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TPSMBJ Series

Surface Mount Transient Voltage Suppressors

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Features

- P_{PP} 600W
- V_{RWM} 5.0V- 440V
- Glass passivated chip

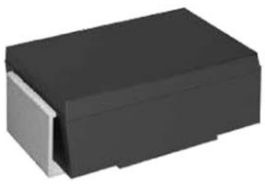
Applications

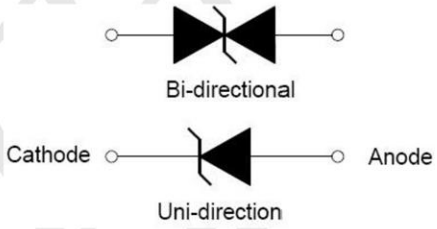
- Clamping Voltage

Package	Packing Description	Packing Quantity
SMB	Tape/Reel,13" reel	3000

Dimensions and Pin Configuration

SMB





Maximum Ratings & Thermal Characteristics

(Ratings at 25℃ ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1)	P_{PPM}	Min 600	W
Power Dissipation on Infinite Heat Sink at T_L=50°C	P_D	5	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	I_{PPM}	See Table 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave (Note 2. 3)	I_{FSM}	100	A
Operating Junction Temperature Range	T_J	-55 to 150	°C
Storage Temperature Range	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 5.0x5.0mm^2 (0.03mm thick) Copper Pads to each terminal.
3. Measured on 8.3ms single half sine-wave, or equivalent square wave, for Unidirectional device only.

Part Number		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP}①
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
TPSMBJ5.0A	TPSMBJ5.0CA	5.0	120	6.40	7.00	10	9.2	65.2
TPSMBJ6.0A	TPSMBJ6.0CA	6.0	120	6.67	7.37	10	10.3	58.3
TPSMBJ6.5A	TPSMBJ6.5CA	6.5	120	7.22	7.98	10	11.2	53.6
TPSMBJ7.0A	TPSMBJ7.0CA	7.0	50	7.78	8.60	10	12.0	50.0
TPSMBJ7.5A	TPSMBJ7.5CA	7.5	50	8.33	9.21	1	12.9	46.5
TPSMBJ8.0A	TPSMBJ8.0CA	8.0	20	8.89	9.83	1	13.6	44.1
TPSMBJ8.5A	TPSMBJ8.5CA	8.5	10	9.44	10.40	1	14.4	41.7
TPSMBJ9.0A	TPSMBJ9.0CA	9.0	5	10.00	11.10	1	15.4	39.0
TPSMBJ10A	TPSMBJ10CA	10	2	11.10	12.30	1	17.0	35.3
TPSMBJ11A	TPSMBJ11CA	11	1	12.20	13.50	1	18.2	33.0
TPSMBJ12A	TPSMBJ12CA	12	1	13.30	14.70	1	19.9	30.2
TPSMBJ13A	TPSMBJ13CA	13	1	14.40	15.90	1	21.5	27.9
TPSMBJ14A	TPSMBJ14CA	14	1	15.60	17.20	1	23.2	25.9
TPSMBJ15A	TPSMBJ15CA	15	1	16.70	18.50	1	24.4	24.6
TPSMBJ16A	TPSMBJ16CA	16	1	17.80	19.70	1	26.0	23.1
TPSMBJ17A	TPSMBJ17CA	17	1	18.90	20.90	1	27.6	21.8
TPSMBJ18A	TPSMBJ18CA	18	1	20.00	22.10	1	29.2	20.6
TPSMBJ20A	TPSMBJ20CA	20	1	22.20	24.50	1	32.4	18.6
TPSMBJ22A	TPSMBJ22CA	22	1	24.40	26.90	1	35.5	16.9
TPSMBJ24A	TPSMBJ24CA	24	1	26.70	29.50	1	38.9	15.4
TPSMBJ26A	TPSMBJ26CA	26	1	28.90	31.90	1	42.1	14.3
TPSMBJ28A	TPSMBJ28CA	28	1	31.10	34.40	1	45.4	13.2
TPSMBJ30A	TPSMBJ30CA	30	1	33.30	36.80	1	48.4	12.4

