

**SURFACE MOUNT
UNIDIRECTIONAL AND BIDIRECTIONAL
TRANSIENT VOLTAGE SUPPRESSORS**

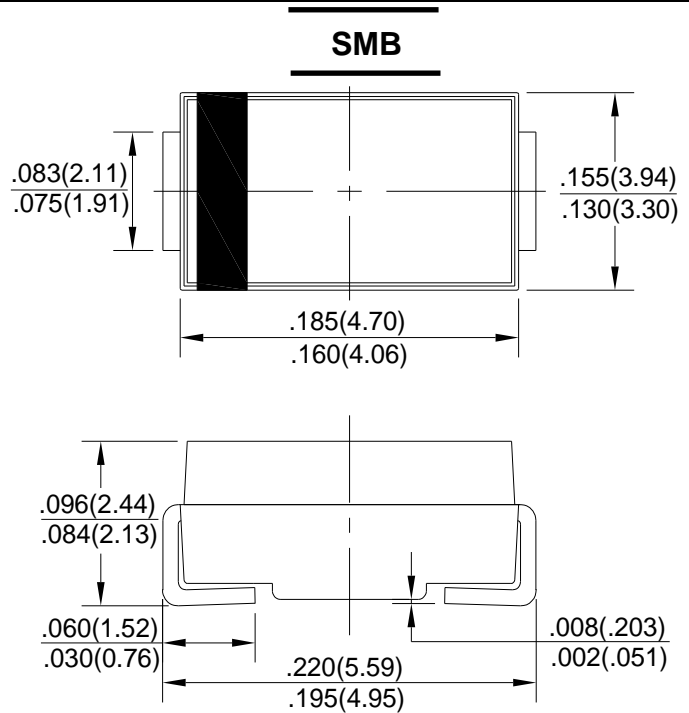
REVERSE VOLTAGE - **5.0 to 170** Volts
POWER DISSIPATION - **600** Watts

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 1 μ A above 10V
- Fast response time: typically less than 1.0ns for Uni-direction, less than 5.0ns for 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 : 0.003 ounces, 0.093 grams



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 $^{\circ}$ C 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 $^{\circ}$ C TP=1ms (NOTE1,2)	P _{PK}	Minimum 600	WATTS
Peak Forward Surge Current 8.3ms Single Half Sine-Wave Super Imposed on Rated Load (JEDEC Method)	I _{FSM}	100	AMPS
Steady State Power Dissipation at T _L =75 $^{\circ}$ C	P _{M(AV)}	5.0	WATTS
Maximum Instantaneous Forward Voltage at 50A for Unidirectional Devices Only (NOTE3)	V _F	SEE NOTE4	VOLTS
Operating Temperature Range	T _J	-55 to + 150	$^{\circ}$ C
Storage Temperature Range	T _{STG}	-55 to + 175	$^{\circ}$ C

- NOTES: 1. Non-repetitive current pulse ,per Fig. 3 and derated above T_A=25 $^{\circ}$ C 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 SMBJ5.0 thru SMBJ90A devices and V_F=5.0V on SMBJ100 thru SMBJ170A devices.

