SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

Reverse Standoff Voltage: 5.0 to 170 V ***Peak Pulse Power: 1500 W***

FEATURES

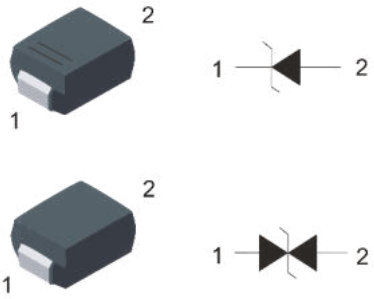
- Uni-directional and Bi-directional versions available
- Ideal for ESD protection of data lines in accordance with IEC1000-4-4(IEC801-2)
- Glass passivated die construction
- Low incremental surge resistance
- Excellent clamping capability
- Fast response time

MECHANICAL

- Case: SMC molded plastic body
- Terminals: solderable per MIL-STD-750, method 2026
- Polarity indicator: cathode band(uni-directional only)
- Weight: 0.25 grams

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



SMC

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at T_A = 25℃ ambient temperature unless otherwise specified.

PARAMETER	SYMBOLS	VALUE	UNITS
Peak pulse power dissipation with a 10/1000μs waveform(NOTE 1,2,FIG.1)	P_{PPM}	(Min) 1500	W
Peak forward surge current (Note 1,2,3)	I_{FSM}	100.0	A
Peak pulse current with a 10/1000μs waveform (NOTE 1)	I_{PPM}	See Table 1	A
Maximum instantaneous forward voltage at 50A(Note 3,4) unidirectional only	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_{STG},T_J	-55 to + 150	℃

NOTE: 1.Non-repetitive current pulse, per Fig.3 and derated above T_A=25℃ per Fig.2

2.Mounted on 5.0mm copper pads to each terminal

3.Measured on 8.3ms single half sine-wine. For uni-directional devices only.

4.VF=3.5V on SMC-5.0 thru SMC-90 devices and VF=5.0V on SMC-100 thru SMC-170 devices

ELECTRICAL CHARACTERISTICS

Ratings at T_A = 25°C ambient temperature unless otherwise specified.

Uni-directional / Bi-directional Type [3]	Stand-off Voltage V_{RWM} (V)	Breakdown Voltage [1]		Test Current I_T (mA)	Maximum Clamping Voltage V_C (V) at I_{PPM}	Maximum Peak Pulse Current I_{PPM} (A) [2]	Maximum Reverse Leakage I_R (µA) at V_{RWM}
		V_{BR} (V) Min. at I_T	V_{BR} (V) Max. at I_T				
RND SMCJ5A / CA	5	6.4	7	10	9.2	171	1000
RND SMCJ6A / CA	6	6.67	7.37	10	10.3	152	1000
RND SMCJ7.5A / CA	7.5	8.33	9.21	1	12.9	122	100
RND SMCJ8A / CA	8	8.89	9.83	1	13.6	115	50
RND SMCJ10A / CA	10	11.1	12.3	1	17	92	5
RND SMCJ11A / CA	11	12.2	13.5	1	18.2	86	5
RND SMCJ12A / CA	12	13.3	14.7	1	19.9	79	5
RND SMCJ13A / CA	13	14.4	15.9	1	21.5	73	5
RND SMCJ15A / CA	15	16.7	18.5	1	24.4	64	5
RND SMCJ16A / CA	16	17.8	19.7	1	26	60	5
RND SMCJ17A / CA	17	18.9	20.9	1	27.6	57	5
RND SMCJ18A / CA	18	20	22.1	1	29.2	53	5
RND SMCJ20A / CA	20	22.2	24.5	1	32.4	48	5

Uni-directional / Bi-directional Type [3]	Stand-off Voltage V_{RWM} (V)	Breakdown Voltage [1]		Test Current I_T (mA)	Maximum Clamping Voltage V_C (V) at I_{PPM}	Maximum Peak Pulse Current I_{PPM} (A) [2]	Maximum Reverse Leakage I_R (µA) at V_{RWM}
		V_{BR} (V) Min. at I_T	V_{BR} (V) Max. at I_T				
RND SMCJ22A / CA	22	24.4	26.9	1	35.5	44	5
RND SMCJ24A / CA	24	26.7	29.5	1	38.9	40	5
RND SMCJ26A / CA	26	28.9	31.9	1	42.1	37	5
RND SMCJ28A / CA	28	31.1	34.4	1	45.4	34	5
RND SMCJ30A / CA	30	33.3	36.8	1	48.4	32	5
RND SMCJ33A / CA	33	36.7	40.6	1	53.3	29	5
RND SMCJ36A / CA	36	40	44.2	1	58.1	27	5
RND SMCJ40A / CA	40	44.4	49.1	1	64.5	24	5
RND SMCJ43A / CA	43	47.8	52.8	1	69.4	22	5
RND SMCJ48A / CA	48	53.3	58.9	1	77.4	20	5
RND SMCJ51A / CA	51	56.7	62.7	1	82.4	19	5
RND SMCJ54A / CA	54	60	66.3	1	87.1	18	5
RND SMCJ58A / CA	58	64.4	71.2	1	93.6	16	5
RND SMCJ60A / CA	60	66.7	73.7	1	96.8	16	5
RND SMCJ64A / CA	64	71.1	78.6	1	103	15	5
RND SMCJ78A / CA	78	86.7	95.8	1	126	12.5	5
RND SMCJ85A / CA	85	94.4	104	1	137	11.5	5
RND SMCJ90A / CA	90	100	111	1	146	10.7	5