Part Number		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP} ①
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
TPSMBJ33A	TPSMBJ33CA	33	1	36.70	40.60	1	53.3	11.3
TPSMBJ36A	TPSMBJ36CA	36	1	40.00	44.20	1	58.1	10.4
TPSMBJ40A	TPSMBJ40CA	40	1	44.40	49.10	1	64.5	9.3
TPSMBJ43A	TPSMBJ43CA	43	1	47.80	52.80	1	69.4	8.7
TPSMBJ45A	TPSMBJ45CA	45	1	50.00	55.30	1	72.7	8.3
TPSMBJ48A	TPSMBJ48CA	48	1	53.30	58.90	1	77.4	7.8
TPSMBJ51A	TPSMBJ51CA	51	1	56.70	62.70	1	82.4	7.3
TPSMBJ54A	TPSMBJ54CA	54	1	60.00	66.30	1	87.1	6.9
TPSMBJ58A	TPSMBJ58CA	58	1	64.40	71.20	1	93.6	6.4
TPSMBJ60A	TPSMBJ60CA	60	1	66.70	73.70	1	96.8	6.2
TPSMBJ64A	TPSMBJ64CA	64	1	71.10	78.60	1	103.0	5.8
TPSMBJ70A	TPSMBJ70CA	70	1	77.80	86.00	1	113.0	5.3
TPSMBJ75A	TPSMBJ75CA	75	1	83.30	92.10	1	121.0	5.0
TPSMBJ78A	TPSMBJ78CA	78	1	86.70	95.80	1	126.0	4.8
TPSMBJ85A	TPSMBJ85CA	85	1	94.40	104.0	1	137.0	4.4
TPSMBJ90A	TPSMBJ90CA	90	1	100.0	111.0	1	146.0	4.1
TPSMBJ100A	TPSMBJ100CA	100	1	111.0	123.0	1	162.0	3.7
TPSMBJ110A	TPSMBJ110CA	110	1	122.0	135.0	1	177.0	3.4
TPSMBJ120A	TPSMBJ120CA	120	1	133.0	147.0	1	193.0	3.1
TPSMBJ130A	TPSMBJ130CA	130	1	144.0	159.0	1	209.0	2.9
TPSMBJ150A	TPSMBJ150CA	150	1	167.0	185.0	1	243.0	2.5
TPSMBJ160A	TPSMBJ160CA	160	1	178.0	197.0	1	259.0	2.3
TPSMBJ170A	TPSMBJ170CA	170	1	189.0	209.0	1	275.0	2.2
TPSMBJ180A	TPSMBJ180CA	180	1	201.0	222.0	1	292.0	2.1
TPSMBJ190A	TPSMBJ190CA	190	1	211.0	234.0	1	307.0	2.0
TPSMBJ200A	TPSMBJ200CA	200	1	224.0	247.0	1	324.0	1.9
TPSMBJ210A	TPSMBJ210CA	210	1	233.0	258.0	1	337.0	1.8
TPSMBJ220A	TPSMBJ220CA	220	1	246.0	272.0	1	356.0	1.7
TPSMBJ250A	TPSMBJ250CA	250	1	279.0	309.0	1	405.0	1.5
TPSMBJ300A	TPSMBJ300CA	300	1	335.0	371.0	1	486.0	1.3

Part Number		V_R	I_R@V_R	V_{BR}@I_T		I_T	V_C@I_{PP}	I_{PP} ①
Uni-Polar	Bi-Polar	V	μA	min(V)	max(V)	mA	max(V)	A
TPSMBJ350A	TPSMBJ350CA	350	1	391.0	432.0	1	567.0	1.1
TPSMBJ400A	TPSMBJ400CA	400	1	447.0	494.0	1	648.0	0.9
TPSMBJ440A	TPSMBJ440CA	440	1	492.0	543.0	1	713.0	0.8

Typical Performance Characteristics (T_A=25℃ unless otherwise Specified)

