

Transient Voltage Suppressors 600W DO-214AA

P6SMB Series

MERITEK

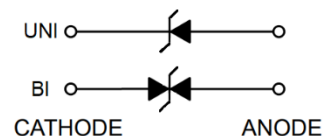
FEATURE

- 600W Peak Pulse Power (10/1000 μ s), Repetitive Rate: 0.01%
- 5.8V to 513V Breakdown Voltage
- Excellent Clamping Capability, Low Leakage
- Glass Passivated Junction
- Very Fast Response Time
- UL Flammability Classification Rating: 94V-0



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



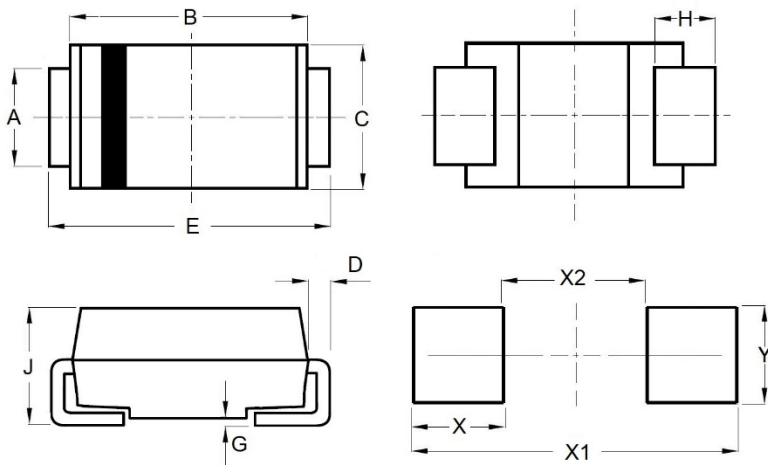
Parameter	Symbol	Value	Unit
Peak Power Dissipation on 10/1000 μ s Waveform	P_{PP}	600	W
Peak Pulse Current on 10/1000 μ s Waveform	I_{PP}	See Next Table	A
Power Dissipation on Infinite Heat Sink at $T_L = 75^\circ\text{C}$	P_D	5.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Unidirectional Only	I_{FSM}	100	A
Maximum Instantaneous Forward Voltage at 25A, 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 $V_{BR} < 200\text{V}$ and $V_F < 5.0\text{V}$ for devices of $V_{BR} > 201\text{V}$.

