

# Transient Voltage Suppressors 1000W DO-214AA

1.0SMB Series

MERITEK

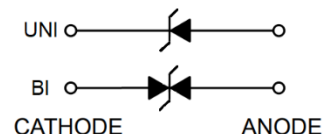
## FEATURE

- 1000W Peak Pulse Power (10/1000 $\mu$ s), Repetitive Rate: 0.01%
- 5.8V to 64.1V Breakdown Voltage
- Excellent Clamping Capability, Low Leakage
- Glass Passivated Junction
- UL Flammability Classification Rating: 94V-0
- UL Safety Approved Certification No: E223045



## 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



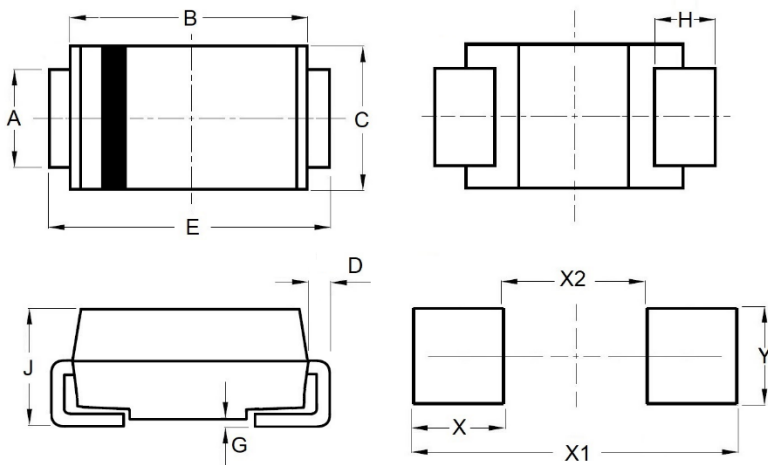
Parameter	Symbol	Value	Unit
Peak Power Dissipation on 10/1000 $\mu$ s Waveform	$P_{PP}$	1000	W
Peak Pulse Current on 10/1000 $\mu$ s Waveform	$I_{PP}$	See Next Table	A
Power Dissipation on Infinite Heat Sink at $T_L = 75^\circ\text{C}$	$P_D$	5.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Unidirectional Only	$I_{FSM}$	100	A
Maximum Instantaneous Forward Voltage at 50A, For Unidirectional Only	$V_F$	3.5/5.0	V
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

Note:

1.  $T_A = 25^\circ\text{C}$  ambient temperature unless otherwise specified.
2. Non-repetitive current pulse, and derated above  $T_A = 25^\circ\text{C}$ .
3. Measured on 8.3ms single half sine-wave or equivalent square wave, Duty cycle = 4 pulses per minute maximum.
4.  $V_F < 3.5\text{V}$  for devices of  $V_{BR} < 50\text{V}$ .

## DIMENSIONS

DO-214AA(SMB)	Min (mm)	Max (mm)
A	1.96	2.20
B	4.35	4.85
C	3.30	3.75
D	0.15	0.30
E	5.10	5.50
G	-	0.20
H	0.75	1.51
J	2.13	2.44
X	2.29	
X1	6.34	
X2	1.76	
Y	2.72	



