SURFACE MOUNT
UNIDIRECTIONAL AND BIDIRECTIONAL
TRANSIENT VOLTAGE SUPPRESSORS

REVERSE VOLTAGE **- 5.0** to **170** Volts
POWER DISSIPATION **- 1500** Watts

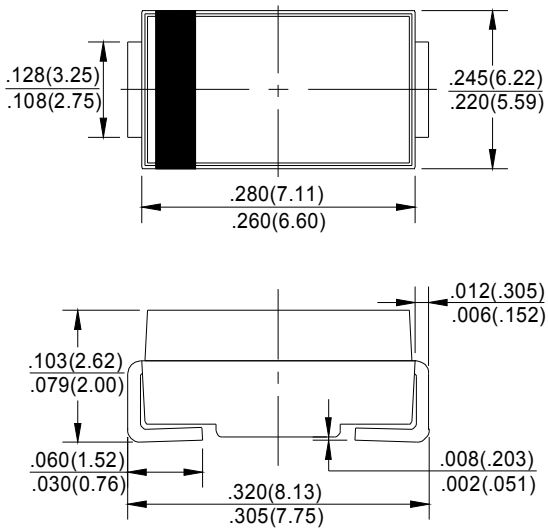
FEATURES

- Rating to 200V VBR
- For surface mounted applications
- Reliable low cost construction utilizing molded plastic technique
- Plastic material has UL recognition 94V-0
- Typical IR less than 1μA above 10V
- Fast response time:typically less than 1.0ns for Uni-direction,less than 5.0ns fo Bi-direction,from 0 Volts to BV min

MECHANICAL DATA

- Case : Molded Plastic
- Polarity:by cathode band denotes uni-directional device none cathode band denotes bi-directional device
- Weight : 0.007 ounces, 0.21 grams

SMC



Dimensions in inches and(millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25℃ ambient temperature unless otherwise specified.
Single phase, half wave ,60Hz, resistive or inductive load.
For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Peak Power Dissipation at T_A=25℃ TP=1ms (NOTE1,2)	P_{PK}	Minimum 1500	WATTS
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I_{FSM}	200	AMPS
Steady State Power Dissipation at T_L=75℃	$P_{M(AV)}$	5.0	WATTS
Maximum Instantaneous Forward Voltage at 100A for Unidirectional Devices Only (NOTE3)	V_F	SEE NOTE4	VOLTS
Operating Temperature Range	T_J	-55 to + 150	℃
Storage Temperature Range	T_{STG}	-55 to + 175	℃

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

2. Thermal Resistance junction to Lead.

3. 8.3ms single half-wave duty cycle=4 pulses per minutes maximum (uni-directional units only).