FIG.1-PULSE DERATING CURVE

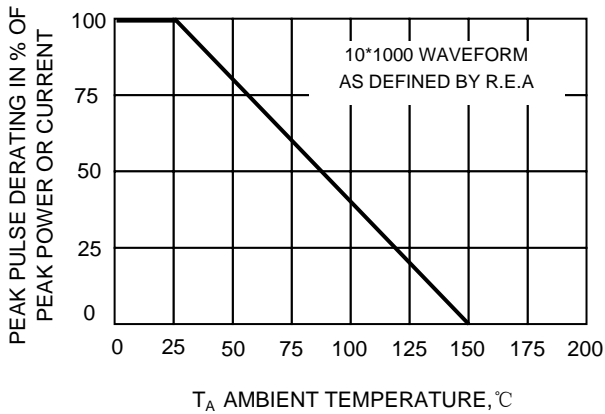


FIG.2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

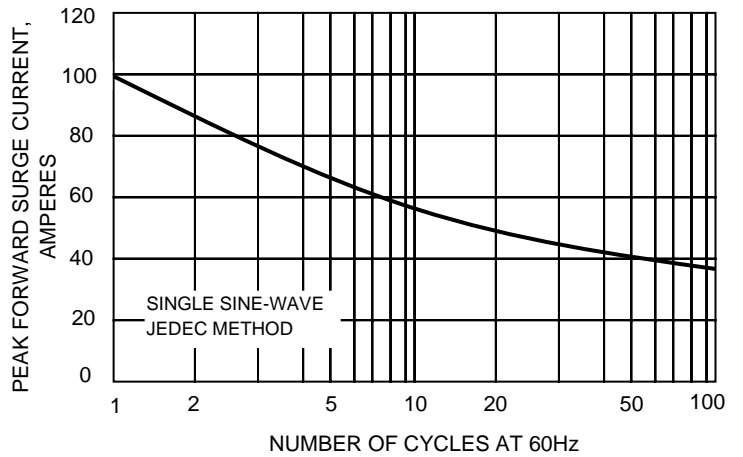


FIG.3-PULSE WAVEFORM

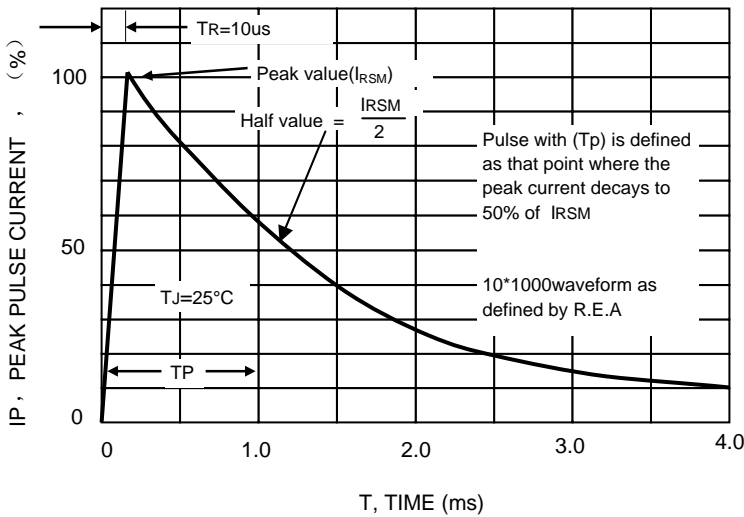


FIG.4-TYPICAL JUNCTION CAPACITANCE

