

Transient Voltage Suppressors 600W DO-214AA AEC-Q101

P6SMBJ-A Series

MERITEK

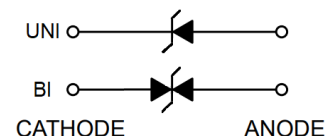
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{kV}$ (Air), $\pm 30\text{kV}$ (Contact)
- 600W Peak Pulse Power (10/1000 μs Waveform)
- 5V to 70V Standoff Voltage
- Fast Response Time
- Excellent Clamping Capability
- Glass Passivated Junction
- UL Flammability Classification Rating: 94V-0
- AEC-Q101 Qualified



MECHANICAL DATA

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



MAXIMUM RATINGS

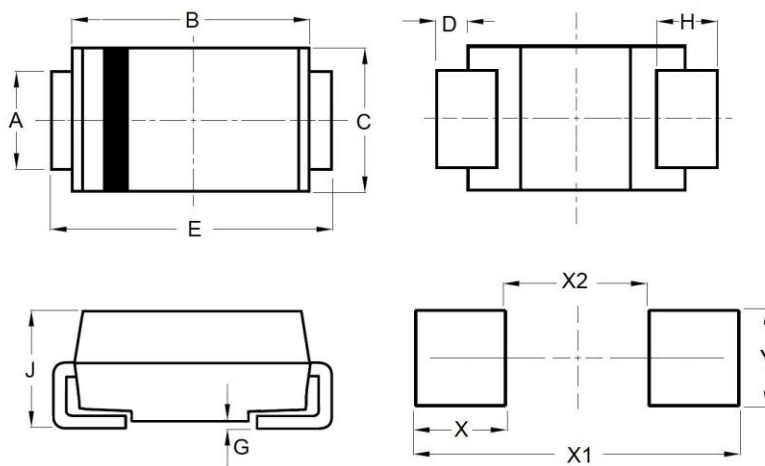
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation On 10/1000 μs Waveform	P_{PPM}	600	W
Peak Pulse Current On 10/1000 μs Waveform	I_{PPM}	See Table	A
Power Dissipation on Infinite Heat Sink At $T_L = 50^\circ\text{C}$	P_D	5	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed 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 Ambient	$R_{\theta JA}$	60	$^\circ\text{C/W}$

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. A transient suppressor is selected according to the working peak reverse voltage (V_{RWM}), which should be equal to or greater than the DC or continuous peak operating voltage level.

DIMENSIONS

DO-214AA	Min (mm)	Max (mm)
A	1.91	2.11
B	4.06	4.70
C	3.30	3.94
D	0.152	0.305
E	5.08	5.59
G	0.051	0.203
H	0.76	1.52
J	2.13	2.44
X	2.29	
X1	6.34	
X2	1.76	
Y	2.72	



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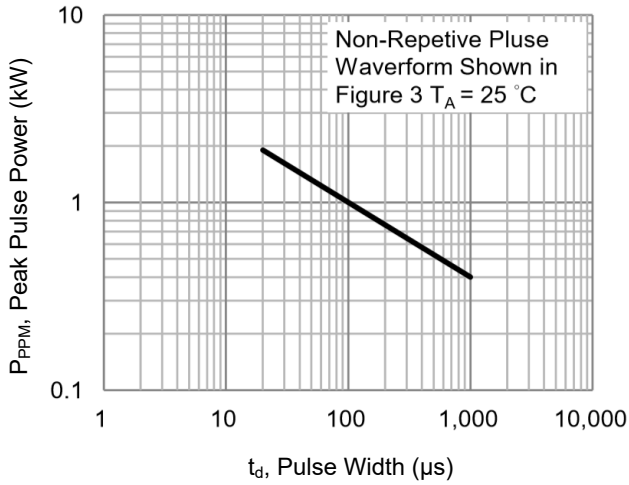
ELECTRICAL CHARACTERISTICS

Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current I_R (uA) @ V_{RWM}		Max Clamping Voltage	Reverse Surge Current
Uni-Polar	Bi-Polar		V_{RWM} (V)	$V_{BR}(V)$ Min		$V_{BR}(V)$ Max	IT(mA)		
P6SMBJ5.0A-A	P6SMBJ5.0CA-A	5.0	6.40	7.07	10	800	1600	9.2	65.2
P6SMBJ6.0A-A	P6SMBJ6.0CA-A	6.0	6.67	7.37	10	800	1600	10.3	58.3
P6SMBJ6.5A-A	P6SMBJ6.5CA-A	6.5	7.22	7.98	10	500	1000	11.2	53.6
P6SMBJ7.0A-A	P6SMBJ7.0CA-A	7.0	7.78	8.60	10	200	400	12.0	50.0
P6SMBJ7.5A-A	P6SMBJ7.5CA-A	7.5	8.33	9.21	1	100	200	12.9	46.5
P6SMBJ8.0A-A	P6SMBJ8.0CA-A	8.0	8.89	9.83	1	50	100	13.6	44.1
P6SMBJ8.5A-A	P6SMBJ8.5CA-A	8.5	9.44	10.4	1	10	20	14.4	41.7
P6SMBJ9.0A-A	P6SMBJ9.0CA-A	9.0	10.0	11.1	1	5	5	15.4	39.0
P6SMBJ10A-A	P6SMBJ10CA-A	10	11.1	12.3	1	5	5	17.0	35.3
P6SMBJ11A-A	P6SMBJ11CA-A	11	12.2	13.5	1	1	1	18.2	33.0
P6SMBJ12A-A	P6SMBJ12CA-A	12	13.3	14.7	1	1	1	19.9	30.2
P6SMBJ13A-A	P6SMBJ13CA-A	13	14.4	15.9	1	1	1	21.5	27.9
P6SMBJ14A-A	P6SMBJ14CA-A	14	15.6	17.2	1	1	1	23.2	25.8
P6SMBJ15A-A	P6SMBJ15CA-A	15	16.7	18.5	1	1	1	24.4	24.0
P6SMBJ16A-A	P6SMBJ16CA-A	16	17.8	19.7	1	1	1	26.0	23.1
P6SMBJ17A-A	P6SMBJ17CA-A	17	18.9	20.9	1	1	1	27.6	21.7
P6SMBJ18A-A	P6SMBJ18CA-A	18	20.0	22.1	1	1	1	29.2	20.5
P6SMBJ20A-A	P6SMBJ20CA-A	20	22.2	24.5	1	1	1	32.4	18.5
P6SMBJ22A-A	P6SMBJ22CA-A	22	24.4	27.0	1	1	1	35.5	16.9
P6SMBJ24A-A	P6SMBJ24CA-A	24	26.7	29.5	1	1	1	38.9	15.4
P6SMBJ26A-A	P6SMBJ26CA-A	26	28.9	31.9	1	1	1	42.1	14.2
P6SMBJ28A-A	P6SMBJ28CA-A	28	31.1	34.4	1	1	1	45.4	13.2
P6SMBJ30A-A	P6SMBJ30CA-A	30	33.3	36.8	1	1	1	48.4	12.4
P6SMBJ33A-A	P6SMBJ33CA-A	33	36.7	40.6	1	1	1	53.3	11.3
P6SMBJ36A-A	P6SMBJ36CA-A	36	40.0	44.2	1	1	1	58.1	10.3
P6SMBJ40A-A	P6SMBJ40CA-A	40	44.4	49.1	1	1	1	64.5	9.3
P6SMBJ43A-A	P6SMBJ43CA-A	43	47.8	52.8	1	1	1	69.4	8.6
P6SMBJ45A-A	P6SMBJ45CA-A	45	50.0	55.3	1	1	1	72.7	8.3
P6SMBJ48A-A	P6SMBJ48CA-A	48	53.3	58.9	1	1	1	77.4	7.7
P6SMBJ51A-A	P6SMBJ51CA-A	51	56.7	62.7	1	1	1	82.4	7.3
P6SMBJ54A-A	P6SMBJ54CA-A	54	60.0	66.3	1	1	1	87.1	6.9
P6SMBJ58A-A	P6SMBJ58CA-A	58	64.4	71.2	1	1	1	93.6	6.4
P6SMBJ60A-A	P6SMBJ60CA-A	60	66.7	73.7	1	1	1	96.8	6.2
P6SMBJ64A-A	P6SMBJ64CA-A	64	71.1	78.6	1	1	1	103	5.8
P6SMBJ70A-A	P6SMBJ70CA-A	70	77.8	86.0	1	1	1	113	5.3