Uni-directional / Bi-directional Type [3]	Stand-off Voltage V_{RWM} (V)	Breakdown Voltage [1]		Test Current I_T (mA)	Maximum Clamping Voltage V_C (V) at I_{PPM}	Maximum Peak Pulse Current I_{PPM} (A) [2]	Maximum Reverse Leakage I_R (μA) at V_{RWM}
		V_{BR} (V) Min. at I_T	V_{BR} (V) Max. at I_T				
RND SMCJ100A / CA	100	111	123	1	162	9.7	5
RND SMCJ110A / CA	110	122	135	1	177	8.9	5
RND SMCJ120A / CA	120	133	147	1	193	8.1	5
RND SMCJ150A / CA	150	167	185	1	243	6.4	5
RND SMCJ160A / CA	160	178	197	1	259	6	5

NOTE:1. V_{BR} measured after IT applied for 300μs,IT=square wave pulse or equivalent

2.For bidirectional types having V_{RWM} of 10 volts and less, the ID limit is doubled

3.For bidirectional use suffix C or CA for types SMCJ5.0 thru SMCJ170 (e.g. SMCJ5.0C,SMCJ170CA) electrical characteristics apply in both directions.

RATINGS AND CHARACTERISTIC CURVES

FIG. 1 - PEAK PULSE POWER RATING CURVE

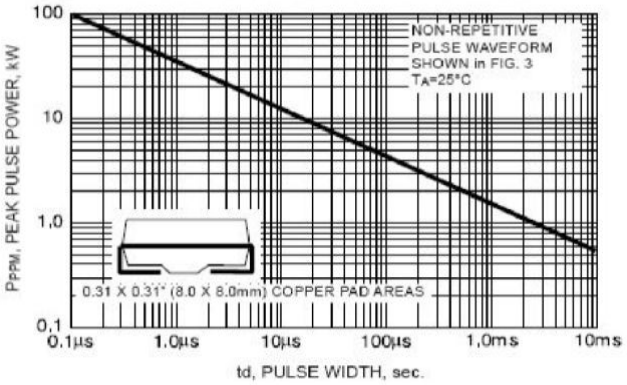


FIG. 2 - PULSE DERATING CURVE

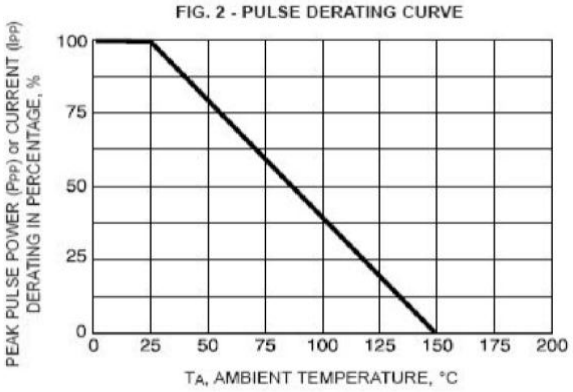


FIG. 3 - PULSE WAVEFORM

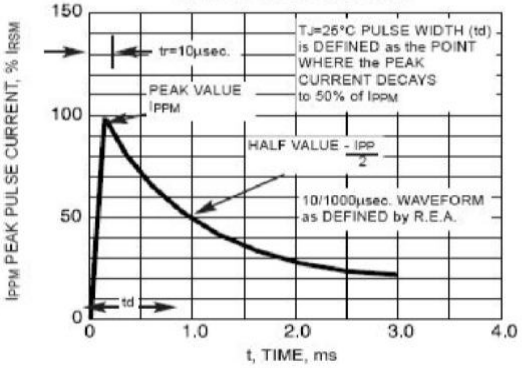


FIG. 4 - TYPICAL JUNCTION CAPACITANCE
UNI-DIRECTIONAL

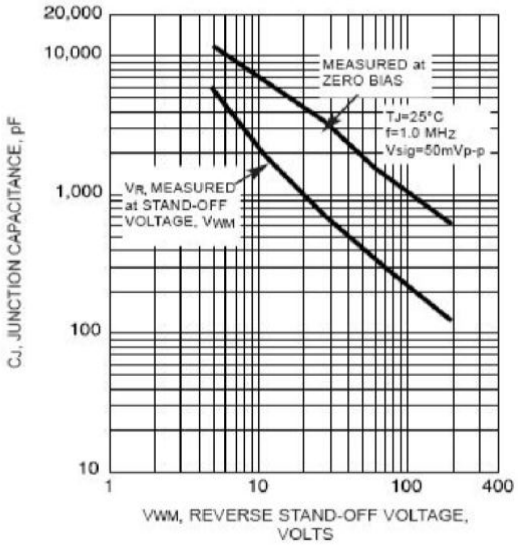


FIG. 5 - TYPICAL JUNCTION CAPACITANCE
BI-DIRECTIONAL

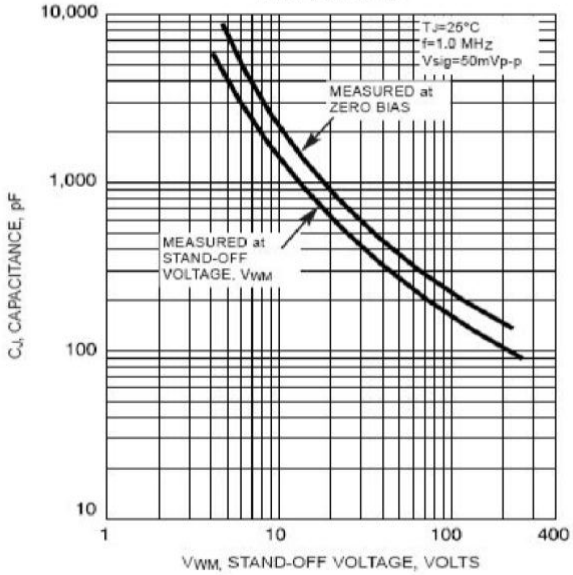
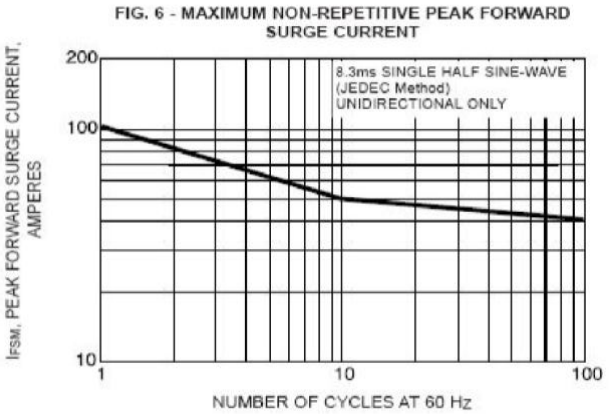


FIG. 6 - MAXIMUM NON-REPETITIVE PEAK FORWARD
SURGE CURRENT



PACKAGE OUTLINE

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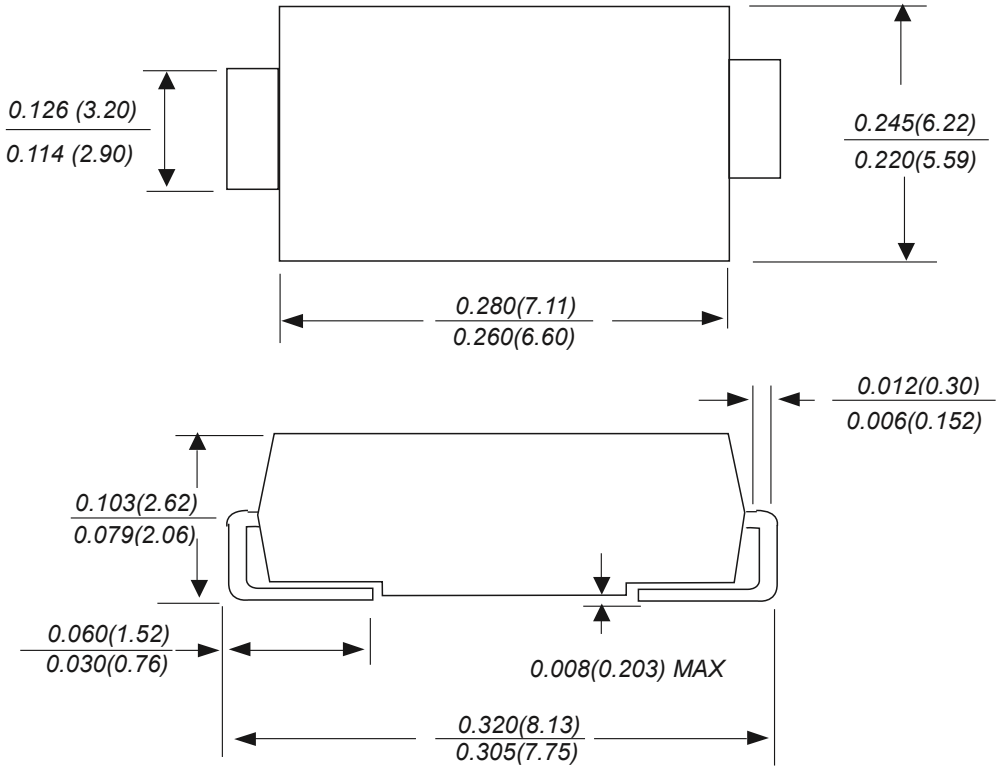

Dimensions in inches and (millimeters)

ORDERING INFORMATION

Device	Package	Shipping
SMCJ SERIES	SMC	3,000/ Tape & Reel (13 inches)