

Transient Voltage Suppressors 5000W DO-214AB AEC-Q101

5.0SMDJ-A series

MERITEK

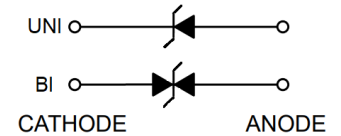
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{kv}$ (Air), $\pm 30\text{kv}$ (Contact)
- 5000W Peak Pulse Power (10/1000 μs Waveform), Repetitive Rate:0.01%
- 11V to 170V Standoff Voltage
- Excellent Clamping Capability, Fast Response Time
- Glass Passivated Junction
- UL Flammability Classification Rating 94V-0
- UL Safety Approved Certification No: E223045
- AEC-Q101 Qualified



MECHANICAL DATA

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



MAXIMUM RATINGS

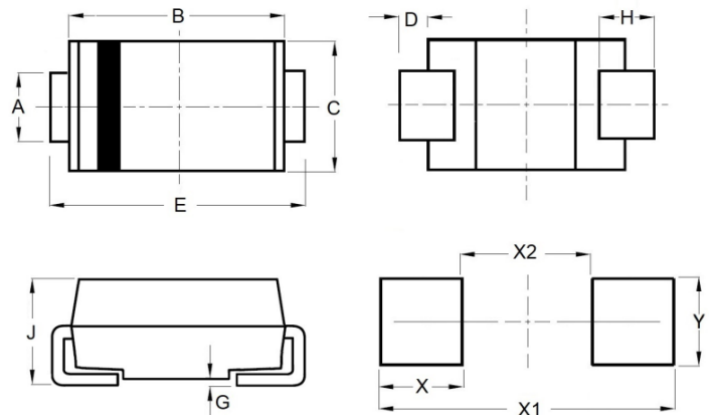
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation On 10/1000 μs Waveform	P_{PPM}	5000	W
Peak Pulse Current On 10/1000 μs Waveform	I_{PPM}	See Table	A
Power Dissipation on infinite Heatsink at $T_L = 50^\circ\text{C}$	P_D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	300	A
Operating Junction And Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	15	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	75	$^\circ\text{C/W}$

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 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minute maximum.
4. Mounted on 8X8mm copper pads to each terminal

DIMENSIONS

DO-214AB	Min (mm)	Max (mm)
A	2.90	3.20
B	6.60	7.11
C	5.59	6.22
D	0.15	0.30
E	7.75	8.13
G	--	0.203
H	0.76	1.52
J	2.20	2.80
X	3.03	
X1	9.90	
X2	3.84	
Y	3.82	



