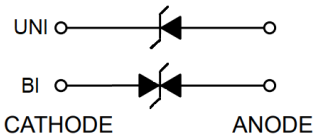
Transient Voltage Suppressors
5000W DO-214AB AEC-Q101

TP5.0SMDJ series

MERITEK

FEATURE

- 5000W Peak Pulse Power (10/1000μs Waveform), Repetitive Rate:0.01%
- 10V to 60V Standoff Voltage
- Fast Response Time
- Excellent Clamping Capability
- Glass Passivated Junction
- Meet ISO 7637-2 Load Dump Test (Varied by Test Condition)
- UL Flammability Classification Rating 94V-0
- 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

RoHS

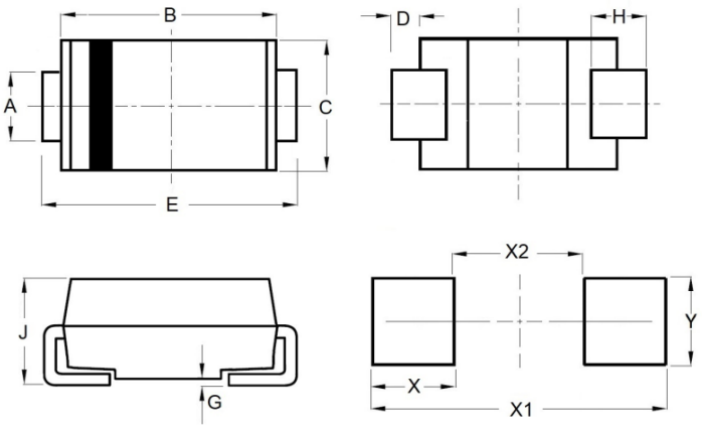
MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation On 10/1000μs Waveform	P_{PPM}	5000	W
Peak Pulse Current On 10/1000μs Waveform	I_{PPM}	See Table	A
Power Dissipation on infinite Heatsink at T_L= 50°C	P_D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	300	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V_F	3.5	V
Operating Junction And Storage Temperature Range	T_J , T_{STG}	-55 to +150	°C

Note:
1. T_A = 25°C ambient temperature unless otherwise specified.
2. Non-repetitive current pulse, and derated above T_A = 25°C.
3. Measured 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minute maximum.

DIMENSIONS

DO-214AB	Min (mm)	Max (mm)
A	2.90	3.20
B	6.60	7.15
C	5.55	6.04
D	0.15	0.30
E	7.75	7.95
G	--	0.20
H	0.75	1.51
J	1.98	2.53
X	3.03	
X1	9.90	
X2	3.84	
Y	3.82	



ELECTRICAL CHARACTERISTICS

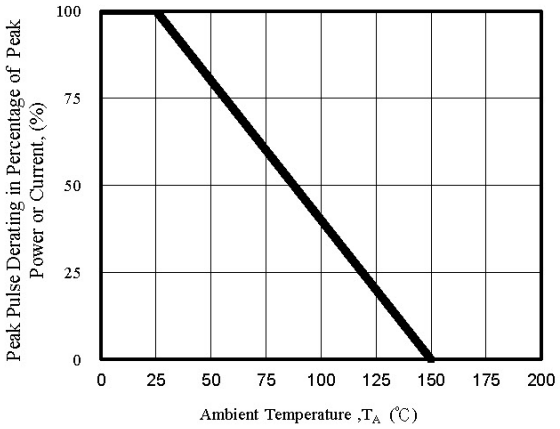
Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current	Max Clamping Voltage	Reverse Surge Current
Uni-Polar	Bi-Polar	V_{RWM} (V)	V_{BR} (V) Min	V_{BR} (V)Max	IT(mA)	I_R (uA) @ V_{RWM}	V_C (V) @ I_{PP}	I_{PP}(A) Max
TP5.0SMDJ10A	TP5.0SMDJ10CA	10	11.1	12.3	1	5	17.0	294.12
TP5.0SMDJ11A	TP5.0SMDJ11CA	11	12.2	13.5	1	2	18.2	275.0
TP5.0SMDJ12A	TP5.0SMDJ12CA	12	13.3	14.7	1	2	19.9	252.0
TP5.0SMDJ13A	TP5.0SMDJ13CA	13	14.4	15.9	1	2	21.5	233.0
TP5.0SMDJ14A	TP5.0SMDJ14CA	14	15.6	17.2	1	2	23.2	216.0
TP5.0SMDJ15A	TP5.0SMDJ15CA	15	16.7	18.5	1	2	24.4	205.0
TP5.0SMDJ16A	TP5.0SMDJ16CA	16	17.8	19.7	1	2	26.0	193.0
TP5.0SMDJ17A	TP5.0SMDJ17CA	17	18.9	20.9	1	2	27.6	181.0
TP5.0SMDJ18A	TP5.0SMDJ18CA	18	20.0	22.1	1	2	29.2	172.0
TP5.0SMDJ19A	TP5.0SMDJ19CA	19	21.1	23.3	1	2	30.8	162.4
TP5.0SMDJ20A	TP5.0SMDJ20CA	20	22.2	24.5	1	2	32.4	155.0
TP5.0SMDJ22A	TP5.0SMDJ22CA	22	24.4	26.9	1	2	35.5	141.0
TP5.0SMDJ24A	TP5.0SMDJ24CA	24	26.7	29.5	1	2	38.9	129.0
TP5.0SMDJ26A	TP5.0SMDJ26CA	26	28.9	31.9	1	2	42.1	119.0
TP5.0SMDJ28A	TP5.0SMDJ28CA	28	31.1	34.4	1	2	45.4	110.0
TP5.0SMDJ30A	TP5.0SMDJ30CA	30	33.3	36.8	1	2	48.4	103.0
TP5.0SMDJ33A	TP5.0SMDJ33CA	33	36.7	40.6	1	2	53.3	93.9
TP5.0SMDJ36A	TP5.0SMDJ36CA	36	40.0	44.2	1	2	58.1	86.1
TP5.0SMDJ40A	TP5.0SMDJ40CA	40	44.4	49.1	1	2	64.5	77.6
TP5.0SMDJ43A	TP5.0SMDJ43CA	43	47.8	52.8	1	2	69.4	72.1
TP5.0SMDJ45A	TP5.0SMDJ45CA	45	50.0	55.3	1	2	72.7	68.8
TP5.0SMDJ48A	TP5.0SMDJ48CA	48	53.3	58.9	1	2	77.4	64.7
TP5.0SMDJ51A	TP5.0SMDJ51CA	51	56.7	62.7	1	2	82.4	60.7
TP5.0SMDJ54A	TP5.0SMDJ54CA	54	60.0	66.3	1	2	87.1	57.5
TP5.0SMDJ58A	TP5.0SMDJ58CA	58	64.4	71.2	1	2	93.6	53.5
TP5.0SMDJ60A	TP5.0SMDJ60CA	60	66.7	73.7	1	2	96.8	51.7

