



SMCJ SERIES

Surface Mount Transient Voltage Suppressor

Features

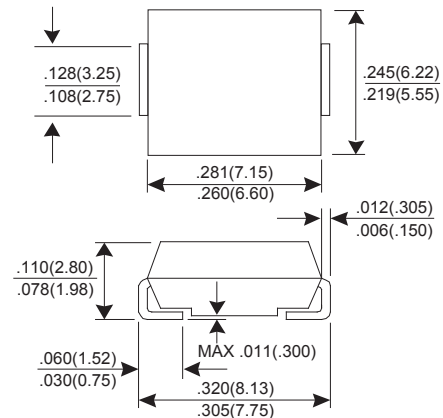
- ★ Glass passivated chip
- ★ Low profile package
- ★ 1500W peak pulse power capability at 10/1000 us waveform, repetition rate (duty cycle): 0.01%
- ★ Low leakage
- ★ Excellent clamping capability
- ★ Fast response time
- ★ RoHS compliant

Mechanical Data

- ★ Case: SMC/DO-214AB, Molded plastic has UL flammability classification 94V-0
- ★ Terminal: Solder plated, solderable per MIL-STD-750, Method 2026
- ★ Polarity: Cathode band denotes uni-directional device except bi-directional device
- ★ Weight: 0.21 gram

Working Voltage 5.0 to 440 V
Power Dissipation 1500 Watts

SMC/DO-214AB



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

T_A= 25°C unless otherwise noted

PARAMETER	SYMBOL	VALUE	UNIT
Peak Pulse Power Dissipation at T _A =25°C by 10/1000us waveform fig.1 (Note 1,2)	PPPM	1500	Watts
Peak Forward Surge Current, 8.3ms single Half sine-wave super imposed on rated load (Note 3)	I _{FSM}	200	A
Steady State Power Dissipation at T _L =75°C	P _D	6.5	Watts
Maximum Instantaneous forward voltage at 100A for unidirectional devices only (Note 4)	V _F	3.5 / 5.0	V
Typical Thermal Resistance Junction to Ambient	R _{θJA}	75	°C/W
Typical Thermal Resistance Junction to Lead	R _{θJL}	15	°C/W
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-65 to +150	°C

NOTES : (1) Non-repetitive current pulse, per fig. 3 and derated above T_A=25°C per fig. 2.
(2) Mounted on 0.31"x0.31"(8.0mmx8.0mm) copper pads to each terminal
(3) Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle= 4 pulses per minute maximum
(4) V_F<3.5V for V_{BR}≤200V and V_F<5.0V for V_{BR}≥201V

