

Transient Voltage Suppressors 1000W SMB AEC-Q101

1.0SMB-A Series

MERITEK

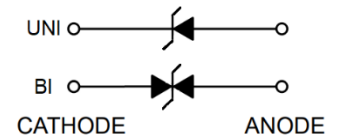
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{kV}$ (Air), $\pm 30\text{kV}$ (Contact)
- 1000W Peak Pulse Power (10/1000 μs Waveform), Repetition Rate: 0.01%
- 5.8V to 58.1V Standoff Voltage
- Excellent Clamping Capability, Low Inductance
- Glass Passivated Junction
- UL Flammability Classification Rating: 94V-0
- UL Safety Approved Certification No: E223045
- AEC-Q101 Qualified



MECHANICAL DATA

- Case: DO-214AA (SMB), Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Cathode End Except Bipolar



MAXIMUM RATINGS

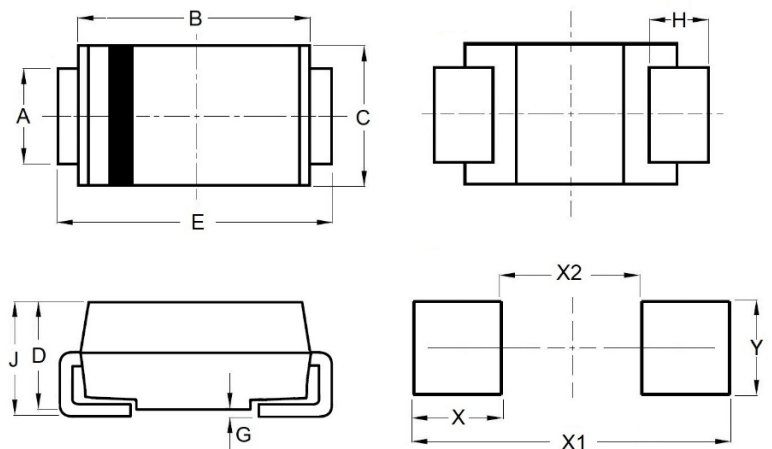
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 μs waveform	P_{PPM}	Minimum 1000	W
Peak Pulse Current on 10/1000 μs waveform	I_{PPM}	See Table	A
Steady State Power Dissipation at $T_A = 50^\circ\text{C}$	$P_{M(AV)}$	5.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	100	A
Operating Junction And Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	$^\circ\text{C/W}$

Note:

1. $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.
2. Non-repetitive current pulse, and derate above $T_A = 25^\circ\text{C}$.
3. Mounted on 5X5mm (0.03mm thick) copper pads to each terminal.
4. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minute maximum.

DIMENSIONS

DO-214AA	Min (mm)	Max (mm)
A	1.95	2.20
B	4.06	4.57
C	3.30	3.94
D	2.13	2.47
E	5.21	5.59
G	--	0.203
H	0.76	1.52
J	2.15	2.65
X	2.29	
X1	6.34	
X2	1.76	
Y	2.72	



