Working Voltage: 5.0 to 440 V
Peak Pulse Power: 600 W

Features

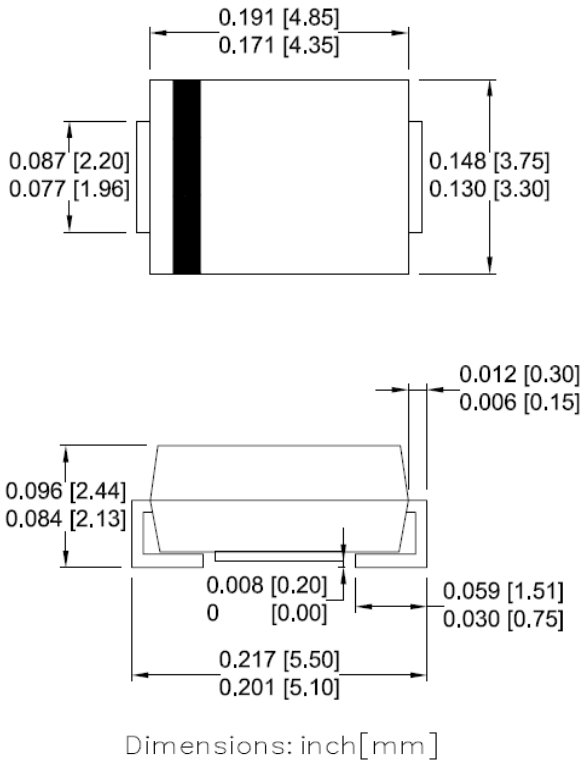
- Glass passivated chip
- 600 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Surface Mount

SMB/ DO-214AA



Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	600	W
Peak pulse current wih a 10/1000μs waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 75 °C	P_D	5.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	I_{FSM}	100	A
Maximum instantaneous forward voltage at 50 A for unidirectional only(3)	V_F	3.5/5.0	V
Operating junction and storage temperature range	T_J, T_{STG}	–55 to +150	°C

Note:

(1)Non-repetitive current pulse per Fig.5 and derated above T_A= 25 °C per Fig.1

(2)Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

(3)V_F<3.5V for devices of V_{BR}<200V and V_F<5.0V for devices of V_{BR}>201V

Ratings and Characteristics Curves (T_A=25℃ unless otherwise noted)