4. V_F=3.5V on SMCJ5.0 thru SMCJ90A devices and V_F=5.0V on SMCJ100 thru SMCJ170A devices.

FIG.1-PULSE DERATING CURVE

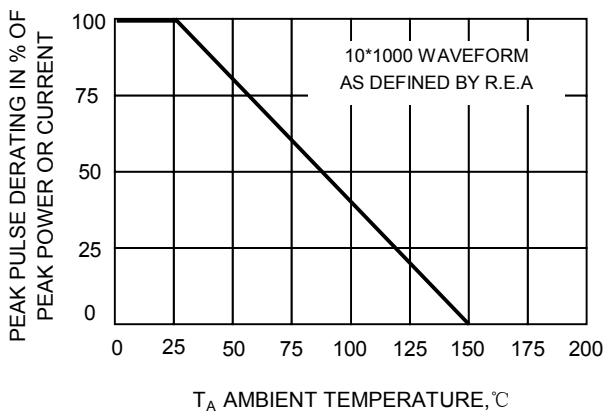


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

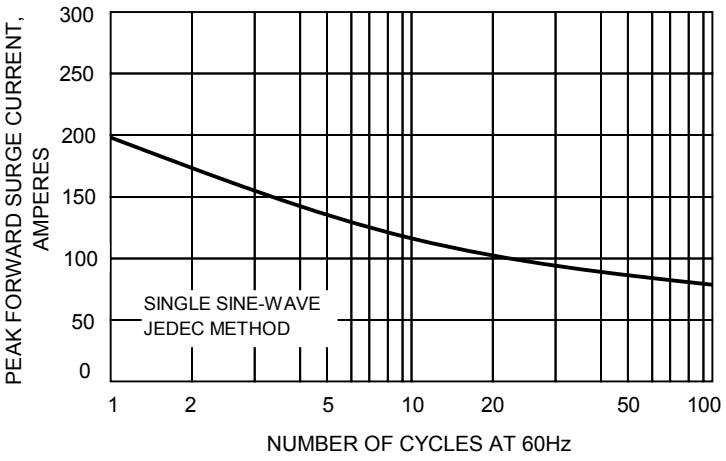


FIG.3-PULSE WAVEFORM

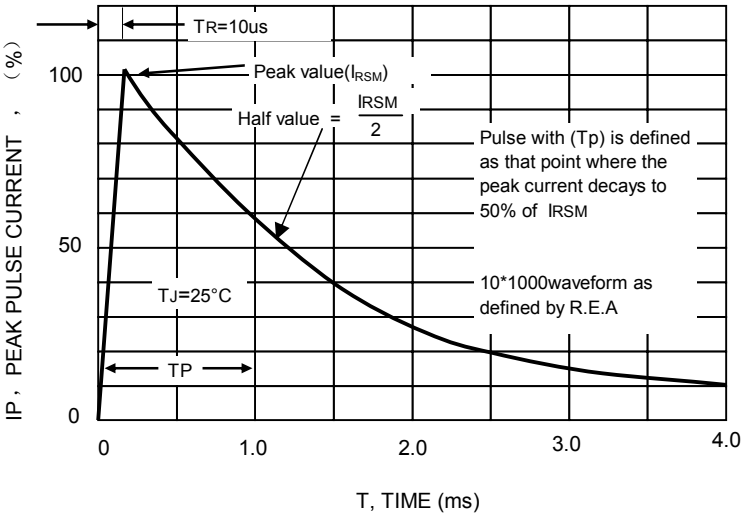


FIG.4-TYPICAL JUNCTION CAPACITANCE

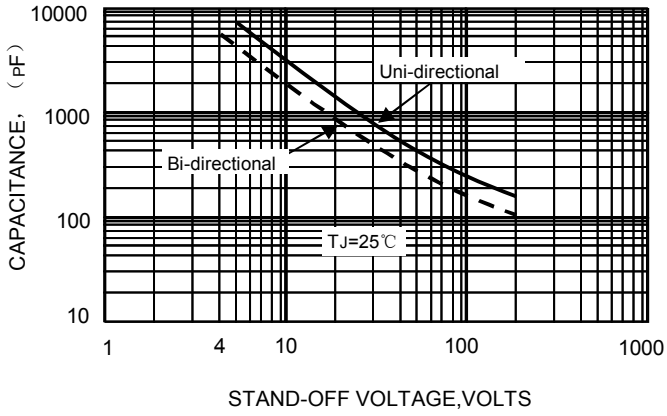


FIG.5-PULSE RATING CURVE

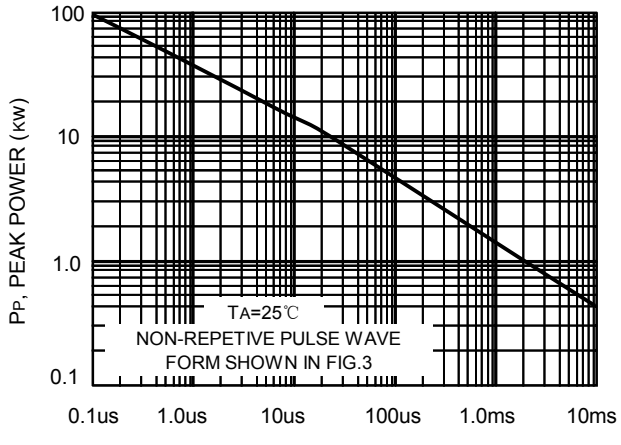
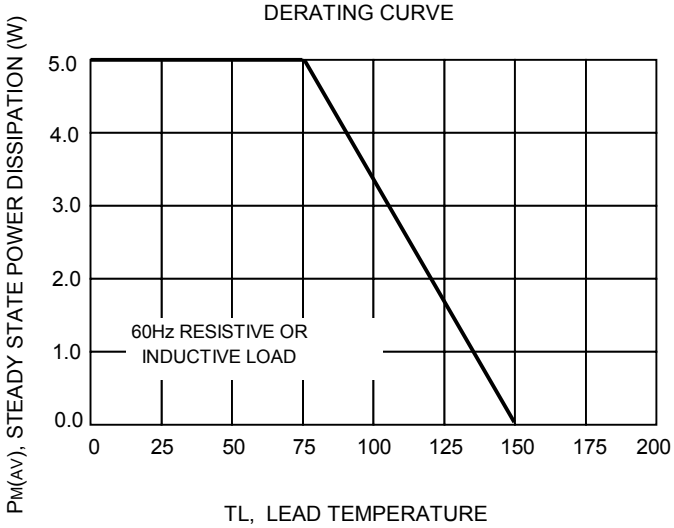