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ELECTRICAL CHARACTERISTICS

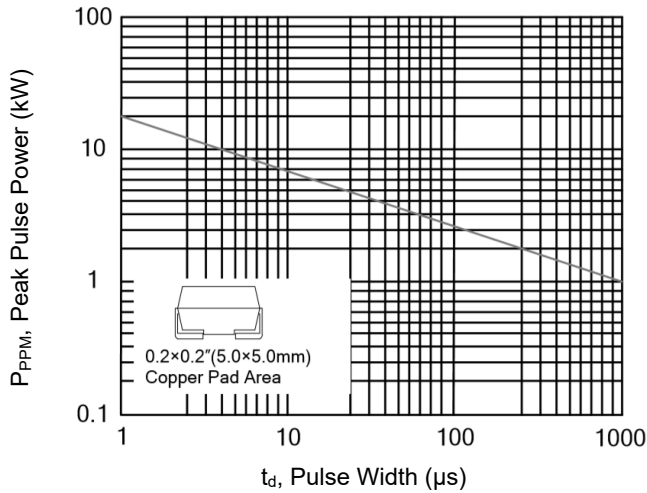
Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current	Max Clamping Voltage	Reverse Surge Current
Uni-Polar	Bi-Polar	V_{RWM} (V)	V_{BR} Min(V)	V_{BR} Max(V)	I_T (mA)	I_R (uA) @ V_{RWM}	V_C (V) @ I_{PP}	I_{PP} (A) Max
1.0SMB6.8A-A	1.0SMB6.8CA-A	5.80	6.45	7.14	10	1000	10.5	96.8
1.0SMB7.5A-A	1.0SMB7.5CA-A	6.40	7.13	7.88	10	500	11.3	90.0
1.0SMB8.2A-A	1.0SMB8.2CA-A	7.02	7.79	8.61	10	200	12.1	84.0
1.0SMB9.1A-A	1.0SMB9.1CA-A	7.78	8.65	9.55	1	50	13.4	75.8
1.0SMB10A-A	1.0SMB10CA-A	8.55	9.50	10.5	1	10	14.5	70.2
1.0SMB11A-A	1.0SMB11CA-A	9.40	10.5	11.6	1	5	15.6	65.2
1.0SMB12A-A	1.0SMB12CA-A	10.2	11.4	12.6	1	5	16.7	60.8
1.0SMB13A-A	1.0SMB13CA-A	11.1	12.4	13.7	1	1	18.2	55.8
1.0SMB15A-A	1.0SMB15CA-A	12.8	14.3	15.8	1	1	21.2	48.0
1.0SMB16A-A	1.0SMB16CA-A	13.6	15.2	16.8	1	1	22.5	45.2
1.0SMB18A-A	1.0SMB18CA-A	15.3	17.1	18.9	1	1	25.5	40.3
1.0SMB20A-A	1.0SMB20CA-A	17.1	19.0	21.0	1	1	27.7	36.7
1.0SMB22A-A	1.0SMB22CA-A	18.8	20.9	23.1	1	1	30.6	33.2
1.0SMB24A-A	1.0SMB24CA-A	20.5	22.8	25.2	1	1	33.2	30.7
1.0SMB27A-A	1.0SMB27CA-A	23.1	25.7	28.4	1	1	37.5	27.2
1.0SMB30A-A	1.0SMB30CA-A	25.6	28.5	31.5	1	1	41.4	24.5
1.0SMB33A-A	1.0SMB33CA-A	28.2	31.4	34.7	1	1	45.7	22.2
1.0SMB36A-A	1.0SMB36CA-A	30.8	34.2	37.8	1	1	49.9	20.3
1.0SMB39A-A	1.0SMB39CA-A	33.3	37.1	41.0	1	1	53.9	18.8
1.0SMB43A-A	1.0SMB43CA-A	36.8	40.9	45.2	1	1	59.3	17.2
1.0SMB47A-A	1.0SMB47CA-A	40.2	44.7	49.4	1	1	64.8	15.7
1.0SMB51A-A	1.0SMB51CA-A	43.6	48.5	53.6	1	1	70.1	14.5
1.0SMB56A-A	1.0SMB56CA-A	47.8	53.2	58.8	1	1	77	13.2
1.0SMB62A-A	1.0SMB62CA-A	53.0	58.9	65.1	1	1	85	12.0
1.0SMB68A-A	1.0SMB68CA-A	58.1	64.6	71.4	1	1	92	11.0

Note:

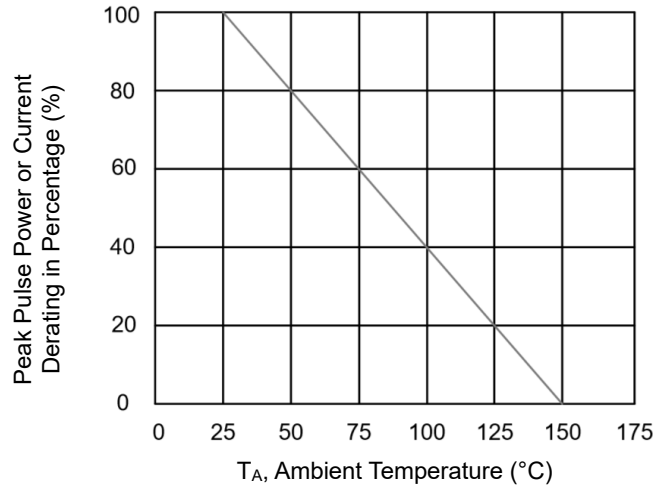
1. $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.
2. For Bi-Directional devices having V_{RWM} of 10V and under, the I_R limit is double.