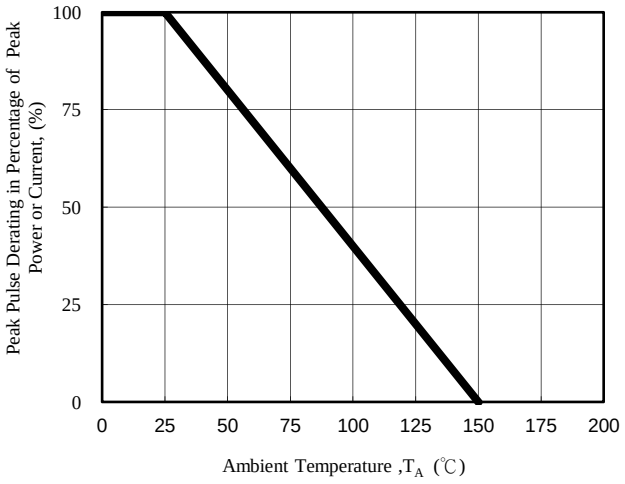


Fig. 1 - Pulse Derating Curve

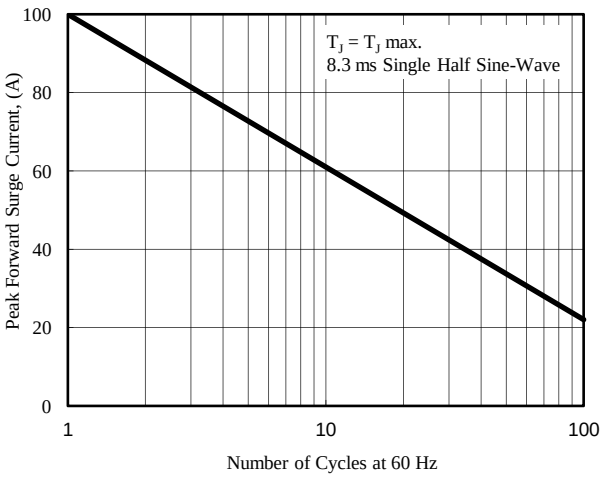


Fig. 2 - Maximum Non-Repetitive Surge Current

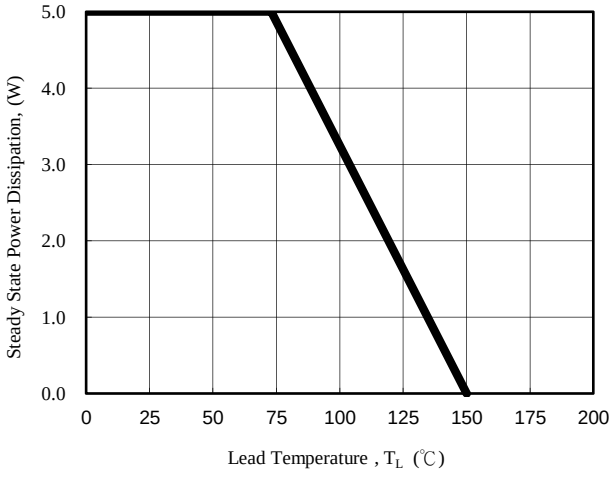


Fig. 3 - Steady State Power Derating Curve

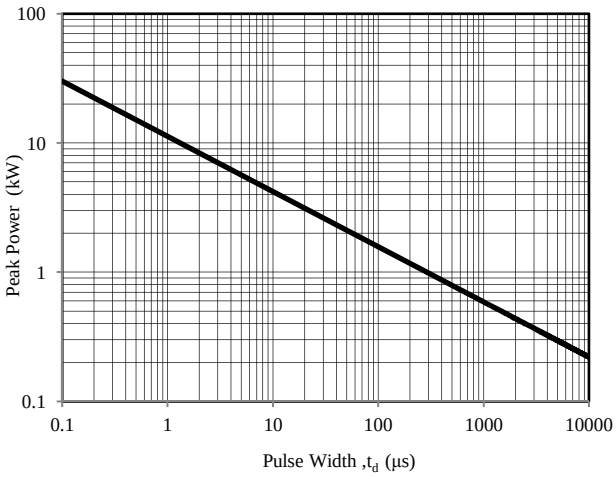


Fig. 4 - Peak Pulse Power Rating Curve

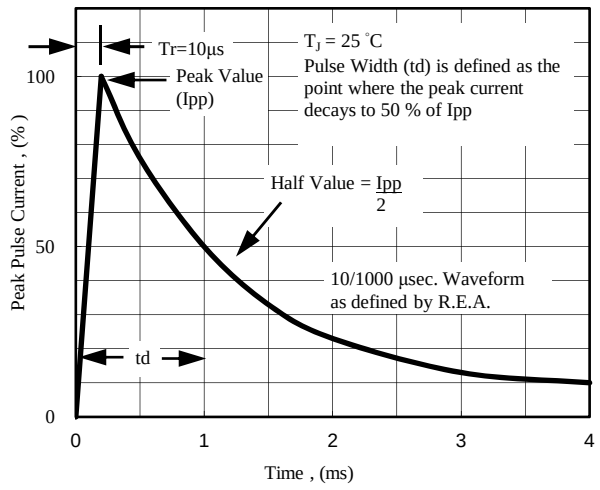


Fig. 5 - Pulse Waveform

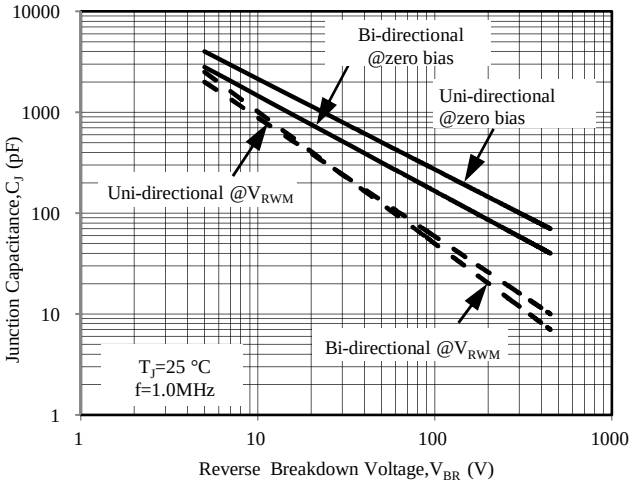


Fig. 6 - Typical Junction Capacitance

Electrical Characteristics(T_A=25℃ 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} (uA)	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)	I_T (mA)				
TSMBJ5.0	TSMBJ5.0C	KD	AD	6.40	7.30	10	800	5.0	62.50	9.6
TSMBJ5.0A	TSMBJ5.0CA	KE	AE	6.40	7.00	10	800	5.0	65.22	9.2
TSMBJ6.0	TSMBJ6.0C	KF	AF	6.67	8.15	10	800	6.0	52.63	11.4
TSMBJ6.0A	TSMBJ6.0CA	KG	AG	6.67	7.37	10	800	6.0	58.25	10.3
TSMBJ6.5	TSMBJ6.5C	KH	AH	7.22	8.82	10	500	6.5	48.78	12.3
TSMBJ6.5A	TSMBJ6.5CA	KK	AK	7.22	7.98	10	500	6.5	53.57	11.2
TSMBJ7.0	TSMBJ7.0C	KL	AL	7.78	9.51	10	200	7.0	45.11	13.3
TSMBJ7.0A	TSMBJ7.0CA	KM	AM	7.78	8.60	10	200	7.0	50.00	12.0
TSMBJ7.5	TSMBJ7.5C	KN	AN	8.33	10.20	1	100	7.5	41.96	14.3
