3.0SMCJ5.0 THRU 3.0SMCJ170CA

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Stand - Off Voltage - 5.0 to 170 Volts Peak Pulse Power - 3000 Watt

FEATURES

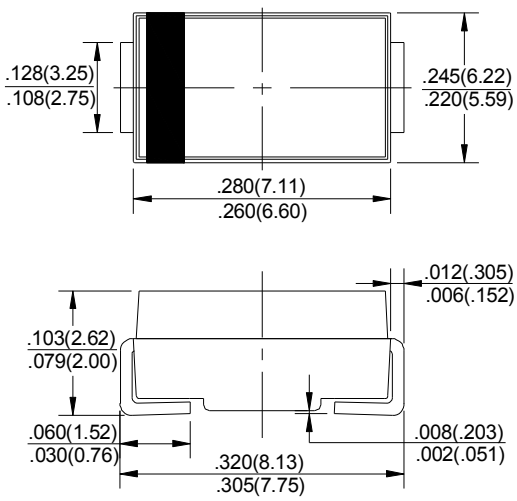
- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-O

MECHANICAL DATA

- Case: SMC/DO-214AB, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band Except Bi-Directional
- Marking: Device Code
- Weight: 0.21 grams (approx.)

RoHS Compliant

SMC (DO-214AB)



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics @T_A=25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation 10/1000μS Waveform (Note 1, 2) Figure 3	P_{PPM}	3000 Minimum	W
Peak Pulse Current on 10/1000μS Waveform (Note 1) Figure 4	I_{PPM}	See Table 1	A
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JEDEC Method) (Note 2, 3)	I_{FSM}	300	A
Operating and Storage Temperature Range	T_j, T_{STG}	-55 to +150	°C

Note: 1. Non-repetitive current pulse per Figure 4 and derated above T_A = 25°C per Figure 1.
2. Mounted on 5.0mm^2 (0.013mm thick) land area.
3. Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minutes maximum.

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SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