Note:

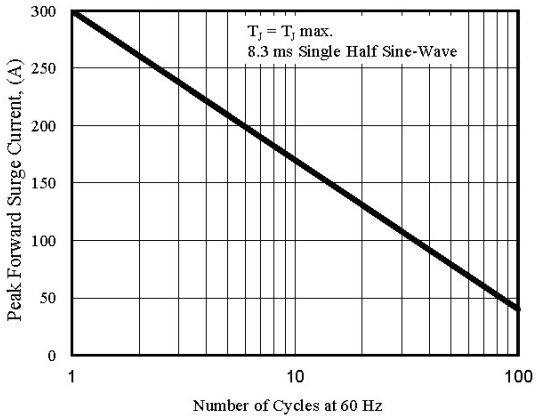
1. T_A = 25°C ambient temperature unless otherwise specified.
2. The available parts are “A” type only, the parts without A(V_{BR} is ±10%)is not availed
3. Add suffix’C’ or ‘CA’ after part number to specify Bi-directional devices
4. For Bi-Directional device having VR of 10 volts and under, the IR limit is double

CHARACTERISTIC CURVES

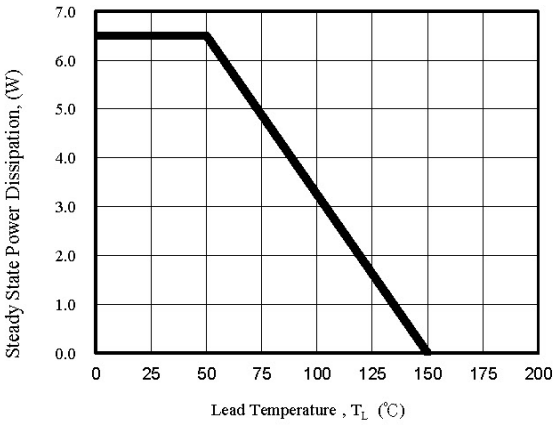
Pulse Derating Curve



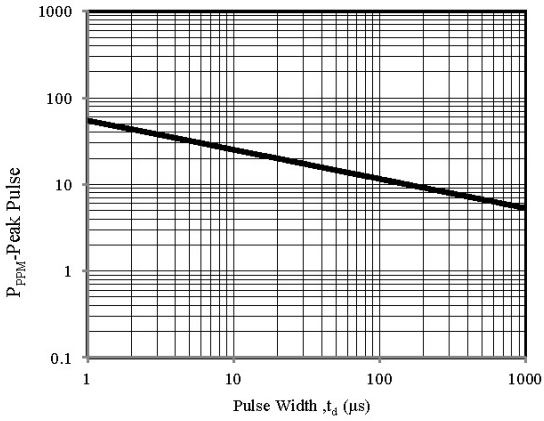
Maximum Non-Repetitive Surge Current



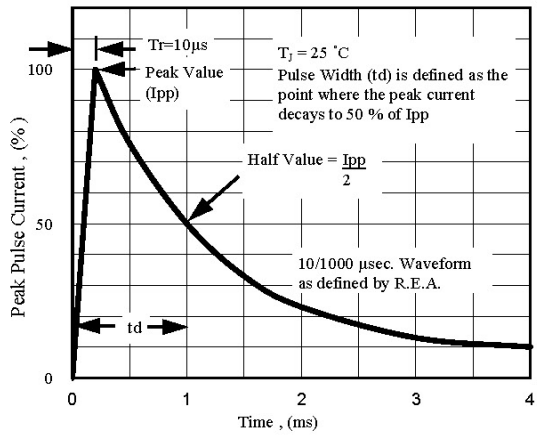
Steady State Power Derating Curve



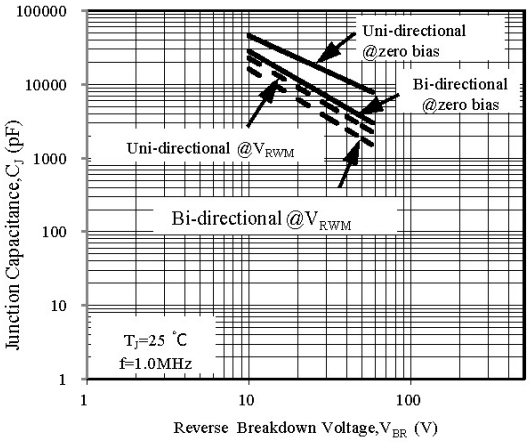
Peak Pulse Power Rating Curve



Pulse Waveform



Typical Junction Capacitance



*Specifications subject to change without notice.