TSMBJ7.5A	TSMBJ7.5CA	KP	AP	8.33	9.21	1	100	7.5	46.51	12.9
TSMBJ8.0	TSMBJ8.0C	KQ	AQ	8.89	10.90	1	50	8.0	40.00	15.0
TSMBJ8.0A	TSMBJ8.0CA	KR	AR	8.89	9.83	1	50	8.0	44.12	13.6
TSMBJ8.5	TSMBJ8.5C	KS	AS	9.44	11.50	1	10	8.5	37.74	15.9
TSMBJ8.5A	TSMBJ8.5CA	KT	AT	9.44	10.40	1	10	8.5	41.67	14.4
TSMBJ9.0	TSMBJ9.0C	KU	AU	10.00	12.20	1	5	9.0	35.50	16.9
TSMBJ9.0A	TSMBJ9.0CA	KV	AV	10.00	11.10	1	5	9.0	38.96	15.4
TSMBJ10	TSMBJ10C	KW	AW	11.10	13.60	1	5	10.0	31.91	18.8
TSMBJ10A	TSMBJ10CA	KX	AX	11.10	12.30	1	5	10.0	35.29	17.0
TSMBJ11	TSMBJ11C	KY	AY	12.20	14.90	1	1	11.0	29.85	20.1
TSMBJ11A	TSMBJ11CA	KZ	AZ	12.20	13.50	1	1	11.0	32.97	18.2
TSMBJ12	TSMBJ12C	LD	BD	13.30	16.30	1	1	12.0	27.27	22.0
TSMBJ12A	TSMBJ12CA	LE	BE	13.30	14.70	1	1	12.0	30.15	19.9
TSMBJ13	TSMBJ13C	LF	BF	14.40	17.60	1	1	13.0	25.21	23.8
TSMBJ13A	TSMBJ13CA	LG	BG	14.40	15.90	1	1	13.0	27.91	21.5
TSMBJ14	TSMBJ14C	LH	BH	15.60	19.10	1	1	14.0	23.26	25.8
TSMBJ14A	TSMBJ14CA	LK	BK	15.60	17.20	1	1	14.0	25.86	23.2
TSMBJ15	TSMBJ15C	LL	BL	16.70	20.40	1	1	15.0	22.30	26.9
TSMBJ15A	TSMBJ15CA	LM	BM	16.70	18.50	1	1	15.0	24.59	24.4
TSMBJ16	TSMBJ16C	LN	BN	17.80	21.80	1	1	16.0	20.83	28.8
TSMBJ16A	TSMBJ16CA	LP	BP	17.80	19.70	1	1	16.0	23.08	26.0
TSMBJ17	TSMBJ17C	LQ	BQ	18.90	23.10	1	1	17.0	19.67	30.5
