1	33	5	53.3	56.20
SMLJ36A	HFP	SMLJ36CA	IFP	40	44.2	1	36	5	58.1	51.60
SMLJ40A	HFR	SMLJ40CA	IFR	44.4	49.1	1	40	5	64.5	46.40
SMLJ43A	HFT	SMLJ43CA	IFT	47.8	52.8	1	43	5	69.4	43.20
SMLJ45A	HFV	SMLJ45CA	IFV	50	55.3	1	45	5	72.7	41.20
SMLJ48A	HFX	SMLJ48CA	IFX	53.3	58.9	1	48	5	77.4	38.80
SMLJ51A	HFZ	SMLJ51CA	IFZ	56.7	62.7	1	51	5	82.4	36.40
SMLJ54A	HGE	SMLJ54CA	IGE	60	66.3	1	54	5	87.1	34.40
SMLJ58A	HGG	SMLJ58CA	IGG	64.4	71.2	1	58	5	93.6	32.00
SMLJ60A	HGK	SMLJ60CA	IGK	66.7	73.7	1	60	5	96.8	31.00
SMLJ64A	HGM	SMLJ64CA	IGM	71.1	78.6	1	64	5	103	29.20
SMLJ70A	HGP	SMLJ70CA	IGP	77.8	86.0	1	70	5	113	26.60
SMLJ75A	HGR	SMLJ75CA	IGR	83.3	92.1	1	75	5	121	24.80
SMLJ78A	HGT	SMLJ78CA	IGT	86.7	95.8	1	78	5	126	22.80
SMLJ85A	HGV	SMLJ85CA	IGV	94.4	104	1	85	5	137	20.80
SMLJ90A	HGX	SMLJ90CA	IGX	100	111	1	90	5	146	20.60
SMLJ100A	HGZ	SMLJ100CA	IGZ	111	123	1	100	5	162	18.60
SMLJ110A	HHE	SMLJ110CA	IHE	122	135	1	110	5	177	16.80
SMLJ120A	HHG	SMLJ120CA	IHG	133	147	1	120	5	193	15.60
SMLJ130A	HHH	SMLJ130CA	IHH	144	159	1	130	5	209	14.40
SMLJ150A	HHM	SMLJ150CA	IHM	167	185	1	150	5	243	12.40
SMLJ160A	HHP	SMLJ160CA	IHP	178	197	1	160	5	259	11.60
SMLJ170A	HHR	SMLJ170CA	IHR	189	209	1	170	5	275	11.00

Notes:

- Suffix 'A' denotes a 5 % tolerance unidirectional device.
- Suffix 'CA' denotes a 5 % tolerance bidirectional device.
- For bidirectional devices with a V_R of 10 volts or less, the I_R limit is double.
- For unidirectional devices with a V_F max. of 3.5 V at an I_F of 35 A, 0.5 Sine Wave of 8.3 ms Pulse Width.

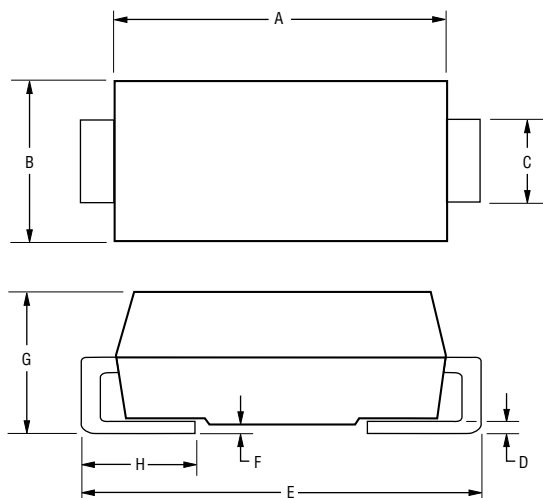
Specifications are subject to change without notice.