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Electrical Characteristics(T_A=25°C unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Device Marking Code		Breakdown Voltage V _{BR} @I _T			Maximum Reverse Leakage I _R @V _{RWM} (μ A)	Working Peak Reverse Voltage V _{RWM} (V)	Maximum Reverse Surge Current I _{PP} (A)	Maximum Clamping Voltage V _C @I _{PP} (V)
		Uni	Bi	Min(V)	Max(V)	IT(mA)				
SMCJ5.0A	SMCJ5.0CA	GDE	BDE	6.40	7.00	10	800	5.0	163.04	9.2
SMCJ6.0A	SMCJ6.0CA	GDG	BDG	6.67	7.37	10	800	6.0	145.63	10.3
SMCJ6.5A	SMCJ6.5CA	GDK	BDK	7.22	7.98	10	500	6.5	133.93	11.2
SMCJ7.0A	SMCJ7.0CA	GDM	BDM	7.78	8.60	10	200	7.0	125.00	12.0
SMCJ7.5A	SMCJ7.5CA	GDP	BDP	8.33	9.21	1	100	7.5	116.28	12.9
SMCJ8.0A	SMCJ8.0CA	GDR	BDR	8.89	9.83	1	50	8.0	110.29	13.6
SMCJ8.5A	SMCJ8.5CA	GDT	BDT	9.44	10.40	1	20	8.5	104.17	14.4
SMCJ9.0A	SMCJ9.0CA	GDV	BDV	10.00	11.10	1	10	9.0	97.40	15.4
SMCJ10A	SMCJ10CA	GDX	BDX	11.10	12.30	1	5	10.0	88.24	17.0
SMCJ11A	SMCJ11CA	GDZ	BDZ	12.20	13.50	1	1	11.0	82.42	18.2
SMCJ12A	SMCJ12CA	GEE	BEE	13.30	14.70	1	1	12.0	75.38	19.9
SMCJ13A	SMCJ13CA	GEG	BEG	14.40	15.90	1	1	13.0	69.77	21.5
SMCJ14A	SMCJ14CA	GEK	BEK	15.60	17.20	1	1	14.0	64.66	23.2
SMCJ15A	SMCJ15CA	GEM	BEM	16.70	18.50	1	1	15.0	61.48	24.4
SMCJ16A	SMCJ16CA	GEP	BEP	17.80	19.70	1	1	16.0	57.69	26.0
SMCJ17A	SMCJ17CA	GER	BER	18.90	20.90	1	1	17.0	54.35	27.6
SMCJ18A	SMCJ18CA	GET	BET	20.00	22.10	1	1	18.0	51.37	29.2
SMCJ20A	SMCJ20CA	GEV	BEV	22.20	24.50	1	1	20.0	46.30	32.4
SMCJ22A	SMCJ22CA	GEX	BEX	24.40	26.90	1	1	22.0	42.25	35.5
SMCJ24A	SMCJ24CA	GEZ	BEZ	26.70	29.50	1	1	24.0	38.56	38.9
SMCJ26A	SMCJ26CA	GFE	BFE	28.90	31.90	1	1	26.0	35.63	42.1
SMCJ28A	SMCJ28CA	GFG	BFG	31.10	34.40	1	1	28.0	33.04	45.4
SMCJ30A	SMCJ30CA	GFK	BFK	33.30	36.80	1	1	30.0	30.99	48.4
SMCJ33A	SMCJ33CA	GFM	BFM	36.70	40.60	1	1	33.0	28.14	53.3
SMCJ36A	SMCJ36CA	GFP	BFP	40.00	44.20	1	1	36.0	25.82	58.1
SMCJ40A	SMCJ40CA	GFR	BFR	44.40	49.10	1	1	40.0	23.26	64.5
SMCJ43A	SMCJ43CA	GFT	BFT	47.80	52.80	1	1	43.0	21.61	69.4
SMCJ45A	SMCJ45CA	GFV	BFV	50.00	55.30	1	1	45.0	20.63	72.7
SMCJ48A	SMCJ48CA	GFX	BFX	53.30	58.90	1	1	48.0	19.38	77.4
SMCJ51A	SMCJ51CA	GFZ	BFZ	56.70	62.70	1	1	51.0	18.20	82.4
SMCJ54A	SMCJ54CA	GGE	BGE	60.00	66.30	1	1	54.0	17.22	87.1
SMCJ58A	SMCJ58CA	GGG	BGG	64.40	71.20	1	1	58.0	16.03	93.6
SMCJ60A	SMCJ60CA	GGK	BGK	66.70	73.70	1	1	60.0	15.50	96.8
SMCJ64A	SMCJ64CA	GGM	BGM	71.10	78.60	1	1	64.0	14.56	103.0
SMCJ70A	SMCJ70CA	GGP	BGP	77.80	86.00	1	1	70.0	13.27	113.0
SMCJ75A	SMCJ75CA	GGR	BGR	83.30	92.10	1	1	75.0	12.40	121.0
SMCJ78A	SMCJ78CA	GGT	BGT	86.70	95.80	1	1	78.0	11.90	126.0
SMCJ85A	SMCJ85CA	GGV	BGV	94.40	104.00	1	1	85.0	10.95	137.0
SMCJ90A	SMCJ90CA	GGX	BGX	100.00	111.00	1	1	90.0	10.27	146.0
SMCJ100A	SMCJ100CA	GGZ	BGZ	111.00	123.00	1	1	100.0	9.26	162.0
SMCJ110A	SMCJ110CA	GHE	BHE	122.00	135.00	1	1	110.0	8.47	177.0
SMCJ120A	SMCJ120CA	GHG	BHG	133.00	147.00	1	1	120.0	7.77	193.0
SMCJ130A	SMCJ130CA	GHK	BHK	144.00	159.00	1	1	130.0	7.18	209.0
SMCJ150A	SMCJ150CA	GHM	BHM	167.00	185.00	1	1	150.0	6.17	243.0
SMCJ160A	SMCJ160CA	GHP	BHP	178.00	197.00	1	1	160.0	5.79	259.0
SMCJ170A	SMCJ170CA	GHR	BHR	189.00	209.00	1	1	170.0	5.45	275.0
SMCJ180A	SMCJ180CA	GHT	BHT	200.00	220.00	1	1	180.0	5.14	291.6
SMCJ200A	SMCJ200CA	GHW	BHW	224.00	247.00	1	1	200.0	4.60	324.0
SMCJ220A	SMCJ220CA	GHX	BHX	246.00	272.00	1	1	220.0	4.20	356.0
SMCJ250A	SMCJ250CA	GHZ	BHZ	279.00	309.00	1	1	250.0	3.70	405.0
SMCJ300A	SMCJ300CA	GJE	BJE	335.00	371.00	1	1	300.0	3.10	486.0
SMCJ350A	SMCJ350CA	GJG	BJG	391.00	432.00	1	1	350.0	2.60	567.0
SMCJ400A	SMCJ400CA	GJK	BJK	447.00	494.00	1	1	400.0	2.30	648.0
SMCJ440A	SMCJ440CA	GJM	BJM	492.00	543.00	1	1	440.0	2.10	713.0

Suffix C: Bi-Directional

For the bidirectional type having V_{RWM} of 10 volts and less, the I_R limit is doubled.