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ELECTRICAL CHARACTERISTICS

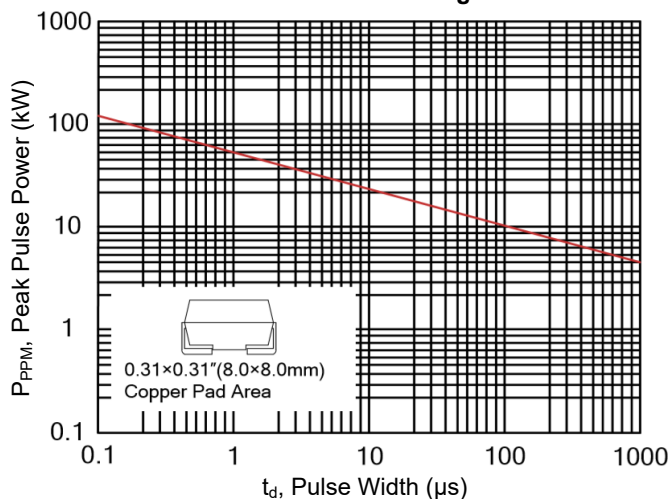
Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current	Max Clamping Voltage	Reverse Surge Current
Uni-Polar	Bi-Polar	V_{RWM} (V)	V_{BR} (V) Min	V_{BR} (V) Max	I_T (mA)	I_R (uA) @ V_{RWM}	V_C (V) @ I_{PP}	I_{PP} (A) Max
5.0SMDJ11A-A	5.0SMDJ11CA-A	11	12.2	13.5	10	800	18.2	275
5.0SMDJ12A-A	5.0SMDJ12CA-A	12	13.3	14.7	10	800	19.9	252
5.0SMDJ13A-A	5.0SMDJ13CA-A	13	14.4	15.9	10	500	21.5	233
5.0SMDJ14A-A	5.0SMDJ14CA-A	14	15.6	17.2	10	200	23.2	216
5.0SMDJ15A-A	5.0SMDJ15CA-A	15	16.7	18.5	1	100	24.4	205
5.0SMDJ16A-A	5.0SMDJ16CA-A	16	17.8	19.7	1	50	26	193
5.0SMDJ17A-A	5.0SMDJ17CA-A	17	18.9	20.9	1	20	27.6	181
5.0SMDJ18A-A	5.0SMDJ18CA-A	18	20.0	22.1	1	10	29.2	172
5.0SMDJ20A-A	5.0SMDJ20CA-A	20	22.2	24.5	1	5	32.4	155
5.0SMDJ22A-A	5.0SMDJ22CA-A	22	24.4	26.9	1	5	35.5	141
5.0SMDJ24A-A	5.0SMDJ24CA-A	24	26.7	29.5	1	5	38.9	129
5.0SMDJ26A-A	5.0SMDJ26CA-A	26	28.9	31.9	1	5	42.1	119
5.0SMDJ28A-A	5.0SMDJ28CA-A	28	31.1	34.4	1	5	45.4	110
5.0SMDJ30A-A	5.0SMDJ30CA-A	30	33.3	36.8	1	5	48.4	103
5.0SMDJ33A-A	5.0SMDJ33CA-A	33	36.7	40.6	1	5	53.3	93.9
5.0SMDJ36A-A	5.0SMDJ36CA-A	36	40.0	44.2	1	5	58.1	86.1
5.0SMDJ40A-A	5.0SMDJ40CA-A	40	44.4	49.1	1	5	64.5	77.6
5.0SMDJ43A-A	5.0SMDJ43CA-A	43	47.8	52.8	1	5	69.4	72.1
5.0SMDJ45A-A	5.0SMDJ45CA-A	45	50.0	55.3	1	5	72.7	68.8
5.0SMDJ48A-A	5.0SMDJ48CA-A	48	53.3	58.9	1	5	77.4	64.7
5.0SMDJ51A-A	5.0SMDJ51CA-A	51	56.7	62.7	1	5	82.4	60.7
5.0SMDJ54A-A	5.0SMDJ54CA-A	54	60.0	66.3	1	5	87.1	57.5
5.0SMDJ58A-A	5.0SMDJ58CA-A	58	64.4	71.2	1	5	93.6	53.5
5.0SMDJ60A-A	5.0SMDJ60CA-A	60	66.7	73.7	1	5	96.8	51.7
5.0SMDJ64A-A	5.0SMDJ64CA-A	64	71.1	78.6	1	5	103	48.6
5.0SMDJ70A-A	5.0SMDJ70CA-A	70	77.8	86.0	1	5	113	44.3
5.0SMDJ75A-A	5.0SMDJ75CA-A	75	83.3	92.1	1	5	121	41.4
5.0SMDJ78A-A	5.0SMDJ78CA-A	78	86.7	95.8	1	5	126	39.7
5.0SMDJ85A-A	5.0SMDJ85CA-A	85	94.4	104	1	5	137	36.5
5.0SMDJ90A-A	5.0SMDJ90CA-A	90	100	111	1	5	146	34.3
5.0SMDJ100A-A	5.0SMDJ100CA-A	100	111	123	1	5	162	30.9
5.0SMDJ110A-A	5.0SMDJ110CA-A	110	122	135	1	5	177	28.3
5.0SMDJ120A-A	5.0SMDJ120CA-A	120	133	147	1	5	193	26
5.0SMDJ130A-A	5.0SMDJ130CA-A	130	144	159	1	5	209	24
5.0SMDJ150A-A	5.0SMDJ150CA-A	150	167	185	1	5	243	20.6
5.0SMDJ160A-A	5.0SMDJ160CA-A	160	178	197	1	5	259	19.3
5.0SMDJ170A-A	5.0SMDJ170CA-A	170	189	209	1	5	275	18.2

Note:

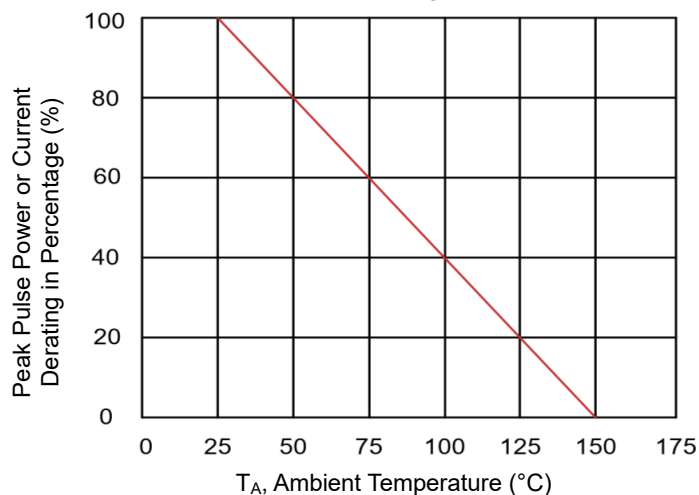
1. $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices
3. For bidirectional type having V_{RWM} of 18V and less, the I_R limit is double

