NEW PRODUCT

3.0SMCJ6.0A - 3.0SMCJ170A

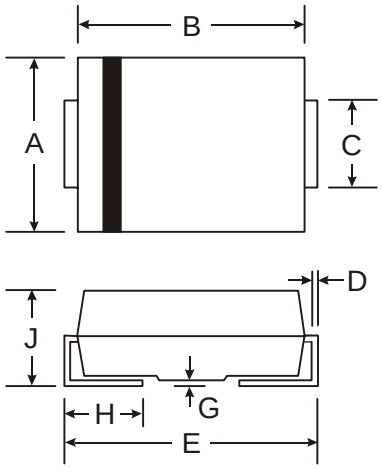
3000W SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Features

- 3000W Peak Pulse Power Dissipation
- 5.0V - 170V Standoff Voltages
- Glass Passivated Die Construction
- Excellent Clamping Capability
- Fast Response Time
- **Lead Free Finish/RoHS Compliant Version (Note 4)**

Mechanical Data

- Case: SMC
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208 e3
- Lead Free Plating (Matte Tin Finish). Please see Ordering Information
- Polarity Indicator: Cathode Band
- Marking and Date Code Information: See Page 3
- Ordering Information: See Page 3
- Weight: 0.21 grams (approximate)



SMC		
Dim	**Min**	**Max**
A	5.59	6.22
B	6.60	7.11
C	2.75	3.18
D	0.15	0.31
E	7.75	8.13
G	0.10	0.20
H	0.76	1.52
J	2.00	2.62
All Dimensions in mm		

Maximum Ratings @T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Note 1)	P_{PK}	3000	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (Notes 2 & 3)	I_{FSM}	300	A
Operating Temperature Range	T_j	-55 to +175	°C
Storage Temperature Range	T_{STG}	-55 to +175	°C

Notes:
1. Non-repetitive current pulse, per Fig. 4 and derated above T_A = 25°C per Fig. 1.
2. Mounted on 8.00mm^2 (0.013mm thick) land areas.
3. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
4. RoHS revision 13.2.2003. Glass and high temperature solder exemptions applied, see *EU Directive Annex Notes 5 and 7.*