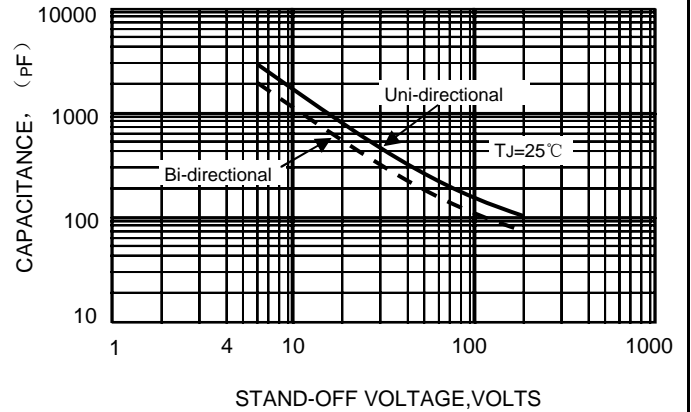


FIG.5-PULSE RATING CURVE

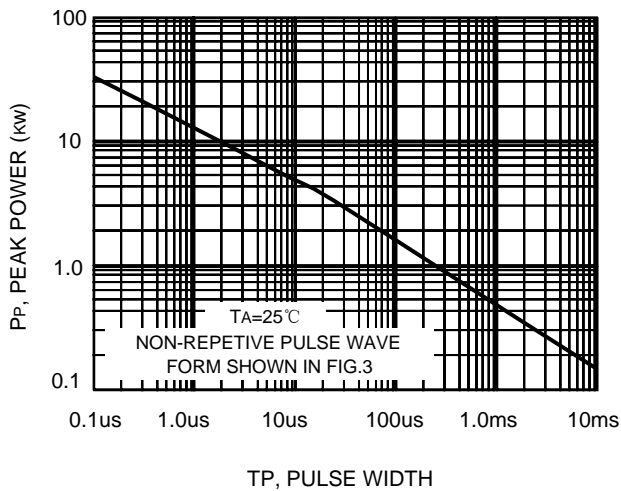
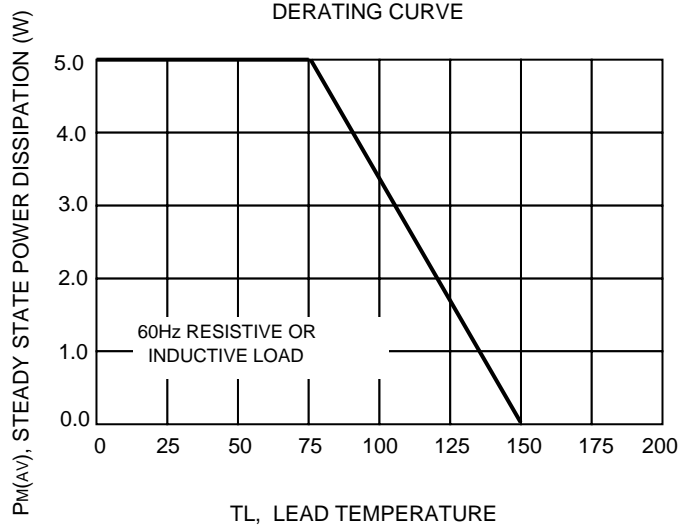


FIG.6-STEADY STATE POWER DERATING CURVE



The curve graph is for reference only, can't be the basis for judgment(曲线图仅供参考)!