CHARACTERISTIC CURVES

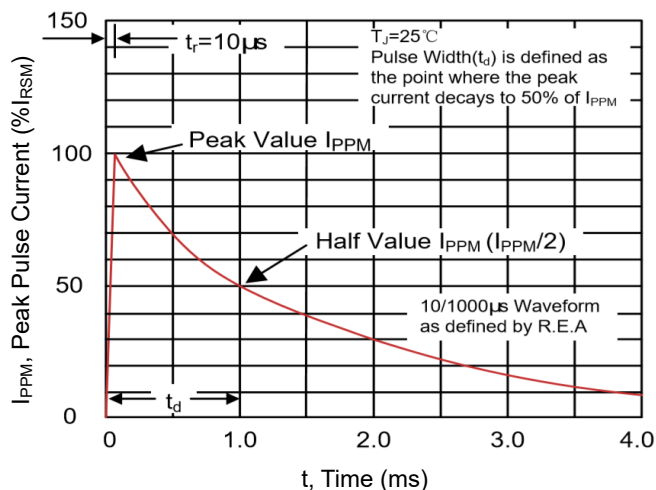
Peak Pulse Power Rating Curve



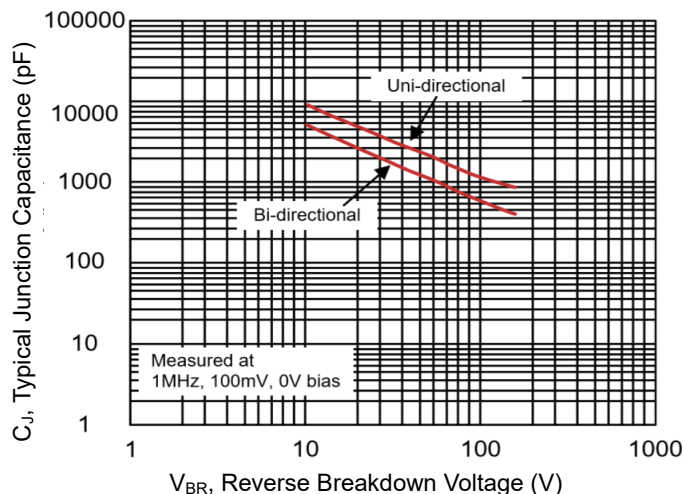
Pulse Derating Curve



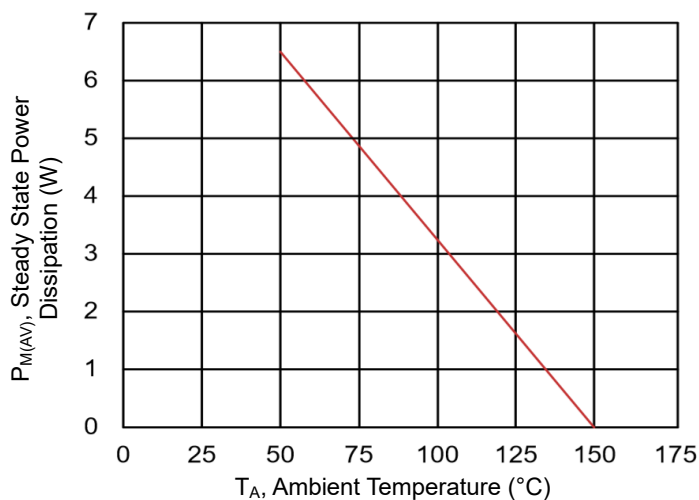
Pulse Waveform



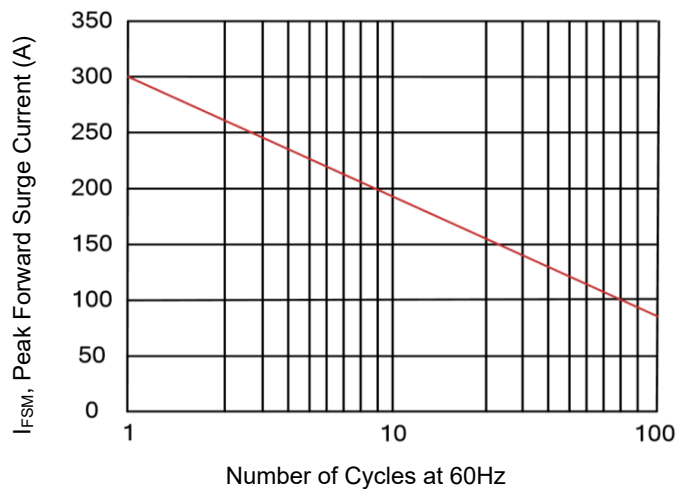
Typical Junction Capacitance



Steady State Power Dissipation Derating Curve



Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



*Specifications subject to change without notice.