RATINGS AND CHARACTERISTIC CURVES SMCJ SERIES

FIG.1 - PULSE RATING CURVE

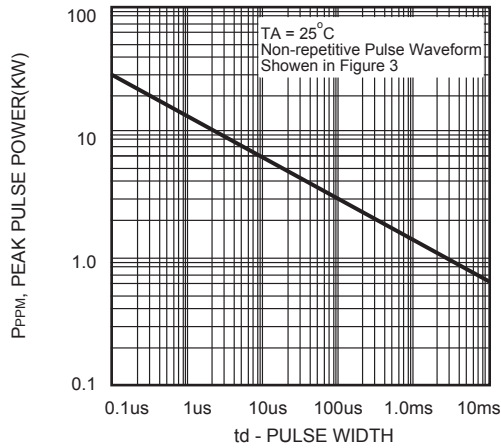


FIG.2 - PULSE DERATING CURVE

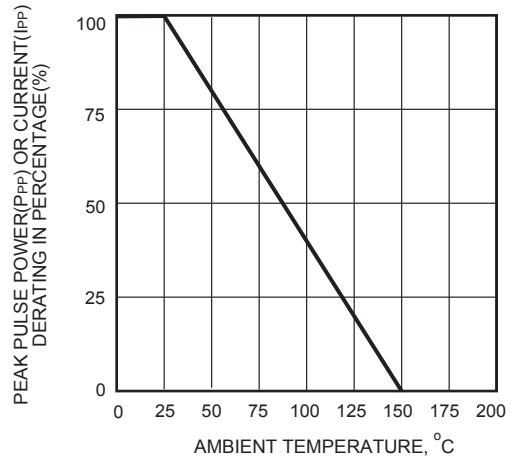


FIG.3 - PULSE WAVEFORM

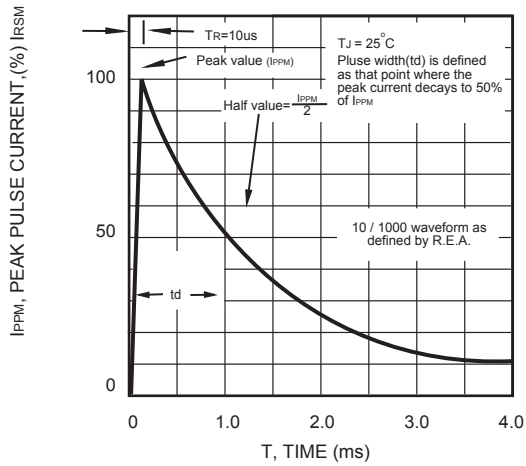


FIG.4 - TYPICAL JUNCTION CAPACITANCE

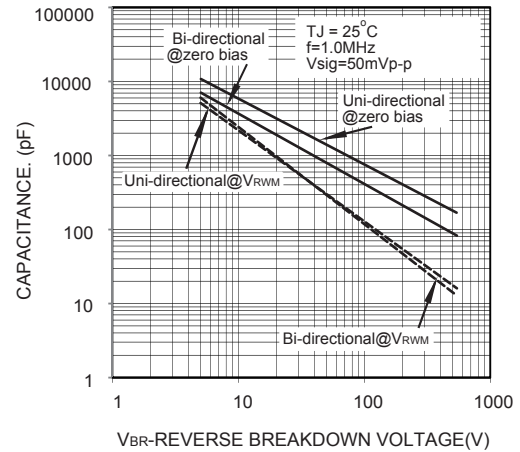


FIG.5 - STEADY STATE POWER DERATING CURVE

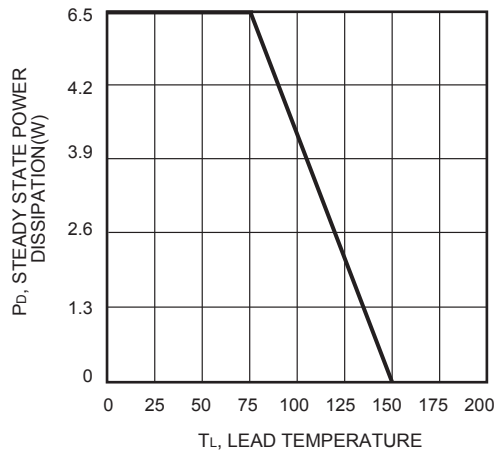


FIG. 6 - MAXIMUM NON-REPETITIVE SURGE CURRENT

