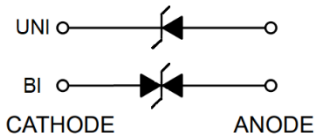
Transient Voltage Suppressors
600W SMB AEC-Q101

P6SMB-A Series

MERITEK

FEATURE

- IEC 61000-4-2 ESD: ±30kv (Air), ±30kv (Contact)
- 600W Peak Pulse Power (10/1000μs Waveform), Repetition Rate: 0.01%
- 5.8V to 510V 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

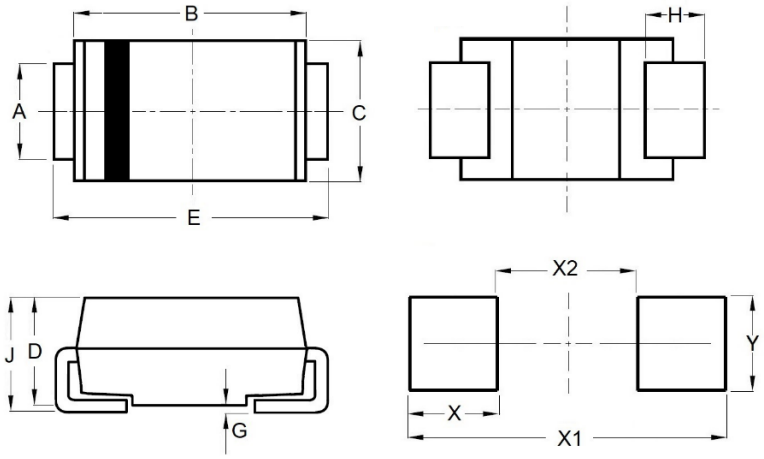
MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000μs waveform	P_{PPM}	Minimum 600	W
Peak Pulse Current on 10/1000μs waveform	I_{PPM}	See Table	A
Steady State Power Dissipation at T_A =50°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	°C
Typical Thermal Resistance Junction to Lead	$R_{\Theta JL}$	20	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\Theta JA}$	100	°C/W

Note:
1. T_A = 25°C ambient temperature unless otherwise specified.
2. Non-repetitive current pulse, and derate above T_A = 25°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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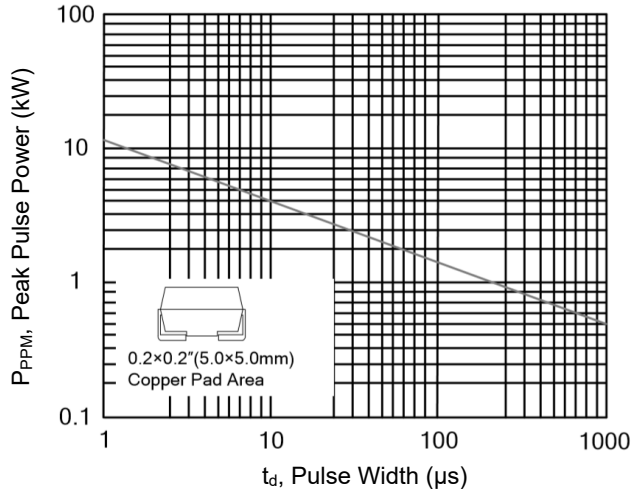
ELECTRICAL CHARACTERISTICS