### ELECTRICAL CHARACTERISTICS

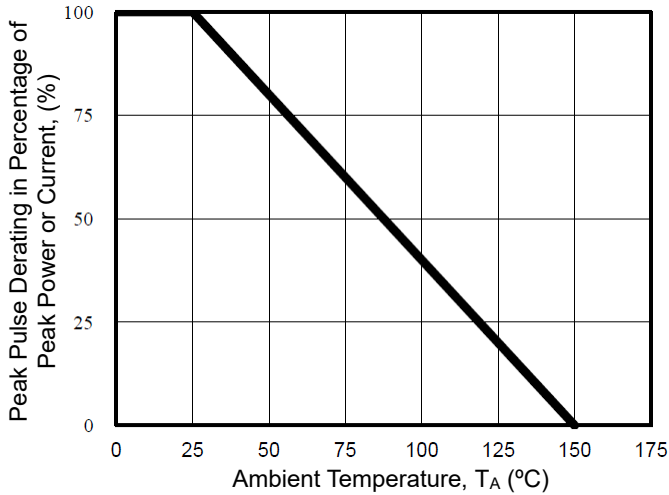
Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current	Maximum Clamping Voltage	Reverse Surge Current
Uni-Polar	Bi-Polar	V <sub>RWM</sub> (V)	V <sub>BR</sub> Min(V)	V <sub>BR</sub> Max(V)	I <sub>T</sub> (mA)	I <sub>R</sub> (μA) at V <sub>RWM</sub>	V <sub>C</sub> (V) @ I <sub>PP</sub>	I <sub>PP</sub> (A) Max
1.0SMB6.8A	1.0SMB6.8CA	5.8	6.46	7.14	10	900	10.5	95.2
1.0SMB7.5A	1.0SMB7.5CA	6.4	7.13	7.88	10	400	11.3	88.5
1.0SMB8.2A	1.0SMB8.2CA	7.0	7.79	8.61	10	180	12.1	82.6
1.0SMB9.1A	1.0SMB9.1CA	7.8	8.65	9.56	1	45	13.4	74.6
1.0SMB10A	1.0SMB10CA	8.6	9.50	10.50	1	8	14.5	69.0
1.0SMB11A	1.0SMB11CA	9.4	10.45	11.55	1	4	15.6	64.1
1.0SMB12A	1.0SMB12CA	10.2	11.40	12.60	1	1	16.7	59.9
1.0SMB13A	1.0SMB13CA	11.1	12.35	13.65	1	1	18.2	54.9
1.0SMB15A	1.0SMB15CA	12.8	14.25	15.75	1	1	21.2	47.2
1.0SMB16A	1.0SMB16CA	13.6	15.20	16.80	1	1	22.5	44.4
1.0SMB18A	1.0SMB18CA	15.3	17.10	18.90	1	1	25.2	39.7
1.0SMB20A	1.0SMB20CA	17.1	19.00	21.00	1	1	27.7	36.1
1.0SMB22A	1.0SMB22CA	18.8	20.90	23.10	1	1	30.6	32.7
1.0SMB24A	1.0SMB24CA	20.5	22.80	25.20	1	1	33.2	30.1
1.0SMB27A	1.0SMB27CA	23.1	25.65	28.35	1	1	37.5	26.7
1.0SMB30A	1.0SMB30CA	25.6	28.50	31.50	1	1	41.4	24.2
1.0SMB33A	1.0SMB33CA	28.2	31.35	34.65	1	1	45.7	21.9
1.0SMB36A	1.0SMB36CA	30.8	34.20	37.80	1	1	49.9	20.0
1.0SMB39A	1.0SMB39CA	33.3	37.05	40.95	1	1	53.9	18.6
1.0SMB43A	1.0SMB43CA	36.8	40.85	45.15	1	1	59.3	16.9
1.0SMB47A	1.0SMB47CA	40.2	44.65	49.35	1	1	64.8	15.4
1.0SMB51A	1.0SMB51CA	43.6	48.45	53.55	1	1	70.1	14.3
1.0SMB56A	1.0SMB56CA	47.8	53.20	58.80	1	1	77.0	13.0
1.0SMB62A	1.0SMB62CA	53.0	58.90	65.10	1	1	85.0	11.8
1.0SMB68A	1.0SMB68CA	58.1	64.60	71.40	1	1	92.0	10.9
1.0SMB75A	1.0SMB75CA	64.1	71.25	78.75	1	1	103.0	9.7

Note:

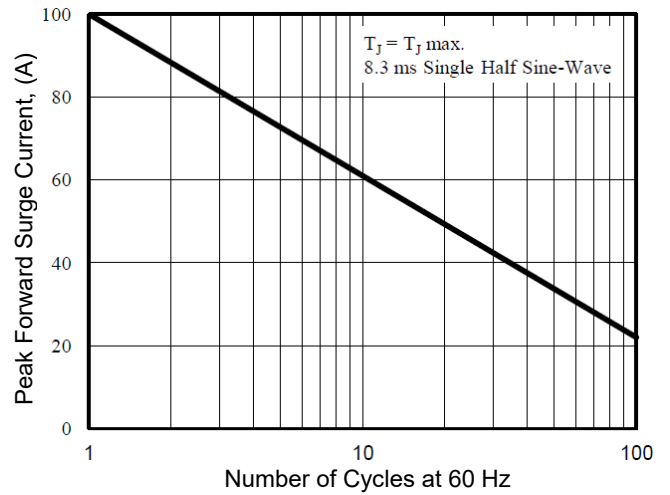
1. T<sub>A</sub> = 25°C ambient temperature unless otherwise specified.
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices.
3. For Bi-directional devices having V<sub>R</sub> of 10 volts and under, the I<sub>R</sub> limit is double.