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3.0 SMCJ PART NUMBER		DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE V_{RWM}(V)	BREAKDOWN VOLTAGE V_{BR}(V) MIN.@I_T	BREAKDOWN VOLTAGE V_{BR}(V) MAX.@I_T	TEST CURRENT IT (mA)	MAXIMUM CLAMPING VOLTAGE @Ipp Vc(V)	PEAK PULSE CURRENT Ipp (A)	REVERSE LEAKAGE @ V_{RWM} I_R(μA)
UNI- POLAR	BI-POLAR	UNI	BI							
SMCJ5.0A	SMCJ5.0CA	RDE	DDE	5.0	6.40	7.00	10	9.2	326.1	800
SMCJ6.0A	SMCJ6.0CA	RDG	DDG	6.0	6.67	7.37	10	10.3	291.3	800
SMCJ6.5A	SMCJ6.5CA	RDK	DDK	6.5	7.22	7.98	10	11.2	267.9	500
SMCJ7.0A	SMCJ7.0CA	PDM	DDM	7.0	7.78	8.60	10	12.0	250.0	200
SMCJ7.5A	SMCJ7.5CA	PDP	DDP	7.5	8.33	9.21	1	12.9	232.6	100
SMCJ8.0A	SMCJ8.0CA	PDR	DDR	8.0	8.89	9.83	1	13.6	220.6	50
SMCJ8.5A	SMCJ8.5CA	PDT	DDT	8.5	9.44	10.40	1	14.4	208.3	20
SMCJ9.0A	SMCJ9.0CA	PDV	DDV	9.0	10.00	11.10	1	15.4	194.8	10
SMCJ10A	SMCJ10CA	PDX	DDX	10.0	11.10	12.30	1	17.0	176.5	5
SMCJ11A	SMCJ11CA	PDZ	DDZ	11.0	12.20	13.50	1	18.2	164.8	5
SMCJ12A	SMCJ12CA	PEE	DEE	12.0	13.30	14.70	1	19.9	150.8	5
SMCJ13A	SMCJ13CA	PEG	DEG	13.0	14.40	15.90	1	21.5	139.5	5
SMCJ14A	SMCJ14CA	PEK	DEK	14.0	15.60	17.20	1	23.2	129.3	5
SMCJ15A	SMCJ15CA	PEM	DEM	15.0	16.70	18.50	1	24.4	123.0	5
SMCJ16A	SMCJ16CA	PEP	DEP	16.0	17.80	19.70	1	26.0	115.4	5
SMCJ17A	SMCJ17CA	PER	DER	17.0	18.90	20.90	1	27.6	108.7	5
SMCJ18A	SMCJ18CA	PET	DET	18.0	20.00	22.10	1	29.2	102.7	5
SMCJ20A	SMCJ20CA	PEV	DEV	20.0	22.20	24.50	1	32.4	92.6	5
SMCJ22A	SMCJ22CA	PEX	DEX	22.0	24.40	26.90	1	35.5	84.5	5
SMCJ24A	SMCJ24CA	PEZ	DEZ	24.0	26.70	29.50	1	38.9	77.1	5
SMCJ26A	SMCJ26CA	PFE	DFE	26.0	28.90	31.90	1	42.1	71.3	5
SMCJ28A	SMCJ28CA	PFG	DFG	28.0	31.10	34.40	1	45.4	66.1	5
SMCJ30A	SMCJ30CA	PFK	DFK	30.0	33.30	36.80	1	48.4	62.0	5
SMCJ33A	SMCJ33CA	PFM	DFM	33.0	36.70	40.60	1	53.3	56.3	5
SMCJ36A	SMCJ36CA	PFP	DFP	36.0	40.00	44.20	1	58.1	51.6	5
SMCJ40A	SMCJ40CA	PFR	DFR	40.0	44.40	49.10	1	64.5	46.5	5
SMCJ43A	SMCJ43CA	PFT	DFT	43.0	47.80	52.80	1	69.4	43.2	5
SMCJ45A	SMCJ45CA	PFV	DFV	45.0	50.00	55.30	1	72.7	41.3	5
SMCJ48A	SMCJ48CA	PFX	DFX	48.0	53.30	58.90	1	77.4	38.8	5
SMCJ51A	SMCJ51CA	PFZ	DFZ	51.0	56.70	62.70	1	82.4	36.4	5
SMCJ54A	SMCJ54CA	RGE	DGE	54.0	60.00	66.30	1	87.1	34.4	5
SMCJ58A	SMCJ58CA	PGG	DGG	58.0	64.40	71.20	1	93.6	32.1	5
SMCJ60A	SMCJ60CA	PGK	DGK	60.0	66.70	73.70	1	96.8	31.0	5
SMCJ64A	SMCJ64CA	PGM	DGM	64.0	71.10	78.60	1	103.0	29.1	5
SMCJ70A	SMCJ70CA	PGP	DGP	70.0	77.80	86.00	1	113.0	26.5	5
SMCJ75A	SMCJ75CA	PGR	DGR	75.0	83.30	92.10	1	121.0	24.8	5
SMCJ78A	SMCJ78CA	PGT	DGT	78.0	86.70	95.80	1	126.0	23.8	5
SMCJ85A	SMCJ85CA	PGV	DGV	85.0	94.40	104.00	1	137.0	21.9	5
SMCJ90A	SMCJ90CA	PGX	DGX	90.0	100.00	111.00	1	146.0	20.5	5
SMCJ100A	SMCJ100CA	PGZ	DGZ	100.0	111.00	123.00	1	162.0	18.5	5
SMCJ110A	SMCJ110CA	PHE	DHE	110.0	122.00	135.00	1	177.0	16.9	5
SMCJ120A	SMCJ120CA	PHG	DHG	120.0	133.00	147.00	1	193.0	15.5	5
SMCJ130A	SMCJ130CA	PHK	DHK	130.0	144.00	159.00	1	209.0	14.4	5
SMCJ150A	SMCJ150CA	PHM	DHM	150.0	167.00	185.00	1	243.0	12.3	5
SMCJ160A	SMCJ160CA	PHP	DHP	160.0	178.00	197.00	1	259.0	11.6	5
SMCJ170A	SMCJ170CA	PHR	DHR	170.0	189.00	209.00	1	275.0	10.9	5

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.
For parts without A , the V_{BR} is ± 10%

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RATINGS AND CHARACTERISTIC CURVES