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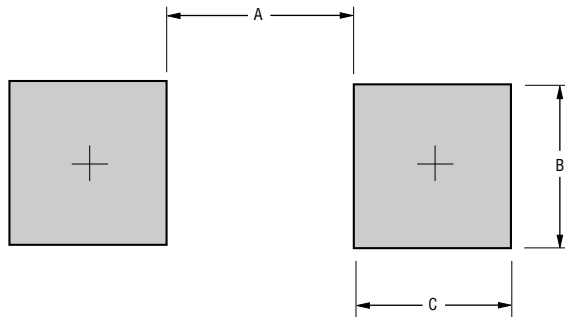
Product Dimensions



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	$\frac{2.92 - 3.18}{(0.115 - 0.125)}$
D	$\frac{0.15 - 0.31}{(0.006 - 0.112)}$
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.)	$\frac{1.52}{(0.060)}$

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

Physical Specifications

CaseMolded plastic per UL Class 94V-0
 Polarity..... Cathode band indicates unidirectional device
 No cathode band indicates bidirectional device
 Weight 0.007 ounces / 0.21 grams

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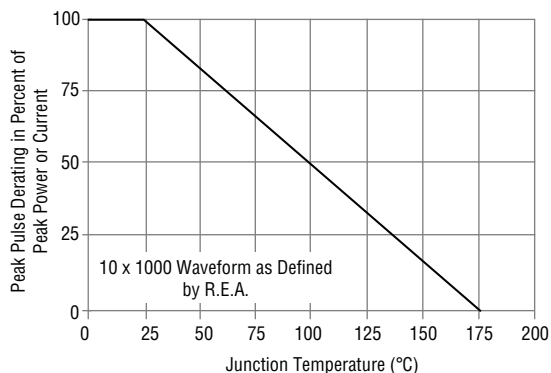
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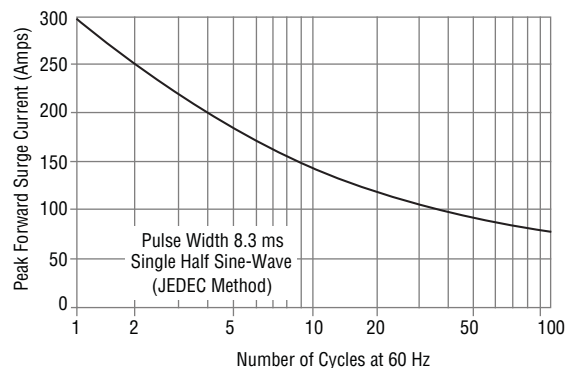
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Rating & Characteristic Curves