FIG.6-STEADY STATE POWER DERATING CURVE



Device Uni-directional	Device Bi-directional	Device Marking code		Working Peak Reverse Voltage	Breakdown Voltage VBR Volts			Maximum Reverse Voltage at I_{RSM} (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at V_{RWM}
		(UNI)	(BI)	V_{RWM} (volts)	Min(V)	Max(V)	@ IT(mA)	V_{RSM} (volts)	I_{RSM} (Amps)	IR (μA)
SMCJ5.0	SMCJ5.0C	GDD	BDD	5.0	6.40	7.55	10	9.6	156.3	1000
SMCJ5.0A	SMCJ5.0CA	GDE	BDE	5.0	6.40	7.23	10	9.2	163.0	1000
SMCJ6.0	SMCJ6.0C	GDF	BDF	6.0	6.67	8.45	10	11.4	131.6	1000
SMCJ6.0A	SMCJ6.0CA	GDG	BDG	6.0	6.67	7.67	10	10.3	145.6	1000
SMCJ6.5	SMCJ6.5C	GDH	BDH	6.5	7.22	9.14	10	12.3	122.0	500
SMCJ6.5A	SMCJ6.5CA	GDK	BDK	6.5	7.22	8.30	10	11.2	133.9	500
SMCJ7.0	SMCJ7.0C	GDL	BDL	7.0	7.78	9.86	10	13.3	112.8	200
SMCJ7.0A	SMCJ7.0CA	GDM	BDM	7.0	7.78	8.95	10	12.0	125.0	200
SMCJ7.5	SMCJ7.5C	GDN	BDN	7.5	8.33	10.80	1.0	14.3	104.9	100
SMCJ7.5A	SMCJ7.5CA	GDP	BDP	7.5	8.33	9.58	1.0	12.9	116.3	100
SMCJ8.0	SMCJ8.0C	GDQ	BDQ	8.0	8.89	11.30	1.0	15.0	100.0	50
SMCJ8.0A	SMCJ8.0CA	GDR	BDR	8.0	8.89	10.20	1.0	13.6	110.3	50
SMCJ8.5	SMCJ8.5C	GDS	BDS	8.5	9.44	11.90	1.0	15.9	95.3	20
SMCJ8.5A	SMCJ8.5CA	GDT	BDT	8.5	9.44	10.80	1.0	14.4	104.2	20
SMCJ9.0	SMCJ9.0C	GDU	BDU	9.0	10.00	12.80	1.0	16.9	88.7	10
SMCJ9.0A	SMCJ9.0CA	GDV	BDV	9.0	10.00	11.50	1.0	15.4	97.4	10
SMCJ10	SMCJ10C	GDW	BDW	10.0	11.10	14.10	1.0	18.8	79.8	5.0
SMCJ10A	SMCJ10CA	GDX	BDX	10.0	11.10	12.80	1.0	17.0	88.2	5.0
SMCJ11	SMCJ11C	GDY	BDY	11.0	12.20	15.40	1.0	20.1	74.6	5.0
SMCJ11A	SMCJ11CA	GDZ	BDZ	11.0	12.20	14.40	1.0	18.2	82.4	5.0
SMCJ12	SMCJ12C	GED	BED	12.0	13.30	16.90	1.0	22.0	68.2	5.0