SMBJ SERIES

Device Uni-directional	Device Bi-directional	Working Peak Reverse Voltage	Breakdown Voltage VBR Volts			Maximum Reverse Voltage at IRSM (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at VRWM
			VRWM (volts)	Min(V)	Max(V)			
SMBJ5.0	SMBJ5.0C	5.0	6.40	7.55	10	9.6	62.5	800
SMBJ5.0A	SMBJ5.0CA	5.0	6.40	7.25	10	9.2	65.2	800
SMBJ6.0	SMBJ6.0C	6.0	6.67	8.45	10	11.4	52.3	800
SMBJ6.0A	SMBJ6.0CA	6.0	6.67	7.67	10	10.3	58.3	800
SMBJ6.5	SMBJ6.5C	6.5	7.22	9.14	10	12.3	48.7	500
SMBJ6.5A	SMBJ6.5CA	6.5	7.22	8.30	10	11.2	53.6	500
SMBJ7.0	SMBJ7.0C	7.0	7.78	9.86	10	13.3	45.1	200
SMBJ7.0A	SMBJ7.0CA	7.0	7.78	8.95	10	12.0	50.0	200
SMBJ7.5	SMBJ7.5C	7.5	8.33	10.80	1.0	14.3	42.0	100
SMBJ7.5A	SMBJ7.5CA	7.5	8.33	9.58	1.0	12.9	46.5	100
SMBJ8.0	SMBJ8.0C	8.0	8.89	11.30	1.0	15.0	40.0	50
SMBJ8.0A	SMBJ8.0CA	8.0	8.89	10.20	1.0	13.6	44.1	50
SMBJ8.5	SMBJ8.5C	8.5	9.44	11.90	1.0	15.9	37.7	20
SMBJ8.5A	SMBJ8.5CA	8.5	9.44	10.80	1.0	14.4	41.7	20
SMBJ9.0	SMBJ9.0C	9.0	10.00	12.80	1.0	16.9	35.5	10
SMBJ9.0A	SMBJ9.0CA	9.0	10.00	11.50	1.0	15.4	39.0	10
SMBJ10	SMBJ10C	10.0	11.10	14.10	1.0	18.8	31.9	5.0
SMBJ10A	SMBJ10CA	10.0	11.10	12.80	1.0	17.0	35.3	5.0
SMBJ11	SMBJ11C	11.0	12.20	15.40	1.0	20.1	29.9	5.0
SMBJ11A	SMBJ11CA	11.0	12.20	14.40	1.0	18.2	33.0	5.0
SMBJ12	SMBJ12C	12.0	13.30	16.90	1.0	22.0	27.3	5.0
SMBJ12A	SMBJ12CA	12.0	13.30	15.30	1.0	19.9	30.2	5.0
SMBJ13	SMBJ13C	13.0	14.40	18.20	1.0	23.8	25.2	5.0
SMBJ13A	SMBJ13CA	13.0	14.40	16.50	1.0	21.5	27.9	5.0
SMBJ14	SMBJ14C	14.0	15.60	19.80	1.0	25.8	23.3	5.0
SMBJ14A	SMBJ14CA	14.0	15.60	17.90	1.0	23.2	25.8	5.0
SMBJ15	SMBJ15C	15.0	16.70	21.10	1.0	26.9	22.3	5.0
SMBJ15A	SMBJ15CA	15.0	16.70	19.20	1.0	24.4	24.0	5.0
SMBJ16	SMBJ16C	16.0	17.80	22.60	1.0	28.8	20.8	5.0
SMBJ16A	SMBJ16CA	16.0	17.80	20.50	1.0	26.0	23.1	5.0
SMBJ17	SMBJ17C	17.0	18.90	23.90	1.0	30.5	19.7	5.0
SMBJ17A	SMBJ17CA	17.0	18.90	21.70	1.0	27.6	21.7	5.0
SMBJ18	SMBJ18C	18.0	20.00	25.30	1.0	32.2	18.6	5.0
SMBJ18A	SMBJ18CA	18.0	20.00	23.30	1.0	29.2	20.5	5.0
SMBJ20	SMBJ20C	20.0	22.20	28.10	1.0	35.8	16.7	5.0
SMBJ20A	SMBJ20CA	20.0	22.20	25.50	1.0	32.4	18.5	5.0
SMBJ22	SMBJ22C	22.0	24.40	30.90	1.0	39.4	15.2	5.0
SMBJ22A	SMBJ22CA	22.0	24.40	28.00	1.0	35.5	16.9	5.0
SMBJ24	SMBJ24C	24.0	26.70	33.80	1.0	43.0	14.0	5.0
SMBJ24A	SMBJ24CA	24.0	26.70	30.70	1.0	38.9	15.4	5.0
SMBJ26	SMBJ26C	26.0	28.90	36.80	1.0	46.6	12.4	5.0
SMBJ26A	SMBJ26CA	26.0	28.90	32.20	1.0	42.1	14.2	5.0
SMBJ28	SMBJ28C	28.0	31.10	39.40	1.0	50.0	12.0	5.0
SMBJ28A	SMBJ28CA	28.0	31.10	35.80	1.0	45.4	13.2	5.0
SMBJ30	SMBJ30C	30.0	33.30	42.40	1.0	53.5	11.2	5.0
SMBJ30A	SMBJ30CA	30.0	33.30	38.30	1.0	48.4	12.4	5.0
SMBJ33	SMBJ33C	33.0	36.70	46.90	1.0	59.0	10.2	5.0
SMBJ33A	SMBJ33CA	33.0	36.70	42.20	1.0	53.3	11.3	5.0