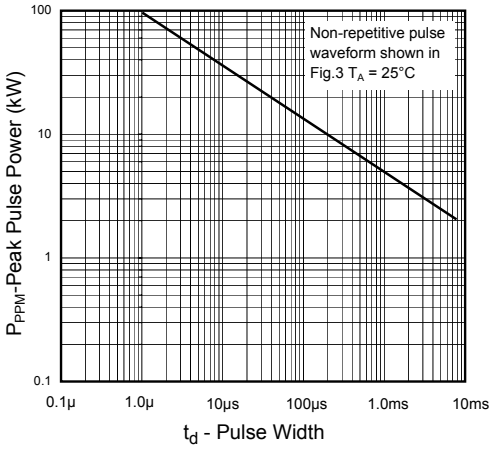


Fig.1 Peak Pulse Power Rating

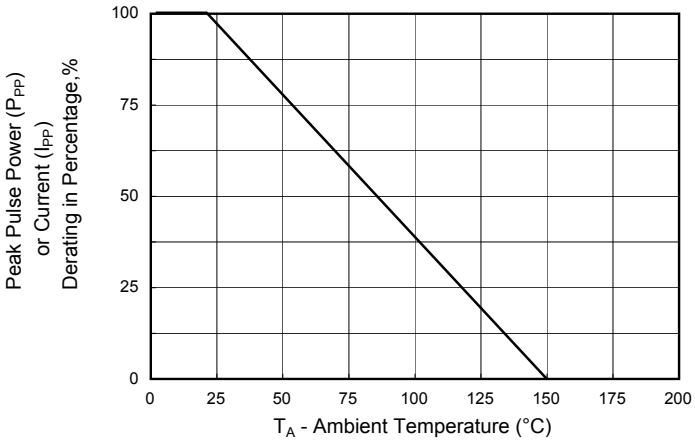


Fig.2 Pulse Derating Curve

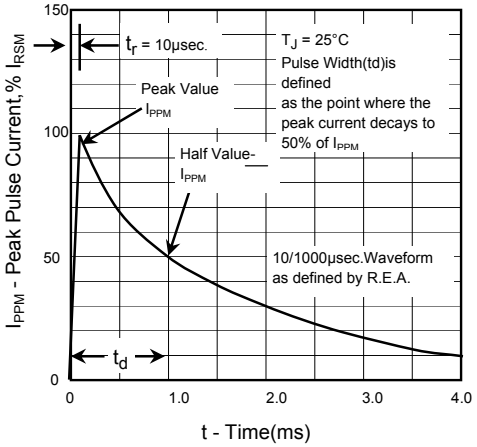


Fig.3 Pulse Waveform

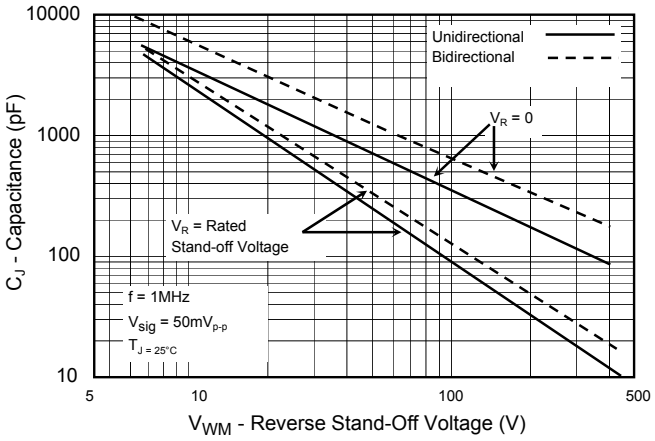


Fig.4 Typical Junction Capacitance

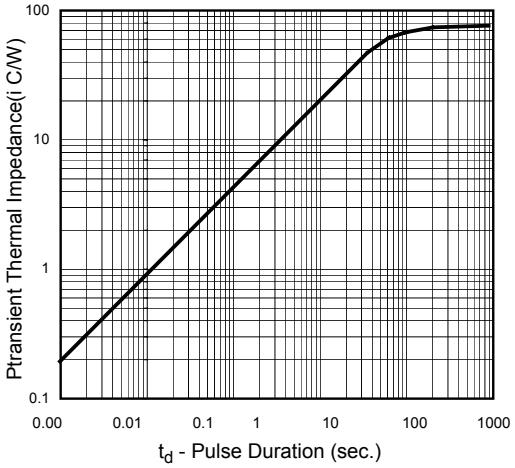


Fig.5 Type Transient ThermalImpedance

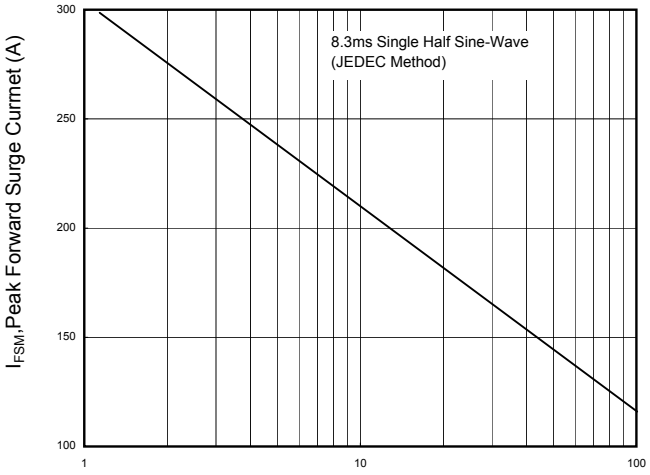


Fig.6 Maximum Non-repetitive ForwardSurge current