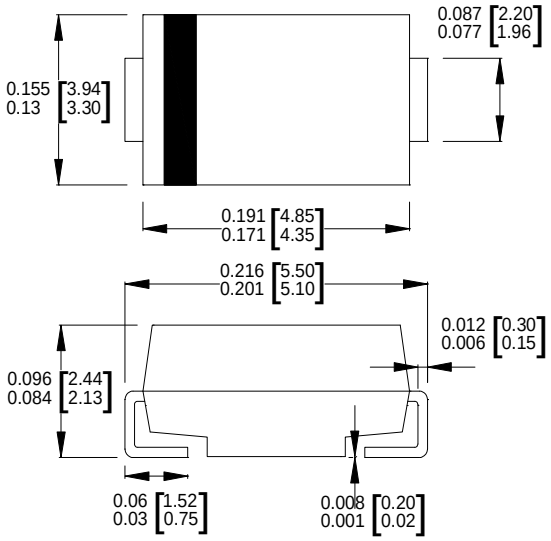
Reverse Voltage: 5.0 to 58 V
Peak Pulse Power: 1000 W

Features

- Glass passivated chip
- 1000 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

Surface Mount

SMB/ DO-214AA



Dimensions : inch [mm]

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

Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	1000	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 25 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}<50V.

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

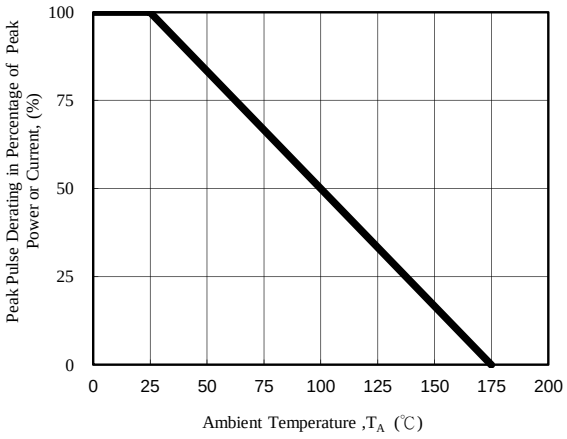


Fig. 1 - Pulse Derating Curve

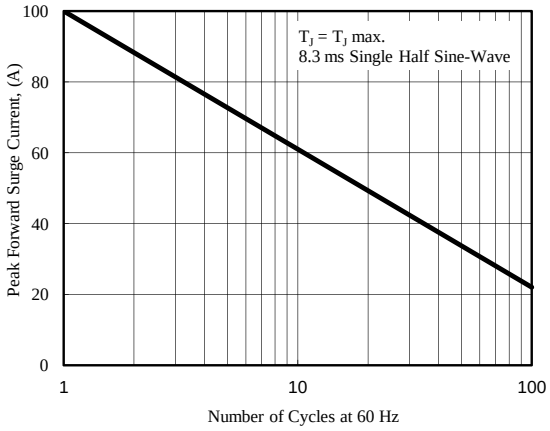


Fig. 2 - Maximum Non-Repetitive Surge Current

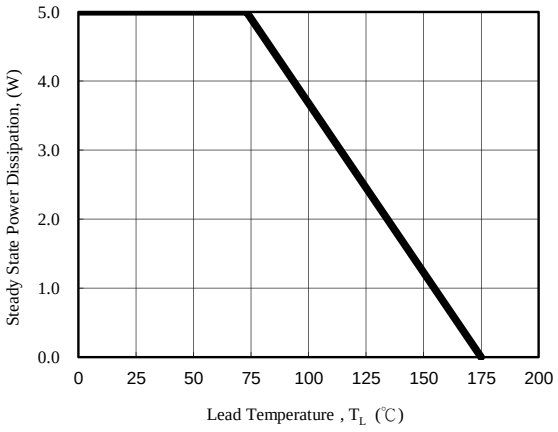


Fig. 3 - Steady State Power Derating Curve

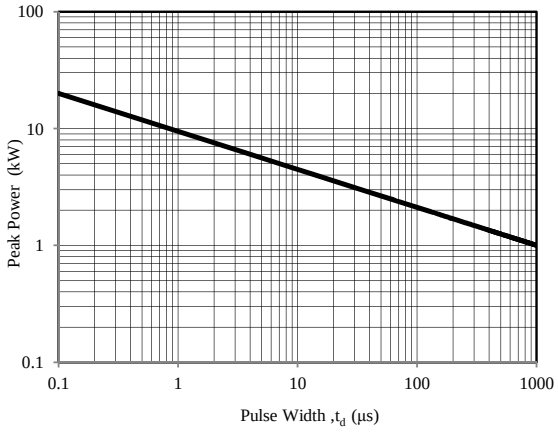


Fig. 4 - Peak Pulse Power Rating Curve

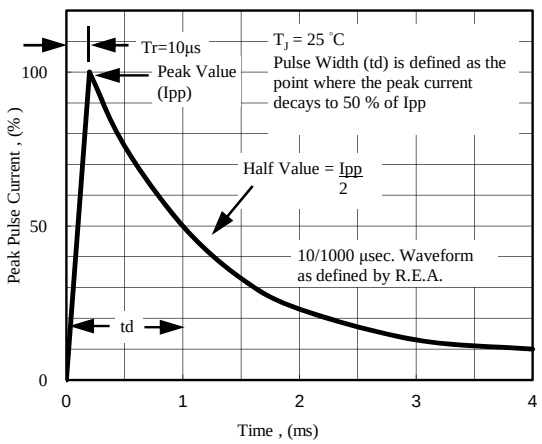


Fig. 5 - Pulse Waveform

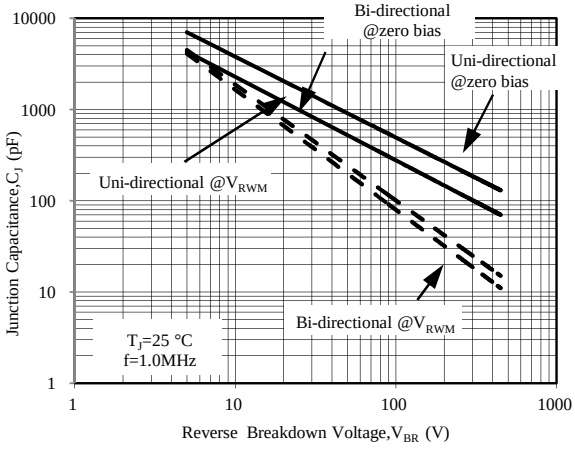


Fig. 6 - Typical Junction Capacitance

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)				
TSMB10J5.0A	TSMB10J5.0CA	AKE	AAE	6.40	7.00	10	800	5.0	108.70	9.2
TSMB10J6.0A	TSMB10J6.0CA	AKG	AAG	6.67	7.37	10	800	6.0	97.09	10.3
TSMB10J6.5A	TSMB10J6.5CA	AKK	AAK	7.22	7.98	10	500	6.5	89.29	11.2
TSMB10J7.0A	TSMB10J7.0CA	AKM	AAM	7.78	8.60	10	200	7.0	83.33	12.0
TSMB10J7.5A	TSMB10J7.5CA	AKP	AAP	8.33	9.21	1	100	7.5	77.52	12.9
TSMB10J8.0A	TSMB10J8.0CA	AKR	AAR	8.89	9.83	1	50	8.0	73.53	13.6
TSMB10J8.5A	TSMB10J8.5CA	AKT	AAT	9.44	10.40	1	10	8.5	69.44	14.4
TSMB10J9.0A	TSMB10J9.0CA	AKV	AAV	10.00	11.10	1	5.0	9.0	64.94	15.4
TSMB10J10A	TSMB10J10CA	AKX	AAX	11.10	12.30	1	5.0	10.0	58.82	17.0
