Elektronische Bauelemente

SMBJ SERIES

VOLTAGE 5.0V ~ 170V

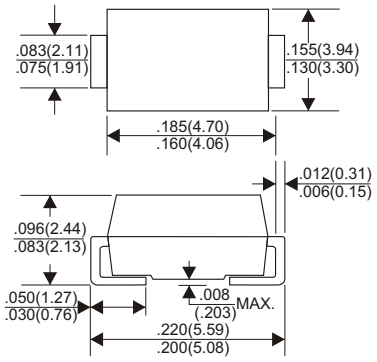
600W Peak Power Surface Mount TVS

RoHS Compliant Product

FEATURES

* For surface mount application
* Built-in strain relief
* Excellent clamping capability
* Low profile package
* Fast response time: Typically less than 1.0ps from 0 volt to BV min.
* Typical I_R less than 1mA above 10V
* High temperature soldering guaranteed: 260°C / 10 seconds at terminals

DO-214AA(SMB)



Dimensions in inches

MECHANICAL DATA

* Case: Molded plastic
* Epoxy: UL 94V-0 rate flame retardant
* Lead: Solderable per MIL-STD-202, method 208 guaranteed
* Polarity: Color band denotes cathode end except Bidirectional
* Mounting position: Any
* Weight: 0.093 grams

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

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

RATINGS	SYMBOL	VALUE	UNITS
Peak Power Dissipation at T_A=25°C, T_P=1ms(NOTE 1)	P_{PK}	Minimum 600	Watts
Peak Forward Surge Current at 8.3ms Single Half Sine-Wave superimposed on rated load (JEDEC method) (NOTE 3)	I_{FSM}	100	Amps
Maximum Instantenous Forward Voltage at 35.0A for Unidirectional only	V_F	3.5	Volts
Operating and Storage Temperature Range	T_J, T_{STG}	-55 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 Copper Pad area of 5.0mm²(.013mm Thick) to each terminal.
3. 8.3ms single half sine-wave, duty cycle = 4 pulses per minute maximum.

DEVICES FOR BIPOLAR APPLICATIONS

1. For Bidirectional use C or CA Suffix for types SMBJ5.0 thru SMBJ170.
2. Electrical characteristics apply in both directions.

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RATING AND CHARACTERISTIC CURVES (SMBJ SERIES)