TSMBJ17A	TSMBJ17CA	LR	BR	18.90	20.90	1	1	17.0	21.74	27.6
TSMBJ18	TSMBJ18C	LS	BS	20.00	24.40	1	1	18.0	18.63	32.2
TSMBJ18A	TSMBJ18CA	LT	BT	20.00	22.10	1	1	18.0	20.55	29.2
TSMBJ19	TSMBJ19C	LA	BA	21.13	25.76	1	1	19.0	17.64	34.0
TSMBJ19A	TSMBJ19CA	LB	BB	21.10	23.30	1	1	19.0	19.49	30.8
TSMBJ20	TSMBJ20C	LU	BU	22.20	27.10	1	1	20.0	16.76	35.8
TSMBJ20A	TSMBJ20CA	LV	BV	22.20	24.50	1	1	20.0	18.52	32.4
TSMBJ22	TSMBJ22C	LW	BW	24.40	29.80	1	1	22.0	15.23	39.4
TSMBJ22A	TSMBJ22CA	LX	BX	24.40	26.90	1	1	22.0	16.90	35.5
TSMBJ24	TSMBJ24C	LY	BY	26.70	32.60	1	1	24.0	13.95	43.0
TSMBJ24A	TSMBJ24CA	LZ	BZ	26.70	29.50	1	1	24.0	15.42	38.9
TSMBJ26	TSMBJ26C	MD	CD	28.90	35.30	1	1	26.0	12.88	46.6
TSMBJ26A	TSMBJ26CA	ME	CE	28.90	31.90	1	1	26.0	14.25	42.1
TSMBJ28	TSMBJ28C	MF	CF	31.10	38.00	1	1	28.0	12.00	50.0
TSMBJ28A	TSMBJ28CA	MG	CG	31.10	34.40	1	1	28.0	13.22	45.4
TSMBJ30	TSMBJ30C	MH	CH	33.30	40.70	1	1	30.0	11.21	53.5
TSMBJ30A	TSMBJ30CA	MK	CK	33.30	36.80	1	1	30.0	12.40	48.4
TSMBJ33	TSMBJ33C	ML	CL	36.70	44.90	1	1	33.0	10.17	59.0
TSMBJ33A	TSMBJ33CA	MM	CM	36.70	40.60	1	1	33.0	11.26	53.3
TSMBJ36	TSMBJ36C	MN	CN	40.00	48.90	1	1	36.0	9.33	64.3
TSMBJ36A	TSMBJ36CA	MP	CP	40.00	44.20	1	1	36.0	10.33	58.1