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)	IT(mA)	I_R (uA) @ V_{RWM}	V_C (V) @ I_{PP}	I_{PP}(A) Max
P6SMB6.8A-A	P6SMB6.8CA-A	5.80	6.45	7.14	10	1000	10.5	58.1
P6SMB7.5A-A	P6SMB7.5CA-A	6.40	7.13	7.88	10	500	11.3	54.0
P6SMB8.2A-A	P6SMB8.2CA-A	7.02	7.79	8.61	10	200	12.1	50.4
P6SMB9.1A-A	P6SMB9.1CA-A	7.78	8.65	9.55	1	50	13.4	45.5
P6SMB10A-A	P6SMB10CA-A	8.55	9.50	10.5	1	10	14.5	42.1
P6SMB11A-A	P6SMB11CA-A	9.40	10.5	11.6	1	5	15.6	39.1
P6SMB12A-A	P6SMB12CA-A	10.2	11.4	12.6	1	5	16.7	36.5
P6SMB13A-A	P6SMB13CA-A	11.1	12.4	13.7	1	1	18.2	33.5
P6SMB15A-A	P6SMB15CA-A	12.8	14.3	15.8	1	1	21.2	28.8
P6SMB16A-A	P6SMB16CA-A	13.6	15.2	16.8	1	1	22.5	27.1
P6SMB18A-A	P6SMB18CA-A	15.3	17.1	18.9	1	1	25.2	24.2
P6SMB20A-A	P6SMB20CA-A	17.1	19.0	21.0	1	1	27.7	22.0
P6SMB22A-A	P6SMB22CA-A	18.8	20.9	23.1	1	1	30.6	19.9
P6SMB24A-A	P6SMB24CA-A	20.5	22.8	25.2	1	1	33.2	18.4
P6SMB27A-A	P6SMB27CA-A	23.1	25.7	28.4	1	1	37.5	16.3
P6SMB30A-A	P6SMB30CA-A	25.6	28.5	31.5	1	1	41.4	14.7
P6SMB33A-A	P6SMB33CA-A	28.2	31.4	34.7	1	1	45.7	13.3
P6SMB36A-A	P6SMB36CA-A	30.8	34.2	37.8	1	1	49.9	12.2
P6SMB39A-A	P6SMB39CA-A	33.3	37.1	41.0	1	1	53.9	11.3
P6SMB43A-A	P6SMB43CA-A	36.8	40.9	45.2	1	1	59.3	10.3
P6SMB47A-A	P6SMB47CA-A	40.2	44.7	49.4	1	1	64.8	9.4
P6SMB51A-A	P6SMB51CA-A	43.6	48.5	53.6	1	1	70.1	8.7
P6SMB56A-A	P6SMB56CA-A	47.8	53.2	58.8	1	1	77	7.9
P6SMB62A-A	P6SMB62CA-A	53.0	58.9	65.1	1	1	85	7.2
P6SMB68A-A	P6SMB68CA-A	58.1	64.6	71.4	1	1	92	6.6
P6SMB75A-A	P6SMB75CA-A	64.1	71.3	78.8	1	1	103	5.9
P6SMB82A-A	P6SMB82CA-A	70.1	77.9	86.1	1	1	113	5.4
P6SMB91A-A	P6SMB91CA-A	77.8	86.5	95.5	1	1	125	4.9
P6SMB100A-A	P6SMB100CA-A	85.5	95	105	1	1	137	4.5
P6SMB110A-A	P6SMB110CA-A	94.0	105	116	1	1	152	4.0
P6SMB120A-A	P6SMB120CA-A	102	114	126	1	1	165	3.7
P6SMB130A-A	P6SMB130CA-A	111	124	137	1	1	179	3.4
P6SMB150A-A	P6SMB150CA-A	128	143	158	1	1	207	2.9
P6SMB160A-A	P6SMB160CA-A	136	152	168	1	1	219	2.8
P6SMB170A-A	P6SMB170CA-A	145	162	179	1	1	234	2.6
P6SMB180A-A	P6SMB180CA-A	154	171	189	1	1	246	2.5
P6SMB200A-A	P6SMB200CA-A	171	190	210	1	1	274	2.2
P6SMB220A-A	P6SMB220CA-A	185	209	231	1	1	328	1.9
P6SMB250A-A	P6SMB250CA-A	214	237	263	1	1	344	1.8
P6SMB300A-A	P6SMB300CA-A	256	285	315	1	1	414	1.5
P6SMB350A-A	P6SMB350CA-A	300	332	368	1	1	482	1.3
P6SMB400A-A	P6SMB400CA-A	342	380	420	1	1	548	1.1
P6SMB440A-A	P6SMB440CA-A	376	418	462	1	1	602	1.0
P6SMB480A-A	P6SMB480CA-A	408	456	504	1	1	658	0.9
P6SMB510A-A	P6SMB510CA-A	434	485	535	1	1	698	0.9
P6SMB530A-A	P6SMB530CA-A	450	503.5	556.5	1	1	725	0.8
P6SMB540A-A	P6SMB540CA-A	459	513.0	567.0	1	1	740	0.8
P6SMB550A-A	P6SMB550CA-A	467	522.5	577.5	1	1	760	0.8
P6SMB600A-A	P6SMB600CA-A	510	570.0	630.0	1	1	828	0.75

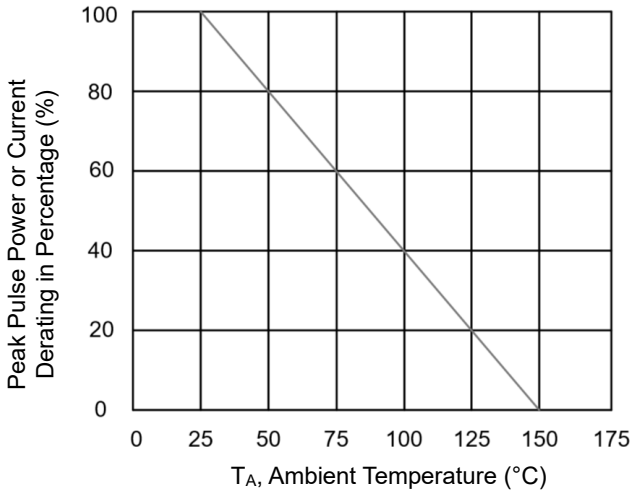
Note:
1. T_A = 25°C ambient temperature unless otherwise specified.
2. For Bi-Directional devices having V_{RWM} of 10V and under, the I_R limit is double.