FIG.1-PEAK PULSE POWER DERATING CURVE

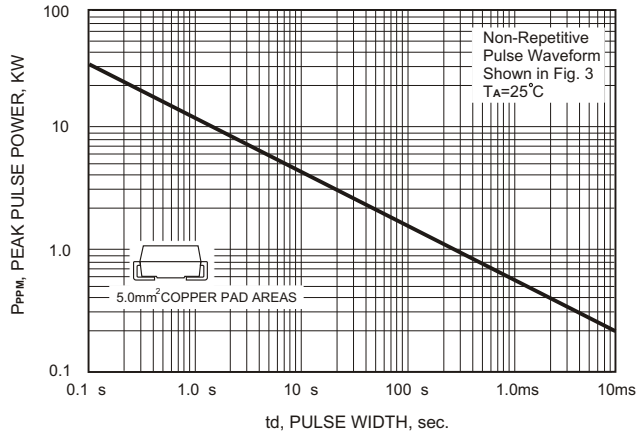


FIG.2-PULSE DERATING CURVE

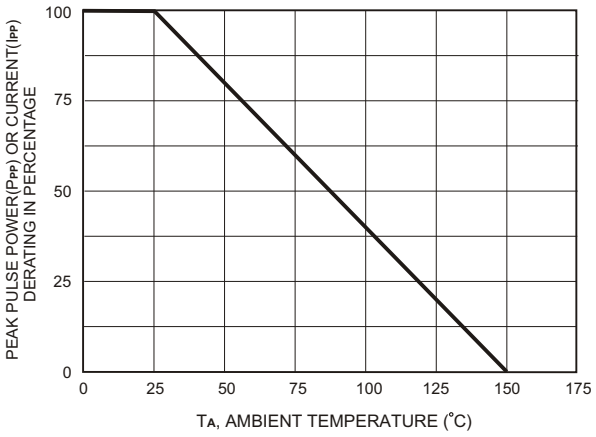


FIG.3-PULSE WAVE FORM

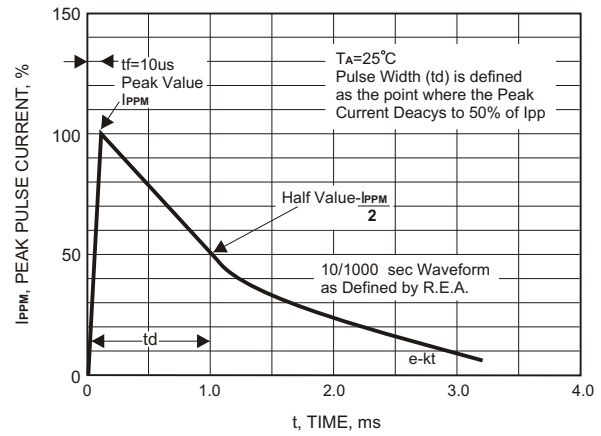


FIG.4-TYPICAL JUNCTION CAPACITANCE

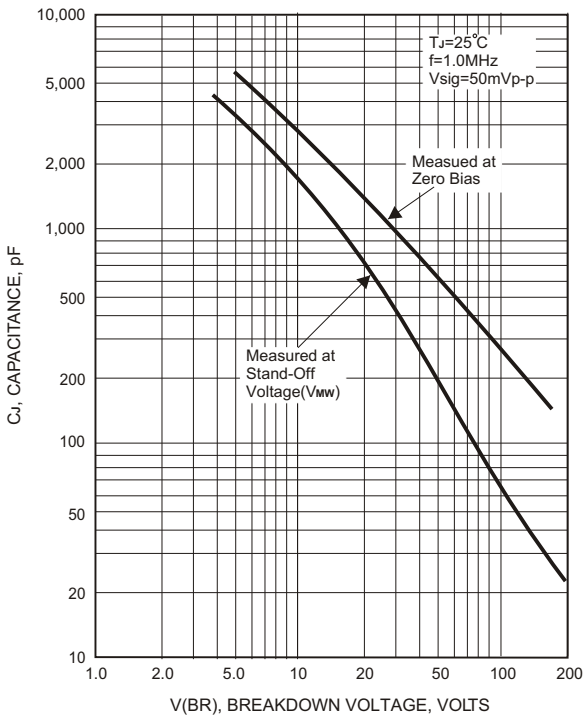
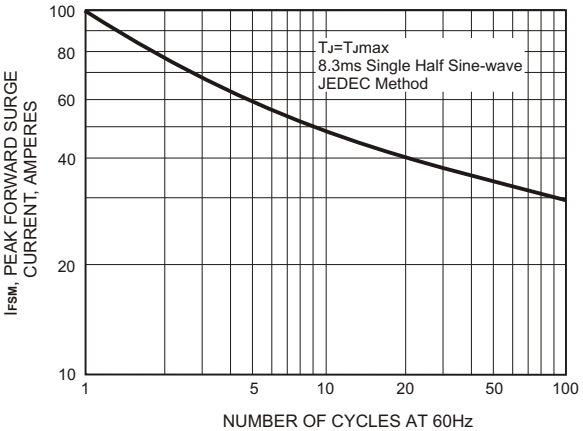