TSMB10J11A	TSMB10J11CA	AKZ	AAZ	12.20	13.50	1	5.0	11.0	54.95	18.2
TSMB10J12A	TSMB10J12CA	ALE	ABE	13.30	14.70	1	5.0	12.0	50.25	19.9
TSMB10J13A	TSMB10J13CA	ALG	ABG	14.40	15.90	1	1.0	13.0	46.51	21.5
TSMB10J14A	TSMB10J14CA	ALK	ABK	15.60	17.20	1	1.0	14.0	43.10	23.2
TSMB10J15A	TSMB10J15CA	ALM	ABM	16.70	18.50	1	1.0	15.0	40.98	24.4
TSMB10J16A	TSMB10J16CA	ALP	ABP	17.80	19.70	1	1.0	16.0	38.46	26.0
TSMB10J17A	TSMB10J17CA	ALR	ABR	18.90	20.90	1	1.0	17.0	36.23	27.6
TSMB10J18A	TSMB10J18CA	ALT	ABT	20.00	22.10	1	1.0	18.0	34.25	29.2
TSMB10J19A	TSMB10J19CA	ALB	ABB	21.10	23.30	1	1.0	19.0	32.49	30.8
TSMB10J20A	TSMB10J20CA	ALV	ABV	22.20	24.50	1	1.0	20.0	30.86	32.4
TSMB10J22A	TSMB10J22CA	ALX	ABX	24.40	26.90	1	1.0	22.0	28.17	35.5
TSMB10J24A	TSMB10J24CA	ALZ	ABZ	26.70	29.50	1	1.0	24.0	25.71	38.9
TSMB10J26A	TSMB10J26CA	AME	ACE	28.90	31.90	1	1.0	26.0	23.75	42.1
TSMB10J28A	TSMB10J28CA	AMG	ACG	31.10	34.40	1	1.0	28.0	22.03	45.4
TSMB10J30A	TSMB10J30CA	AMK	ACK	33.30	36.80	1	1.0	30.0	20.66	48.4
TSMB10J33A	TSMB10J33CA	AMM	ACM	36.70	40.60	1	1.0	33.0	18.76	53.3
TSMB10J36A	TSMB10J36CA	AMP	ACP	40.00	44.20	1	1.0	36.0	17.21	58.1
TSMB10J40A	TSMB10J40CA	AMR	ACR	44.40	49.10	1	1.0	40.0	15.50	64.5
TSMB10J43A	TSMB10J43CA	AMT	ACT	47.80	52.80	1	1.0	43.0	14.41	69.4
TSMB10J45A	TSMB10J45CA	AMV	ACV	50.00	55.30	1	1.0	45.0	13.76	72.7
TSMB10J48A	TSMB10J48CA	AMX	ACX	53.30	58.90	1	1.0	48.0	12.92	77.4
TSMB10J51A	TSMB10J51CA	AMZ	ACZ	56.70	62.70	1	1.0	51.0	12.14	82.4
TSMB10J54A	TSMB10J54CA	ANE	ADE	60.00	66.30	1	1.0	54.0	11.48	87.1
TSMB10J58A	TSMB10J58CA	ANG	ADG	64.40	71.20	1	1.0	58.0	10.68	93.6

Note:

1. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices
2. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double