## CHARACTERISTIC CURVES

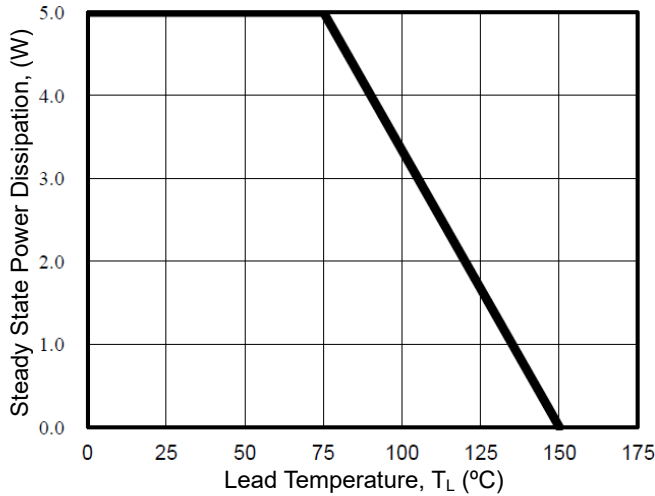
Pulse Derating Curve



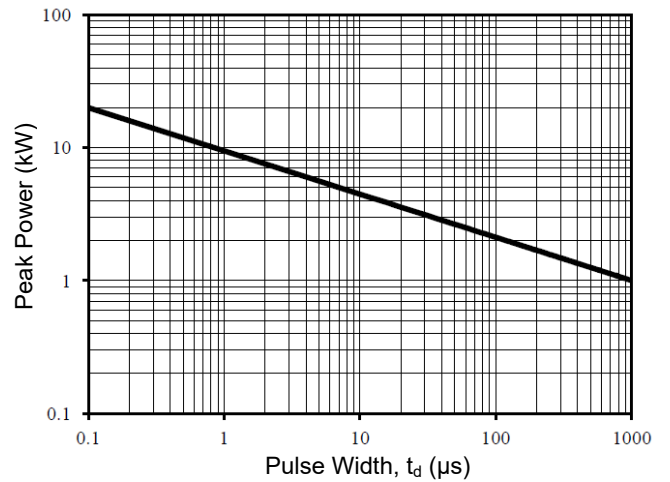
Maximum Non-Repetitive Surge Current



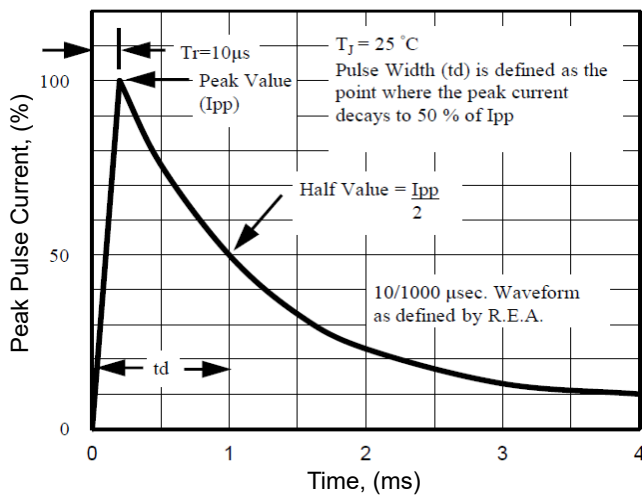
Steady State Power Derating Curve



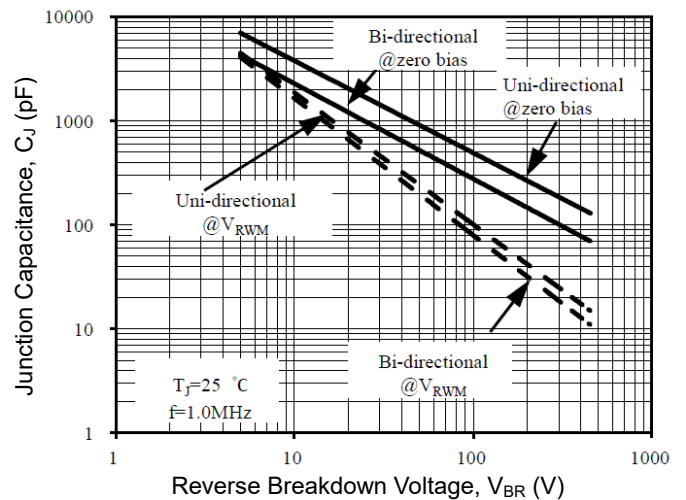
Peak Pulse Power Rating Curve



Pulse Waveform



Typical Junction Capacitance



\*Specifications subject to change without notice.