FIG.5-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



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SMBJ SERIES

VOLTAGE 5.0V ~ 170V

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PART NUMBER ADD C FOR BI-DIRECTIONAL See Note 1	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 I_T (mA)	MAXIMUM CLAMPING VOLTAGE @I_{PP} V_C (V)	PEAK PULSE CURRENT I_{PP} (A)	REVERSE LEAKAGE @V_{RWM} I_R (μA)	MARKING CODE
SMBJ5.0(C)	5.0	6.40	7.55	10	9.6	62.5	800	BJ05
SMBJ5.0(C)A	5.0	6.40	7.25	10	9.2	65.2	800	BJ05A
SMBJ6.0(C)	6.0	6.67	8.45	10	11.4	52.6	800	BJ06
SMBJ6.0(C)A	6.0	6.67	7.67	10	10.3	58.3	800	BJ06A
SMBJ6.5(C)	6.5	7.22	9.14	10	12.3	48.7	500	BJ6.5
SMBJ6.5(C)A	6.5	7.22	8.30	10	11.2	53.6	500	BJ6.5A
SMBJ7.0(C)	7.0	7.78	9.86	10	13.3	45.1	200	BJ07
SMBJ7.0(C)A	7.0	7.78	8.95	10	12.0	50.0	200	BJ07A
SMBJ7.5(C)	7.5	8.33	10.67	1	14.3	42.0	100	BJ7.5
SMBJ5.0(C)A	7.5	8.33	9.58	1	12.9	46.5	100	BJ7.5A
SMBJ8.0(C)	8.0	8.89	11.30	1	15.0	40.0	50	BJ08
SMBJ8.0(C)A	8.0	8.89	10.23	1	13.6	44.1	50	BJ08A
SMBJ8.5(C)	8.5	9.44	11.92	1	15.9	37.7	10	BJ8.5
SMBJ8.5(C)A	8.5	9.44	10.82	1	14.4	41.7	10	BJ8.5A
SMBJ9.0(C)	9.0	10.0	12.60	1	16.9	35.5	5	BJ09
SMBJ9.0(C)A	9.0	10.0	11.50	1	15.4	39.0	5	BJ09A
SMBJ10(C)	10	11.1	14.10	1	18.8	31.9	5	BJ10
SMBJ10(C)A	10	11.1	12.80	1	17.0	35.3	5	BJ10A
SMBJ11(C)	11	12.2	15.40	1	20.1	29.9	5	BJ11
SMBJ11(C)A	11	12.2	14.00	1	18.2	33.0	5	BJ11A
SMBJ12(C)	12	13.3	16.90	1	22.0	27.3	5	BJ12
SMBJ12(C)A	12	13.3	15.30	1	19.9	30.2	5	BJ12A
SMBJ13(C)	13	14.4	18.20	1	23.8	25.2	5	BJ13
SMBJ13(C)A	13	14.4	16.50	1	21.5	27.9	5	BJ13A
SMBJ14(C)	14	15.6	19.80	1	25.8	23.3	5	BJ14
SMBJ14(C)A	14	15.6	17.90	1	23.2	25.8	5	BJ14A
SMBJ15(C)	15	16.7	21.10	1	26.9	22.3	5	BJ15
SMBJ15(C)A	15	16.7	19.20	1	24.4	24.0	5	BJ15A
SMBJ16(C)	16	17.8	22.60	1	28.8	20.8	5	BJ16
SMBJ16(C)A	16	17.8	20.50	1	26.0	23.1	5	BJ16A
SMBJ17(C)	17	18.9	23.90	1	30.5	19.7	5	BJ17
SMBJ17(C)A	17	18.9	21.70	1	27.6	21.7	5	BJ17A
SMBJ18(C)	18	20.0	25.30	1	32.2	18.6	5	BJ18
SMBJ18(C)A	18	20.0	23.30	1	29.2	20.5	5	BJ18A
SMBJ20(C)	20	22.2	28.10	1	35.8	16.7	5	BJ20
SMBJ20(C)A	20	22.2	25.50	1	32.4	18.5	5	BJ20A
SMBJ22(C)	22	24.4	30.90	1	39.4	15.2	5	BJ22
SMBJ22(C)A	22	24.4	28.00	1	35.5	16.9	5	BJ22A
SMBJ24(C)	24	26.7	33.80	1	43.0	14.0	5	BJ24
SMBJ24(C)A	24	26.7	30.70	1	38.9	15.4	5	BJ24A
SMBJ26(C)	26	28.9	36.60	1	46.6	12.4	5	BJ26
SMBJ26(C)A	26	28.9	33.20	1	42.1	14.2	5	BJ26A
SMBJ28(C)	28	31.1	39.40	1	50.0	12.0	5	BJ28
SMBJ28(C)A	28	31.1	35.80	1	45.4	13.2	5	BJ28A
SMBJ30(C)	30	33.3	42.20	1	53.5	11.2	5	BJ30
SMBJ30(C)A	30	33.3	38.30	1	48.4	12.4	5	BJ30A
SMBJ33(C)	33	36.7	46.50	1	59.0	10.2	5	BJ33
SMBJ33(C)A	33	36.7	42.20	1	53.3	11.3	5	BJ33A
SMBJ36(C)	36	40.0	50.70	1	64.3	9.3	5	BJ36
SMBJ36(C)A	36	40.0	46.00	1	58.1	10.3	5	BJ36A
SMBJ40(C)	40	44.4	56.30	1	71.4	8.4	5	BJ40
SMBJ40(C)A	40	44.4	51.10	1	64.5	9.3	5	BJ40A
SMBJ43(C)	43	47.8	60.50	1	76.7	7.8	5	BJ43
SMBJ43(C)A	43	47.8	54.90	1	69.4	8.6	5	BJ43A
SMBJ45(C)	45	50.0	63.30	1	80.3	7.5	5	BJ45
SMBJ45(C)A	45	50.0	57.50	1	72.7	8.3	5	BJ45A
SMBJ48(C)	48	53.3	67.50	1	85.5	7.0	5	BJ48
SMBJ48(C)A	48	53.3	61.30	1	77.4	7.7	5	BJ48A
SMBJ51(C)	51	56.7	71.80	1	91.1	6.6	5	BJ51
SMBJ51(C)A	51	56.7	65.20	1	82.4	7.3	5	BJ51A
SMBJ54(C)	54	60.0	76.00	1	96.3	6.2	5	BJ54
SMBJ54(C)A	54	60.0	69.00	1	87.1	6.9	5	BJ54A
SMBJ58(C)	58	64.4	81.60	1	103	5.8	5	BJ58
SMBJ58(C)A	58	64.4	74.10	1	93.6	6.4	5	BJ58A