CHARACTERISTIC CURVES

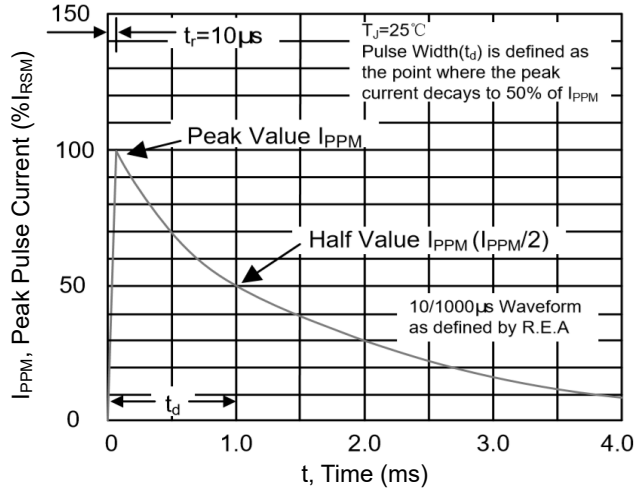
Peak Pulse Power Rating Curve



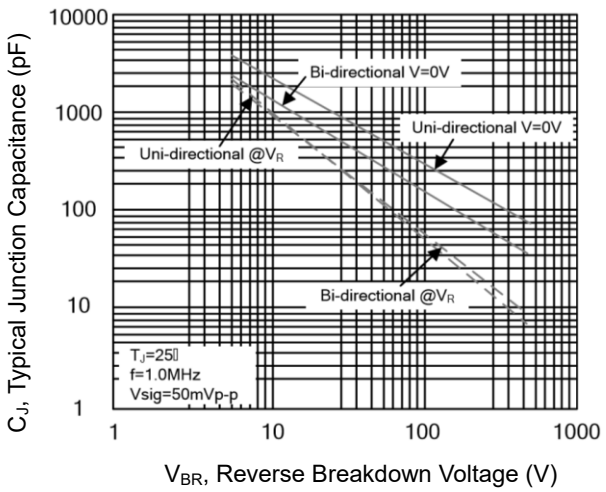
Pulse Derating Curve



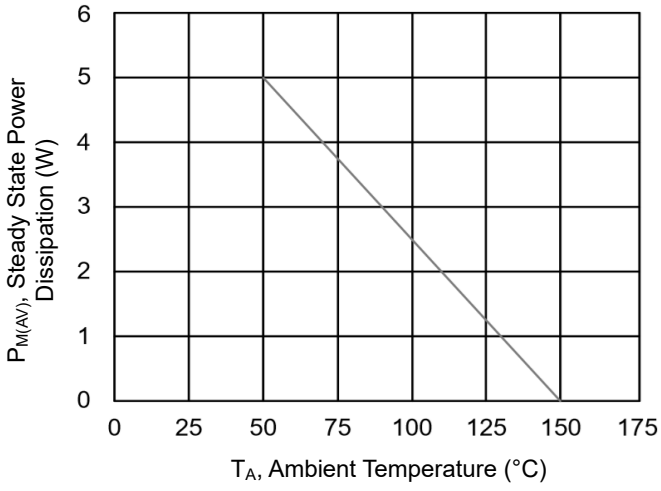
Pulse Waveform



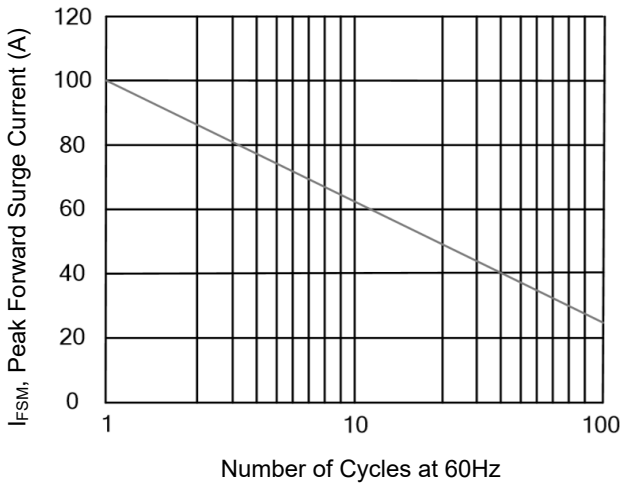
Typical Junction Capacitance



Steady State Power Dissipation Derating Curve



Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



*Specifications subject to change without notice.