SMCJ12A	SMCJ12CA	GEE	BEE	12.0	13.30	15.30	1.0	19.9	75.3	5.0
SMCJ13	SMCJ13C	GEF	BEF	13.0	14.40	18.20	1.0	23.8	63.0	5.0
SMCJ13A	SMCJ13CA	GEG	BEG	13.0	14.40	16.50	1.0	21.5	69.7	5.0
SMCJ14	SMCJ14C	GEH	BEH	14.0	15.60	19.80	1.0	25.8	58.1	5.0
SMCJ14A	SMCJ14CA	GEK	BEK	14.0	15.60	17.90	1.0	23.2	64.7	5.0
SMCJ15	SMCJ15C	GEL	BEL	15.0	16.70	21.10	1.0	26.9	55.8	5.0
SMCJ15A	SMCJ15CA	GEM	BEM	15.0	16.70	19.20	1.0	24.4	61.5	5.0
SMCJ16	SMCJ16C	GEN	BEN	16.0	17.80	22.60	1.0	28.8	52.1	5.0
SMCJ16A	SMCJ16CA	GEP	BEP	16.0	17.80	20.50	1.0	26.0	57.7	5.0
SMCJ17	SMCJ17C	GEQ	BEQ	17.0	18.90	23.90	1.0	30.5	49.2	5.0
SMCJ17A	SMCJ17CA	GER	BER	17.0	18.90	21.70	1.0	27.6	53.3	5.0
SMCJ18	SMCJ18C	GES	BES	18.0	20.00	25.30	1.0	32.2	46.6	5.0
SMCJ18A	SMCJ18CA	GET	BET	18.0	20.00	23.30	1.0	29.2	51.4	5.0
SMCJ20	SMCJ20C	GEU	BEU	20.0	22.20	28.10	1.0	35.8	41.9	5.0
SMCJ20A	SMCJ20CA	GEV	BEV	20.0	22.20	25.50	1.0	32.4	46.3	5.0
SMCJ22	SMCJ22C	GEW	BEW	22.0	24.40	30.90	1.0	39.4	38.1	5.0
SMCJ22A	SMCJ22CA	GEX	BEX	22.0	24.40	28.00	1.0	35.5	42.2	5.0
SMCJ24	SMCJ24C	GEY	BEY	24.0	26.70	33.80	1.0	43.0	34.9	5.0
SMCJ24A	SMCJ24CA	GEZ	BEZ	24.0	26.70	30.70	1.0	38.9	38.6	5.0
SMCJ26	SMCJ26C	GFD	BFD	26.0	28.90	36.80	1.0	46.6	32.2	5.0
SMCJ26A	SMCJ26CA	GFE	BFE	26.0	28.90	32.20	1.0	42.1	35.6	5.0
SMCJ28	SMCJ28C	GFF	BFF	28.0	31.10	39.40	1.0	50.0	30.0	5.0
SMCJ28A	SMCJ28CA	GFG	BFG	28.0	31.10	35.80	1.0	45.4	33.0	5.0
SMCJ30	SMCJ30C	GFH	BFH	30.0	33.30	42.40	1.0	53.5	28.0	5.0
SMCJ30A	SMCJ30CA	GFK	BFK	30.0	33.30	38.30	1.0	48.4	31.0	5.0
SMCJ33	SMCJ33C	GFL	BFL	33.0	36.70	46.90	1.0	59.0	25.4	5.0
SMCJ33A	SMCJ33CA	GFM	BFM	33.0	36.70	42.20	1.0	53.3	28.1	5.0