CHARACTERISTIC CURVES

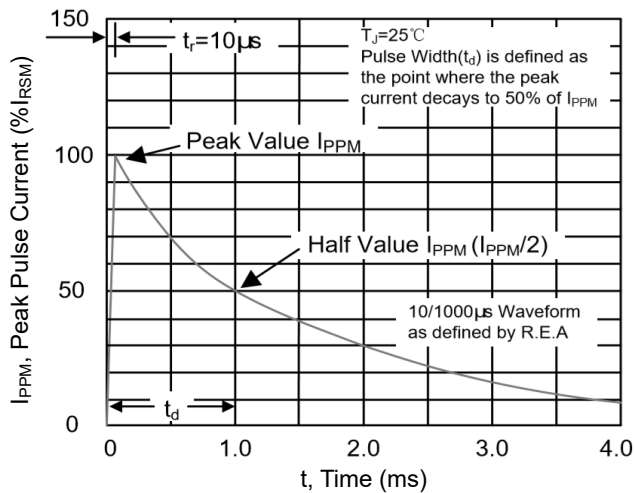
Peak Pulse Power Rating Curve



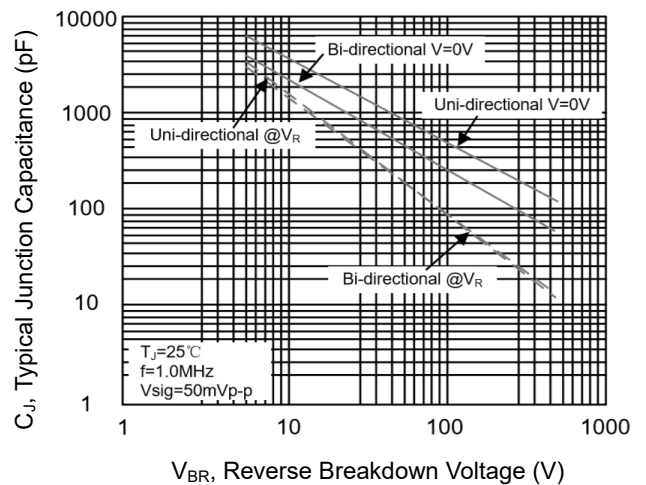
Pulse Derating Curve



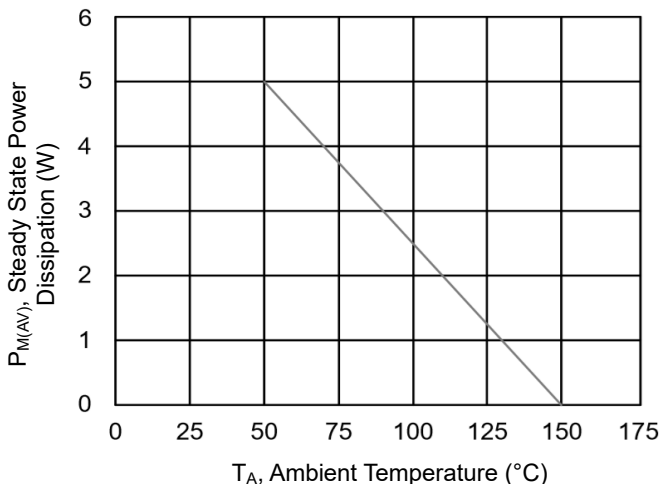
Pulse Waveform



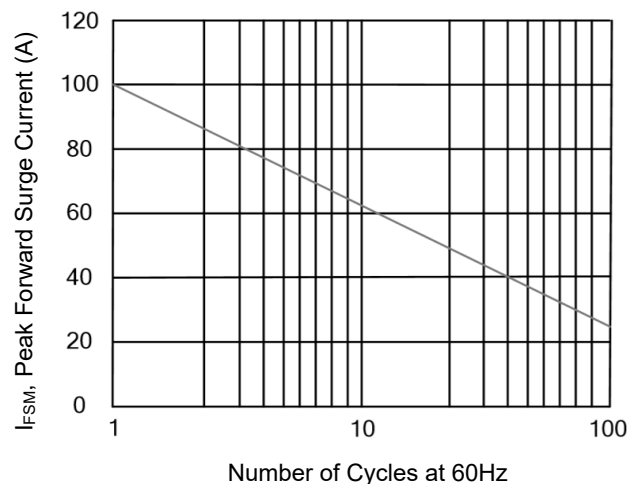
Typical Junction Capacitance



Steady State Power Dissipation Derating Curve



Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



*Specifications subject to change without notice.