SMBJ SERIES



Device Uni-directional	Device Bi-directional	Working Peak Reverse Voltage	Breakdown Voltage VBR Volts			Maximum Reverse Voltage at IRSM (Clamping Voltage)	Maximum Reverse Surge Current	Maximum Reverse Leakage at VRWM
			VRWM (volts)	Min(V)	Max(V)			
SMBJ36	SMBJ36C	36.0	40.0	50.7	1.0	64.3	9.3	5.0
SMBJ36A	SMBJ36CA	36.0	40.0	46.0	1.0	58.1	10.3	5.0
SMBJ40	SMBJ40C	40.0	44.4	56.3	1.0	71.4	8.4	5.0
SMBJ40A	SMBJ40CA	40.0	44.4	51.1	1.0	64.5	9.3	5.0
SMBJ43	SMBJ43C	43.0	47.8	60.5	1.0	76.7	7.8	5.0
SMBJ43A	SMBJ43CA	43.0	47.8	54.9	1.0	69.4	8.6	5.0
SMBJ45	SMBJ45C	45.0	50.0	63.3	1.0	80.3	7.5	5.0
SMBJ45A	SMBJ45CA	45.0	50.0	57.5	1.0	72.7	8.3	5.0
SMBJ48	SMBJ48C	48.0	53.3	67.5	1.0	85.5	7.0	5.0
SMBJ48A	SMBJ48CA	48.0	53.3	61.3	1.0	77.4	7.7	5.0
SMBJ51	SMBJ51C	51.0	56.7	71.8	1.0	91.1	6.6	5.0
SMBJ51A	SMBJ51CA	51.0	56.7	65.2	1.0	82.4	7.3	5.0
SMBJ54	SMBJ54C	54.0	60.0	76.0	1.0	96.3	6.2	5.0
SMBJ54A	SMBJ54CA	54.0	60.0	69.0	1.0	87.1	6.9	5.0
SMBJ58	SMBJ58C	58.0	64.4	81.6	1.0	103.0	5.8	5.0
SMBJ58A	SMBJ58CA	58.0	64.4	74.6	1.0	93.6	6.4	5.0
SMBJ60	SMBJ60C	60.0	66.7	84.5	1.0	107.0	5.6	5.0
SMBJ60A	SMBJ60CA	60.0	66.7	76.7	1.0	96.8	6.2	5.0
SMBJ64	SMBJ64C	64.0	71.1	90.1	1.0	114.0	5.3	5.0
SMBJ64A	SMBJ64CA	64.0	71.1	81.8	1.0	103.0	5.8	5.0
SMBJ70	SMBJ70C	70.0	77.8	98.6	1.0	125.0	4.8	5.0
SMBJ70A	SMBJ70CA	70.0	77.8	89.5	1.0	113.0	5.3	5.0
SMBJ75	SMBJ75C	75.0	83.3	106.0	1.0	134.0	4.5	5.0
SMBJ75A	SMBJ75CA	75.0	83.3	95.8	1.0	121.0	4.9	5.0
SMBJ78	SMBJ78C	78.0	86.7	110.0	1.0	139.0	4.3	5.0
SMBJ78A	SMBJ78CA	78.0	86.7	99.7	1.0	126.0	4.7	5.0
SMBJ85	SMBJ85C	85.0	94.4	119.2	1.0	151.0	3.9	5.0
SMBJ85A	SMBJ85CA	85.0	94.4	108.2	1.0	137.0	4.4	5.0
SMBJ90	SMBJ90C	90.0	100.0	126.5	1.0	160.0	3.8	5.0
SMBJ90A	SMBJ90CA	90.0	100.0	115.5	1.0	146.0	4.1	5.0
SMBJ100	SMBJ100C	100.0	111.0	141.0	1.0	179.0	3.4	5.0
SMBJ100A	SMBJ100CA	100.0	111.0	128.0	1.0	162.0	3.7	5.0
SMBJ110	SMBJ110C	110.0	122.0	154.0	1.0	196.0	3.0	5.0
SMBJ110A	SMBJ110CA	110.0	122.0	140.0	1.0	177.0	3.4	5.0
SMBJ120	SMBJ120C	120.0	133.0	169.0	1.0	214.0	2.8	5.0
SMBJ120A	SMBJ120CA	120.0	133.0	153.0	1.0	193.0	3.1	5.0
SMBJ130	SMBJ130C	130.0	144.0	182.0	1.0	231.0	2.6	5.0
SMBJ130A	SMBJ130CA	130.0	144.0	165.0	1.0	209.0	2.9	5.0
SMBJ150	SMBJ150C	150.0	167.0	211.5	1.0	268.0	2.2	5.0
SMBJ150A	SMBJ150CA	150.0	167.0	192.0	1.0	243.0	2.5	5.0
SMBJ160	SMBJ160C	160.0	178.0	226.0	1.0	287.0	2.1	5.0
SMBJ160A	SMBJ160CA	160.0	178.0	205.0	1.0	259.0	2.3	5.0
SMBJ170	SMBJ170C	170.0	189.0	239.5	1.0	304.0	2.0	5.0
SMBJ170A	SMBJ170CA	170.0	189.0	217.5	1.0	275.0	2.2	5.0

NOTE: For bidirectional use C or CA suffix for types SMBJ5.0 thru types SMBJ170(ex. SMBJ5.0C, SMBJ170CA).

Electrical characteristics apply in both directions.

The later codes(/AD thru /ER) denote by bidirectional material.

REV. 6, 30-Dec-2014