NEW PRODUCT

Electrical Characteristics @T_A = 25°C unless otherwise specified

Part Number (Note 6)	Reverse Standoff Voltage	Breakdown Voltage V_{BR} @ I_T (Note 5)		Test Current	Max. Reverse Leakage @ V_{RWM}	Max. Clamping Voltage @ I_{pp}	Max. Peak Pulse Current I_{pp}	Marking Code
	V_{RWM} (V)	Min (V)	Max (V)	I_T(mA)	I_R (μA)	V_C (V)	(A)	
3.0SMCJ6.0A	6.0	6.67	7.37	10	1000	10.3	291.3	HDG
3.0SMCJ6.5A	6.5	7.22	7.98	10	500	11.2	267.9	HDK
3.0SMCJ7.0A	7.0	7.78	8.60	10	200	12.0	250.0	HDM
3.0SMCJ7.5A	7.5	8.33	9.21	1.0	100	12.9	232.6	HDP
3.0SMCJ8.0A	8.0	8.89	9.83	1.0	50	13.6	220.6	HDR
3.0SMCJ8.5A	8.5	9.44	10.43	1.0	25	14.4	208.3	HDT
3.0SMCJ9.0A	9.0	10.00	11.05	1.0	10	15.4	194.8	HDV
3.0SMCJ10A	10.0	11.10	12.27	1.0	5.0	17.0	176.5	HDX
3.0SMCJ11A	11.0	12.20	13.5	1.0	5.0	18.2	164.8	HDZ
3.0SMCJ12A	12.0	13.30	14.7	1.0	5.0	19.9	150.8	HEE
3.0SMCJ13A	13.0	14.40	15.9	1.0	5.0	21.5	139.5	HEG
3.0SMCJ14A	14.0	15.60	17.2	1.0	5.0	23.2	129.3	HEK
3.0SMCJ15A	15.0	16.70	18.5	1.0	5.0	24.2	124.0	HEM
3.0SMCJ16A	16.0	17.80	19.7	1.0	5.0	26.0	115.4	HEP
3.0SMCJ17A	17.0	18.90	20.9	1.0	5.0	27.6	108.7	HER
3.0SMCJ18A	18.0	20.00	22.1	1.0	5.0	29.2	102.7	HET
3.0SMCJ26A	26.0	28.90	31.9	1.0	5.0	42.1	71.3	HFE
3.0SMCJ33A	33.0	36.70	40.6	1.0	5.0	53.3	56.3	HFM
3.0SMCJ36A	36.0	40.00	44.2	1.0	5.0	58.1	51.6	HFP
3.0SMCJ40A	40.0	44.40	49.1	1.0	5.0	64.5	46.5	HFR
3.0SMCJ43A	43.0	47.80	52.8	1.0	5.0	69.4	43.2	HFT
3.0SMCJ45A	45.0	50.00	55.3	1.0	5.0	72.7	41.3	HFV
3.0SMCJ48A	48.0	53.30	58.9	1.0	5.0	77.4	38.8	HFX
3.0SMCJ51A	51.0	56.70	62.7	1.0	5.0	82.4	36.4	HFZ
3.0SMCJ54A	54.0	60.00	66.3	1.0	5.0	87.1	34.4	HGE
3.0SMCJ60A	60.0	66.70	73.7	1.0	5.0	96.8	31.0	HGK
3.0SMCJ64A	64.0	71.10	78.6	1.0	5.0	103.0	29.1	HGM
3.0SMCJ70A	70.0	77.80	86.0	1.0	5.0	113.0	26.5	HGP
3.0SMCJ75A	75.0	83.30	92.1	1.0	5.0	121.0	24.8	HGR
3.0SMCJ78A	78.0	86.70	95.8	1.0	5.0	126.0	23.8	HGT
3.0SMCJ85A	85.0	94.40	104.3	1.0	5.0	137.0	21.9	HGV
3.0SMCJ90A	90.0	100.00	110.5	1.0	5.0	146.0	20.5	HGX
3.0SMCJ100A	100.0	111.00	122.7	1.0	5.0	162.0	18.5	HGZ
3.0SMCJ110A	110.0	122.00	134.8	1.0	5.0	177.0	16.9	HHE
3.0SMCJ120A	120.0	133.00	147.0	1.0	5.0	193.0	15.5	HHG
3.0SMCJ130A	130.0	144.00	159.2	1.0	5.0	209.0	14.4	HHK
3.0SMCJ150A	150.0	167.00	184.6	1.0	5.0	243. 0	12.3	HHM
3.0SMCJ160A	160.0	178.00	196.7	1.0	5.0	259. 0	11.6	HHP
3.0SMCJ170A	170.0	189.00	208.9	1.0	5.0	275.0	10.9	HHR

Notes: 5. V_{BR} measured with I_T current pulse = 300μs.
6. Additional Voltages can be found on DS30818 available on http://www.diodes.com.