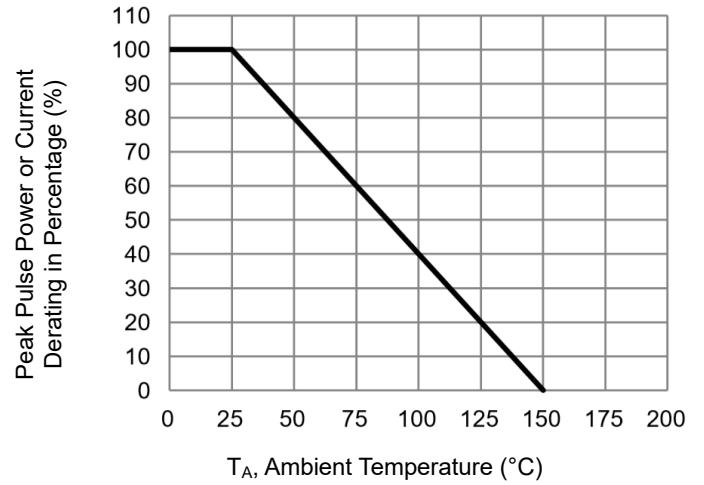
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CHARACTERISTIC CURVES

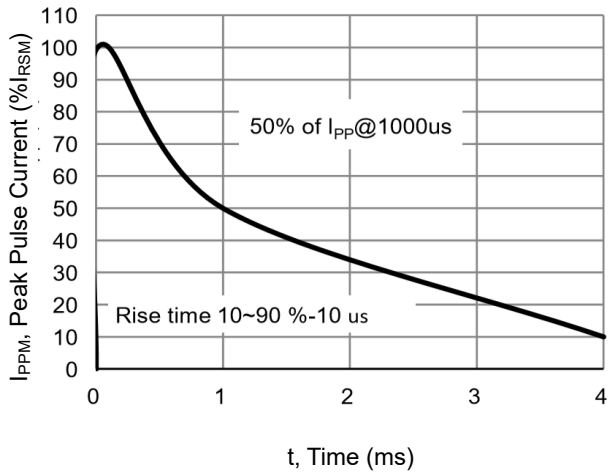
Peak Pulse Power Rating Curve



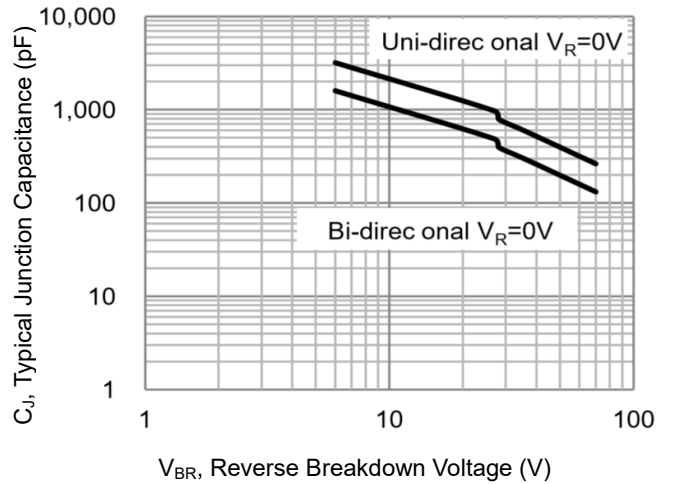
Pulse Derating Curve



Pulse Waveform



Typical Junction Capacitance



*Specifications subject to change without notice.