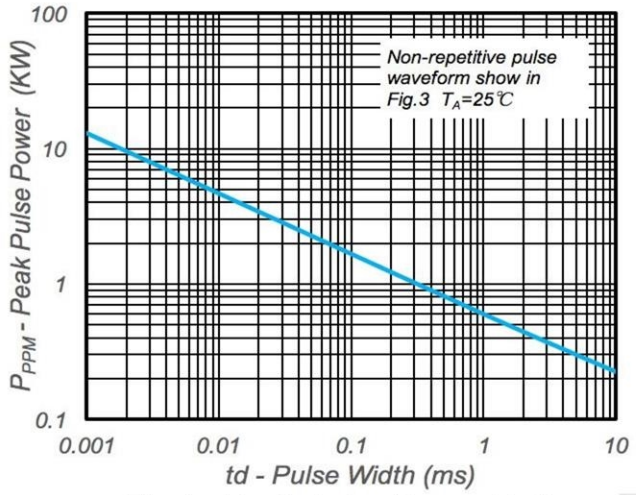


Fig.1 - Peak Pulse Power Rating

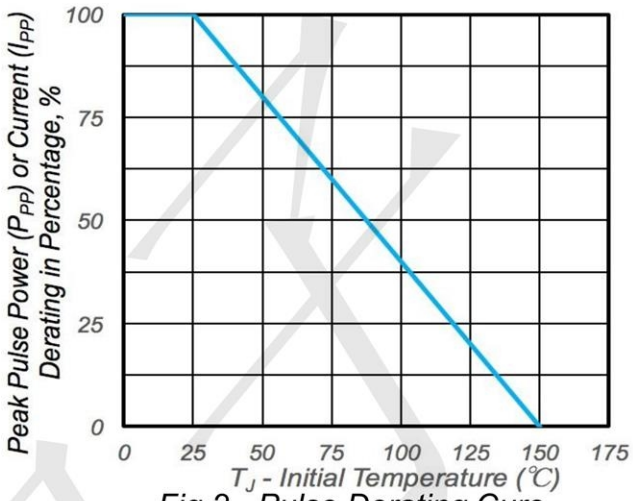


Fig.2 - Pulse Derating Cure

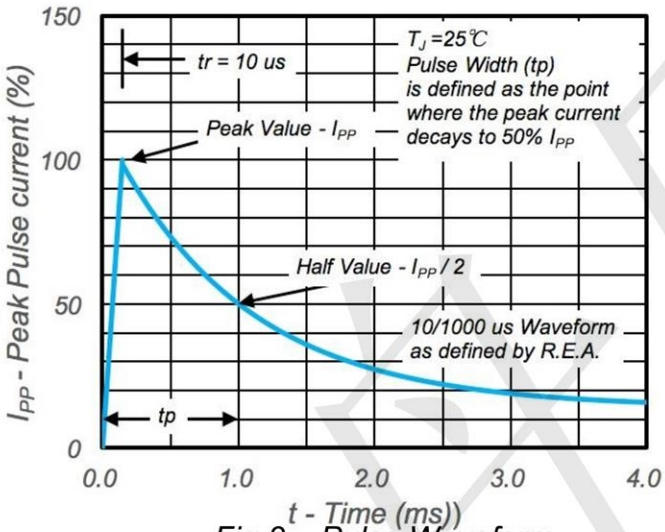


Fig.3 – Pulse Waveform

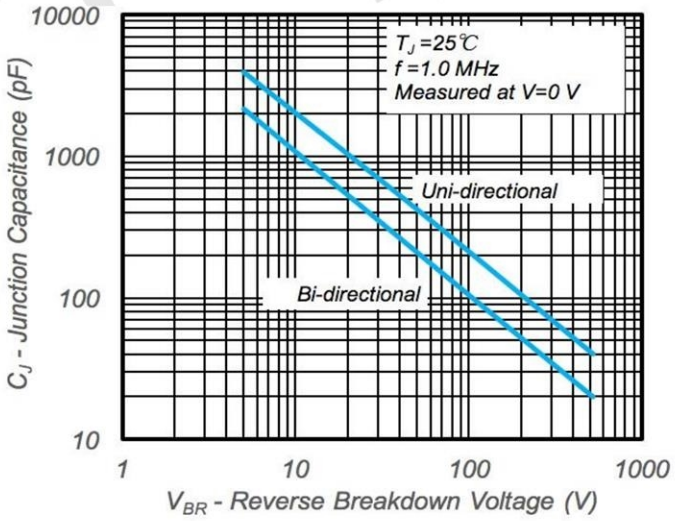
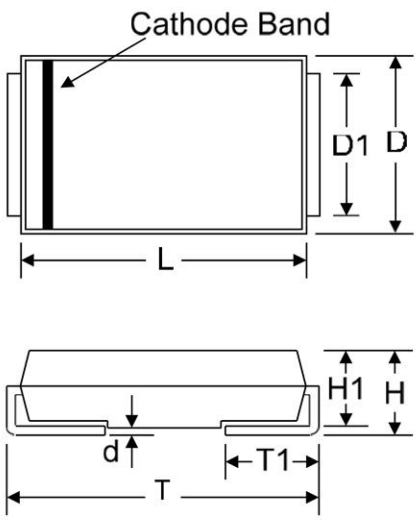


Fig.4 - Typical Junction Capacitance

Package Outline Dimensions: SMB(DO-214AA)



Dim	Millimeters		Inches	
	Min	Max	Min	Max
L	4.4	4.6	0.173	0.181
D	3.5	3.7	0.138	0.146
D1	1.9	2.1	0.075	0.083
T	5.1	5.48	0.201	0.216
T1	1.0	1.6	0.039	0.063
d	-	0.2	-	0.008
H	2.2	2.45	0.087	0.096
H1	2.15	2.35	0.085	0.093