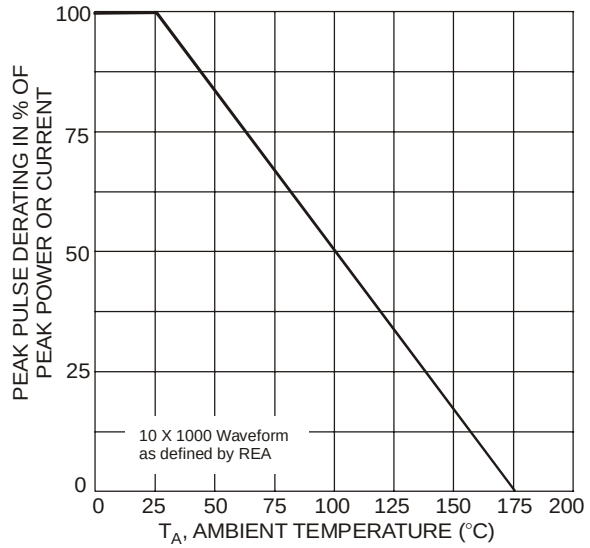


Fig. 1, Pulse Derating Curve

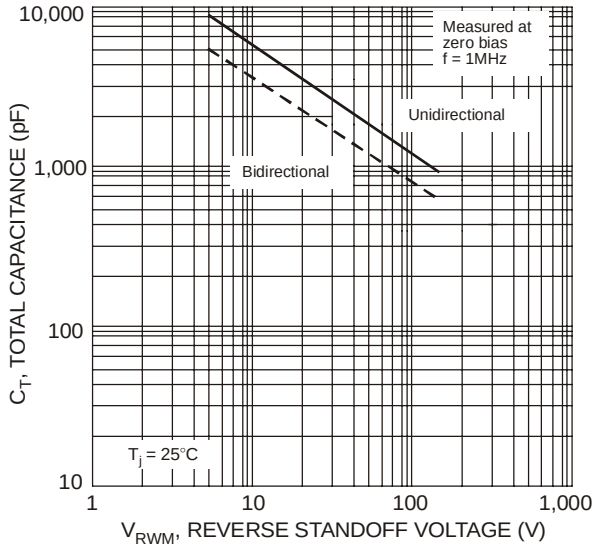


Fig. 2, Typical Total Capacitance

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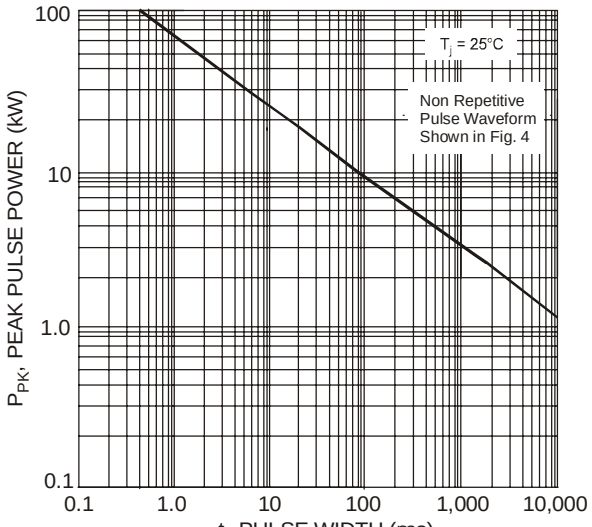

Fig. 3, Pulse Rating Curve

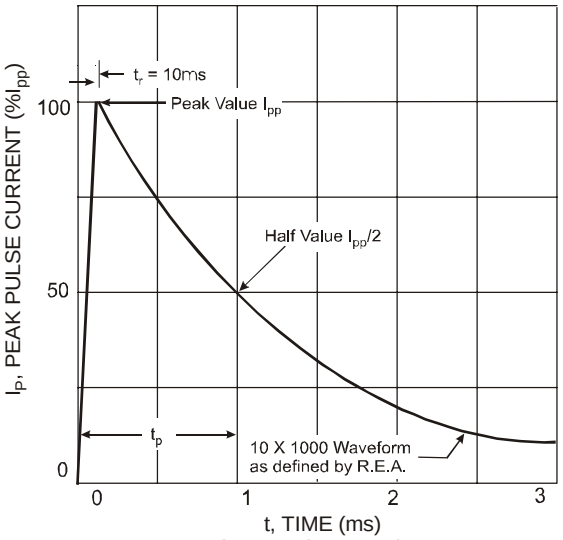

Fig. 4, Pulse Waveform

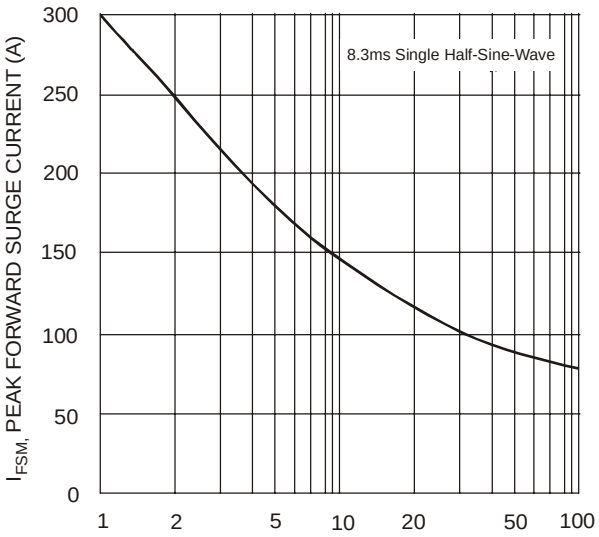

Fig. 5, Maximum Non-Repetitive Surge Current

Ordering Information (Note 7)

Device	Packaging	Shipping
3.0SMCJxxxA-13*	SMC	3000/Tape & Reel

* xxx = Device Voltage, e.g., 3.0SMCJ170A-13

Notes: 7. For Packaging Details, go to our website at http://www.diodes.com/datasheets/ap02007.pdf.

Marking Information

XXX = Product type marking code (See Page 2)
YWW = Date code marking
Y = Last digit of year ex: 5 for 2005
WW = Week code 01 to 52

NEW PRODUCT

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