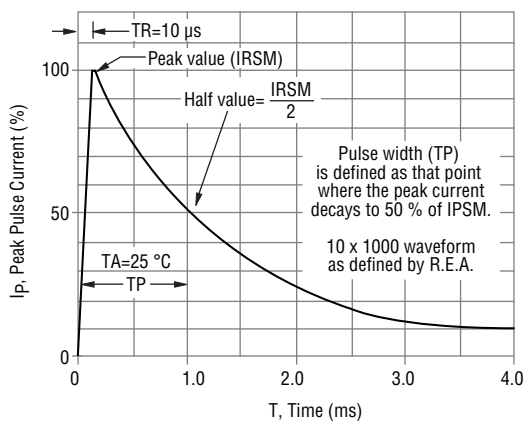
Pulse Derating Curve



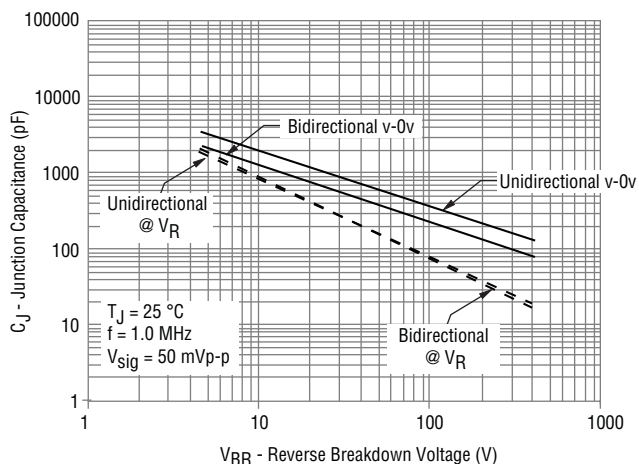
Maximum Non-Repetitive Surge Current



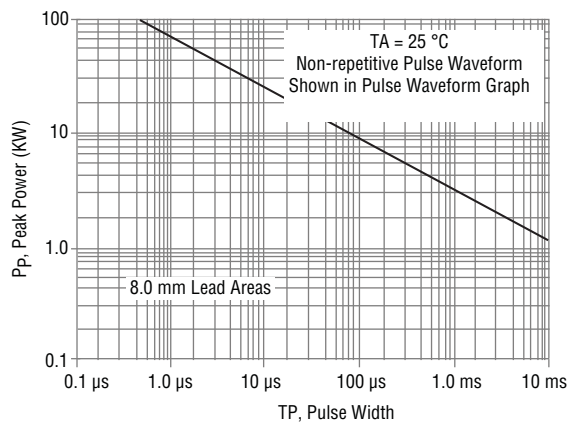
Pulse Waveform



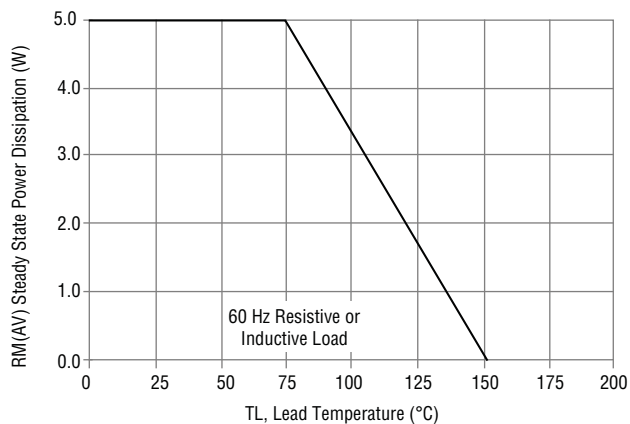
Typical Junction Capacitance



Pulse Rating Curve



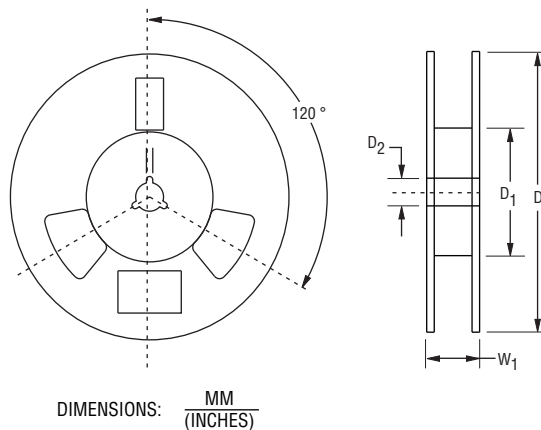
Steady State Power Derating Curve



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



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

Item	Symbol	SMC (DO-214AB)
Carrier Width	A	$\frac{7.22 \pm 0.10}{(0.284 - 0.004)}$
Carrier Length	B	$\frac{8.11 \pm 0.10}{(0.319 \pm 0.004)}$
Carrier Depth	C	$\frac{2.36 \pm 0.10}{(0.093 \pm 0.004)}$
Sprocket Hole	d	$\frac{1.55 \pm 0.05}{(0.061 \pm 0.002)}$
Reel Outside Diameter	D	$\frac{330}{(12.992)}$
Reel Inner Diameter	D ₁	$\frac{50.0}{(1.969)} \text{ MIN.}$
Feed Hole Diameter	D ₂	$\frac{13.0 \pm 0.20}{(0.512 \pm 0.008)}$
Sprocket Hole Position	E	$\frac{1.75 \pm 0.10}{(0.069 \pm 0.004)}$
Punch Hole Position	F	$\frac{7.50 \pm 0.05}{(0.295 \pm 0.002)}$
Punch Hole Pitch	P	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Sprocket Hole Pitch	P ₀	$\frac{4.00 \pm 0.10}{(0.157 \pm 0.004)}$
Embossment Center	P ₁	$\frac{2.00 \pm 0.05}{(0.079 \pm 0.002)}$
Overall Tape Thickness	T	$\frac{0.30 \pm 0.10}{(0.012 \pm 0.004)}$
Tape Width	W	$\frac{16.00 \pm 0.20}{(0.630 \pm 0.008)}$
Reel Width	W ₁	$\frac{22.4}{(0.882)} \text{ MAX.}$
Quantity per Reel	--	3,000

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