SMCJ SERIES

Device Uni-directional	Device Bi-directional	Device Marking code		Working Peak Reverse Voltage	Breakdown Voltage VBR Volts			Maximum Reverse Voltage at I_{RSM} (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at V_{RWM}
		(UNI)	(BI)	V_{RWM} (volts)	Min(V)	Max(V)	@ IT(mA)	V_{RSM} (volts)	I_{RSM} (Amps)	IR (μA)
SMCJ36	SMCJ36C	GFN	BFN	36.0	40.0	50.7	1.0	64.3	23.3	5.0
SMCJ36A	SMCJ36CA	GFP	BFP	36.0	40.0	46.0	1.0	58.1	25.8	5.0
SMCJ40	SMCJ40C	GFQ	BFQ	40.0	44.4	56.3	1.0	71.4	21.0	5.0
SMCJ40A	SMCJ40CA	GFR	BFR	40.0	44.4	51.1	1.0	64.5	23.3	5.0
SMCJ43	SMCJ43C	GFS	BFS	43.0	47.8	60.5	1.0	76.7	19.6	5.0
SMCJ43A	SMCJ43CA	GFT	BFT	43.0	47.8	54.9	1.0	69.4	21.6	5.0
SMCJ45	SMCJ45C	GFU	BFU	45.0	50.0	63.3	1.0	80.3	18.7	5.0
SMCJ45A	SMCJ45CA	GFV	BFV	45.0	50.0	57.5	1.0	72.7	20.6	5.0
SMCJ48	SMCJ48C	GFW	BFW	48.0	53.3	67.5	1.0	85.5	17.5	5.0
SMCJ48A	SMCJ48CA	GFX	BFX	48.0	53.3	61.3	1.0	77.4	19.4	5.0
SMCJ51	SMCJ51C	GFY	BFY	51.0	56.7	71.8	1.0	91.1	16.5	5.0
SMCJ51A	SMCJ51CA	GFZ	BFZ	51.0	56.7	65.2	1.0	82.4	18.2	5.0
SMCJ54	SMCJ54C	GGD	BGD	54.0	60.0	76.0	1.0	96.3	15.6	5.0
SMCJ54A	SMCJ54CA	GGE	BGE	54.0	60.0	69.0	1.0	87.1	17.2	5.0
SMCJ58	SMCJ58C	GGF	BGF	58.0	64.4	81.6	1.0	103.0	14.6	5.0
SMCJ58A	SMCJ58CA	GGG	BGG	58.0	64.4	74.6	1.0	93.6	16.0	5.0
SMCJ60	SMCJ60C	GGH	BGH	60.0	66.7	84.5	1.0	107.0	14.0	5.0
SMCJ60A	SMCJ60CA	GGK	BGK	60.0	66.7	76.7	1.0	96.8	15.5	5.0
SMCJ64	SMCJ64C	GGL	BGL	64.0	71.1	90.1	1.0	114.0	13.2	5.0
SMCJ64A	SMCJ64CA	GGM	BGM	64.0	71.1	81.8	1.0	103.0	14.6	5.0
SMCJ70	SMCJ70C	GGN	BGN	70.0	77.8	98.6	1.0	125.0	12.0	5.0
SMCJ70A	SMCJ70CA	GGP	BGP	70.0	77.8	89.5	1.0	113.0	13.3	5.0
SMCJ75	SMCJ75C	GGQ	BGQ	75.0	83.3	106.0	1.0	134.0	11.2	5.0
SMCJ75A	SMCJ75CA	GGR	BGR	75.0	83.3	95.8	1.0	121.0	12.4	5.0
SMCJ78	SMCJ78C	GGS	BGD	78.0	86.7	110.0	1.0	139.0	10.8	5.0
SMCJ78A	SMCJ78CA	GGT	BGT	78.0	86.7	99.7	1.0	126.0	11.4	5.0
SMCJ85	SMCJ85C	GGU	BGU	85.0	94.4	119.2	1.0	151.0	9.9	5.0
SMCJ85A	SMCJ85CA	GGV	BGV	85.0	94.4	108.2	1.0	137.0	10.4	5.0
SMCJ90	SMCJ90C	GGW	BGW	90.0	100.0	126.5	1.0	160.0	9.4	5.0
SMCJ90A	SMCJ90CA	GGX	BGX	90.0	100.0	115.5	1.0	146.0	10.3	5.0
SMCJ100	SMCJ100C	GGY	BGY	100.0	111.0	141.0	1.0	179.0	8.4	5.0
SMCJ100A	SMCJ100CA	GGZ	BGZ	100.0	111.0	128.0	1.0	162.0	9.3	5.0
SMCJ110	SMCJ110C	GHD	BHD	110.0	122.0	154.0	1.0	196.0	7.7	5.0
SMCJ110A	SMCJ110CA	GHE	BHE	110.0	122.0	140.0	1.0	177.0	8.4	5.0
SMCJ120	SMCJ120C	GHF	BHF	120.0	133.0	169.0	1.0	214.0	7.0	5.0
SMCJ120A	SMCJ120CA	GHG	BHG	120.0	133.0	153.0	1.0	193.0	7.9	5.0
SMCJ130	SMCJ130C	GHH	BHH	130.0	144.0	182.0	1.0	231.0	6.5	5.0
SMCJ130A	SMCJ130CA	GHK	BHK	130.0	144.0	165.0	1.0	209.0	7.2	5.0
SMCJ150	SMCJ150C	GHL	BHL	150.0	167.0	211.5	1.0	268.0	5.6	5.0
SMCJ150A	SMCJ150CA	GHM	BHM	150.0	167.0	192.0	1.0	243.0	6.2	5.0
SMCJ160	SMCJ160C	GHN	BHN	160.0	178.0	226.0	1.0	287.0	5.2	5.0
SMCJ160A	SMCJ160CA	GHP	BHP	160.0	178.0	205.0	1.0	259.0	5.8	5.0
SMCJ170	SMCJ170C	GHQ	BHQ	170.0	189.0	239.5	1.0	304.0	4.9	5.0
SMCJ170A	SMCJ170CA	GHR	BHR	170.0	189.0	217.5	1.0	275.0	5.5	5.0

NOTE: For bidirectional use C or CA suffix for types SMCJ5.0 thru types SMCJ170(ex. SMCJ5.0C, SMCJ170CA).

Electrical characteristics apply in both directions.

The later codes(/BDD thru /BHR) denote by bidirectional material.