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SMBJ60(C)	60	66.7	84.5	1	107	5.6	5	BJ60
SMBJ60(C)A	60	66.7	76.7	1	96.8	6.2	5	BJ60A
SMBJ64(C)	64	71.1	90.1	1	114	5.3	5	BJ64
SMBJ64(C)A	64	71.1	81.8	1	103	5.8	5	BJ64A
SMBJ70(C)	70	77.8	98.6	1	125	4.8	5	BJ70
SMBJ70(C)A	70	77.8	89.5	1	113	5.3	5	BJ70A
SMBJ75(C)	75	83.3	105.7	1	134	4.5	5	BJ75
SMBJ75(C)A	75	83.3	95.8	1	121	4.9	5	BJ75A
SMBJ78(C)	78	86.7	109.8	1	139	4.3	5	BJ78
SMBJ78(C)A	78	86.7	99.7	1	126	4.7	5	BJ78A
SMBJ85(C)	85	94.4	119.2	1	151	3.9	5	BJ85
SMBJ85(C)A	85	94.4	108.2	1	137	4.4	5	BJ85A
SMBJ90(C)	90	100	126.5	1	160	3.8	5	BJ90
SMBJ90(C)A	90	100	115.5	1	146	4.1	5	BJ90A
SMBJ100(C)	100	111	141.0	1	179	3.4	5	BJ100
SMBJ100(C)A	100	111	128.0	1	162	3.7	5	BJ100A
SMBJ110(C)	110	122	154.5	1	196	3.0	5	BJ110
SMBJ110(C)A	110	122	140.5	1	177	3.4	5	BJ110A
SMBJ120(C)	120	133	169.0	1	214	2.8	5	BJ120
SMBJ120(C)A	120	133	153.0	1	193	3.1	5	BJ120A
SMBJ130(C)	130	144	182.5	1	231	2.6	5	BJ130
SMBJ130(C)A	130	144	165.5	1	209	2.9	5	BJ130A
SMBJ150(C)	150	167	211.5	1	268	2.2	5	BJ150
SMBJ150(C)A	150	167	192.5	1	243	2.5	5	BJ150A
SMBJ160(C)	160	178	226.0	1	287	2.1	5	BJ160
SMBJ160(C)A	160	178	205.0	1	259	2.3	5	BJ160A
SMBJ170(C)	160	189	239.5	1	304	2.0	5	BJ170
SMBJ170(C)A	170	189	217.5	1	275	2.2	5	BJ170A

For Bi-direction type suffix"C"