Note:
1. Suffix 'A ' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device
2. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double

Electrical Characteristics(T_A=25℃ 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} (uA)	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)	I_T (mA)				
TSMBJ40	TSMBJ40C	MQ	CQ	44.40	54.30	1	1	40.0	8.40	71.4
TSMBJ40A	TSMBJ40CA	MR	CR	44.40	49.10	1	1	40.0	9.30	64.5
TSMBJ43	TSMBJ43C	MS	CS	47.80	58.40	1	1	43.0	7.82	76.7
TSMBJ43A	TSMBJ43CA	MT	CT	47.80	52.80	1	1	43.0	8.65	69.4
TSMBJ45	TSMBJ45C	MU	CU	50.00	61.10	1	1	45.0	7.47	80.3
TSMBJ45A	TSMBJ45CA	MV	CV	50.00	55.30	1	1	45.0	8.25	72.7
TSMBJ48	TSMBJ48C	MW	CW	53.30	65.10	1	1	48.0	7.02	85.5
TSMBJ48A	TSMBJ48CA	MX	CX	53.30	58.90	1	1	48.0	7.75	77.4
TSMBJ51	TSMBJ51C	MY	CY	56.70	69.30	1	1	51.0	6.59	91.1
TSMBJ51A	TSMBJ51CA	MZ	CZ	56.70	62.70	1	1	51.0	7.28	82.4
TSMBJ54	TSMBJ54C	ND	DD	60.00	73.30	1	1	54.0	6.23	96.3
TSMBJ54A	TSMBJ54CA	NE	DE	60.00	66.30	1	1	54.0	6.89	87.1
TSMBJ58	TSMBJ58C	NF	DF	64.40	78.70	1	1	58.0	5.83	103.0
TSMBJ58A	TSMBJ58CA	NG	DG	64.40	71.20	1	1	58.0	6.41	93.6
TSMBJ60	TSMBJ60C	NH	DH	66.70	81.50	1	1	60.0	5.61	107.0
TSMBJ60A	TSMBJ60CA	NK	DK	66.70	73.70	1	1	60.0	6.20	96.8
TSMBJ64	TSMBJ64C	NL	DL	71.10	86.90	1	1	64.0	5.26	114.0
TSMBJ64A	TSMBJ64CA	NM	DM	71.10	78.60	1	1	64.0	5.83	103.0
TSMBJ70	TSMBJ70C	NN	DN	77.80	95.10	1	1	70.0	4.80	125.0
TSMBJ70A	TSMBJ70CA	NP	DP	77.80	86.00	1	1	70.0	5.31	113.0
TSMBJ75	TSMBJ75C	NQ	DQ	83.30	102.00	1	1	75.0	4.48	134.0
TSMBJ75A	TSMBJ75CA	NR	DR	83.30	92.10	1	1	75.0	4.96	121.0
TSMBJ78	TSMBJ78C	NS	DS	86.70	106.00	1	1	78.0	4.32	139.0
TSMBJ78A	TSMBJ78CA	NT	DT	86.70	95.80	1	1	78.0	4.76	126.0
TSMBJ80	TSMBJ80C	NA	DA	88.96	108.80	1	1	80.0	4.19	143.2
TSMBJ80A	TSMBJ80CA	NB	DB	88.80	97.60	1	1	80.0	4.63	129.6
TSMBJ85	TSMBJ85C	NU	DU	94.40	115.00	1	1	85.0	3.97	151.0
TSMBJ85A	TSMBJ85CA	NV	DV	94.40	104.00	1	1	85.0	4.38	137.0
TSMBJ90	TSMBJ90C	NW	DW	100.00	122.00	1	1	90.0	3.75	160.0
TSMBJ90A	TSMBJ90CA	NX	DX	100.00	111.00	1	1	90.0	4.11	146.0
TSMBJ100	TSMBJ100C	NY	DY	111.00	136.00	1	1	100.0	3.35	179.0
TSMBJ100A	TSMBJ100CA	NZ	DZ	111.00	123.00	1	1	100.0	3.70	162.0
TSMBJ110	TSMBJ110C	PD	ED	122.00	149.00	1	1	110.0	3.06	196.0
TSMBJ110A	TSMBJ110CA	PE	EE	122.00	135.00	1	1	110.0	3.39	177.0
TSMBJ120	TSMBJ120C	PF	EF	133.00	163.00	1	1	120.0	2.80	214.0
TSMBJ120A	TSMBJ120CA	PG	EG	133.00	147.00	1	1	120.0	3.11	193.0
TSMBJ130	TSMBJ130C	PH	EH	144.00	176.00	1	1	130.0	2.60	231.0
TSMBJ130A	TSMBJ130CA	PK	EK	144.00	159.00	1	1	130.0	2.87	209.0
TSMBJ140	TSMBJ140C	PA	EA	155.68	190.40	1	1	140.0	2.39	250.6
TSMBJ140A	TSMBJ140CA	PB	EB	155.00	171.00	1	1	140.0	2.65	226.8
TSMBJ150	TSMBJ150C	PL	EL	167.00	204.00	1	1	150.0	2.24	268.0
TSMBJ150A	TSMBJ150CA	PM	EM	167.00	185.00	1	1	150.0	2.47	243.0
TSMBJ160	TSMBJ160C	PN	EN	178.00	218.00	1	1	160.0	2.09	287.0
TSMBJ160A	TSMBJ160CA	PP	EP	178.00	197.00	1	1	160.0	2.32	259.0
TSMBJ170	TSMBJ170C	PQ	EQ	189.00	231.00	1	1	170.0	1.97	304.0
TSMBJ170A	TSMBJ170CA	PR	ER	189.00	209.00	1	1	170.0	2.18	275.0
TSMBJ180	TSMBJ180C	PS	ES	200.16	244.80	1	1	180.0	1.86	322.2
TSMBJ180A	TSMBJ180CA	PT	ET	200.00	220.00	1	1	180.0	2.06	291.6
TSMBJ190	TSMBJ190C	PU	EU	211.28	258.40	1	1	190.0	1.76	340.1
TSMBJ190A	TSMBJ190CA	PV	EV	211.00	232.00	1	1	190.0	1.95	307.8
TSMBJ200A	TSMBJ200CA	PW	EW	224.00	247.00	1	1	200.0	1.85	324.0
TSMBJ220A	TSMBJ220CA	PX	EX	246.00	272.00	1	1	220.0	1.69	356.0
TSMBJ250A	TSMBJ250CA	PZ	EZ	279.00	309.00	1	1	250.0	1.48	405.0
TSMBJ300A	TSMBJ300CA	QE	FE	335.00	371.00	1	1	300.0	1.23	486.0
TSMBJ350A	TSMBJ350CA	QG	FG	391.00	432.00	1	1	350.0	1.06	567.0
TSMBJ400A	TSMBJ400CA	QK	FK	447.00	494.00	1	1	400.0	0.93	648.0
TSMBJ440A	TSMBJ440CA	QM	FM	492.00	543.00	1	1	440.0	0.84	713.0