DIMENSIONS

DO-214AA	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

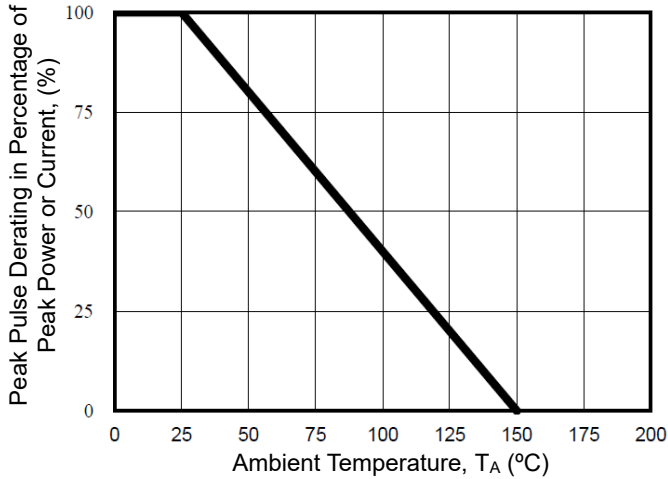
Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current	Maximum Clamping Voltage	Reverse Surge Current
Uni-Polar	Bi-Polar	V_{RWM} (V)	V_{BR} Min(V)	V_{BR} Max(V)	I_T (mA)	I_R (μ A) at V_{RWM}	V_C (V) @ I_{PP}	I_{PP} (A) Max
P6SMB6.8A	P6SMB6.8CA	5.8	6.46	7.14	10	1000	10.5	57.14
P6SMB7.5A	P6SMB7.5CA	6.4	7.13	7.88	10	500	11.3	53.10
P6SMB8.2A	P6SMB8.2CA	7.0	7.79	8.61	10	200	12.1	49.59
P6SMB9.1A	P6SMB9.1CA	7.8	8.65	9.56	1	50	13.4	44.78
P6SMB10A	P6SMB10CA	8.6	9.50	10.50	1	10	14.5	41.38
P6SMB11A	P6SMB11CA	9.4	10.45	11.55	1	5	15.6	38.46
P6SMB12A	P6SMB12CA	10.2	11.40	12.60	1	5	16.7	35.93
P6SMB13A	P6SMB13CA	11.1	12.35	13.65	1	1	18.2	32.97
P6SMB15A	P6SMB15CA	12.8	14.25	15.75	1	1	21.2	28.30
P6SMB16A	P6SMB16CA	13.6	15.20	16.80	1	1	22.5	26.67
P6SMB18A	P6SMB18CA	15.3	17.10	18.90	1	1	25.2	23.81
P6SMB20A	P6SMB20CA	17.1	19.00	21.00	1	1	27.7	21.66
P6SMB22A	P6SMB22CA	18.8	20.90	23.10	1	1	30.6	19.61
P6SMB24A	P6SMB24CA	20.5	22.80	25.20	1	1	33.2	18.07
P6SMB27A	P6SMB27CA	23.1	25.65	28.35	1	1	37.5	16.00
P6SMB30A	P6SMB30CA	25.6	28.50	31.50	1	1	41.4	14.49
P6SMB33A	P6SMB33CA	28.2	31.35	34.65	1	1	45.7	13.13
P6SMB36A	P6SMB36CA	30.8	34.20	37.80	1	1	49.9	12.02
P6SMB39A	P6SMB39CA	33.3	37.05	40.95	1	1	53.9	11.13
P6SMB43A	P6SMB43CA	36.8	40.85	45.15	1	1	59.3	10.12
P6SMB47A	P6SMB47CA	40.2	44.65	49.35	1	1	64.8	9.26
P6SMB51A	P6SMB51CA	43.6	48.45	53.55	1	1	70.1	8.56
P6SMB56A	P6SMB56CA	47.8	53.20	58.80	1	1	77.0	7.79
P6SMB62A	P6SMB62CA	53.0	58.90	65.10	1	1	85.0	7.06
P6SMB68A	P6SMB68CA	58.1	64.60	71.40	1	1	92.0	6.52
P6SMB75A	P6SMB75CA	64.1	71.25	78.75	1	1	103	5.83
P6SMB82A	P6SMB82CA	70.1	77.90	86.10	1	1	113	5.31
P6SMB91A	P6SMB91CA	77.8	86.45	95.55	1	1	125	4.80
P6SMB100A	P6SMB100CA	85.5	95.00	105.0	1	1	137	4.38
P6SMB110A	P6SMB110CA	94.0	104.5	115.5	1	1	152	3.95
P6SMB120A	P6SMB120CA	102	114.0	126.0	1	1	165	3.64
P6SMB130A	P6SMB130CA	111	123.5	136.5	1	1	179	3.35
P6SMB150A	P6SMB150CA	128	142.5	157.5	1	1	207	2.90
P6SMB160A	P6SMB160CA	136	152.0	168.0	1	1	219	2.74
P6SMB170A	P6SMB170CA	145	161.5	178.5	1	1	234	2.56
P6SMB180A	P6SMB180CA	154	171.0	189.0	1	1	246	2.44
P6SMB200A	P6SMB200CA	171	190.0	210.0	1	1	274	2.19
P6SMB220A	P6SMB220CA	185	209.0	231.0	1	1	328	1.83
P6SMB250A	P6SMB250CA	214	237.5	262.5	1	1	344	1.74
P6SMB300A	P6SMB300CA	256	285.0	315.0	1	1	414	1.45
P6SMB350A	P6SMB350CA	299.3	332.5	367.5	1	1	482	1.24
P6SMB380A	P6SMB380CA	324.9	361.0	399.0	1	1	524.4	1.14
P6SMB400A	P6SMB400CA	342.0	380.0	420.0	1	1	548.0	1.09
P6SMB440A	P6SMB440CA	376.2	418.0	462.0	1	1	607.2	0.99
P6SMB500A	P6SMB500CA	427.5	475.0	525.0	1	1	690.0	0.87
P6SMB520A	P6SMB520CA	444.6	494.0	546.0	1	1	717.6	0.84
P6SMB550A	P6SMB550CA	470.3	522.5	577.5	1	1	759	0.79
P6SMB600A	P6SMB600CA	513.0	570.0	630.0	1	1	828	0.72

Note:

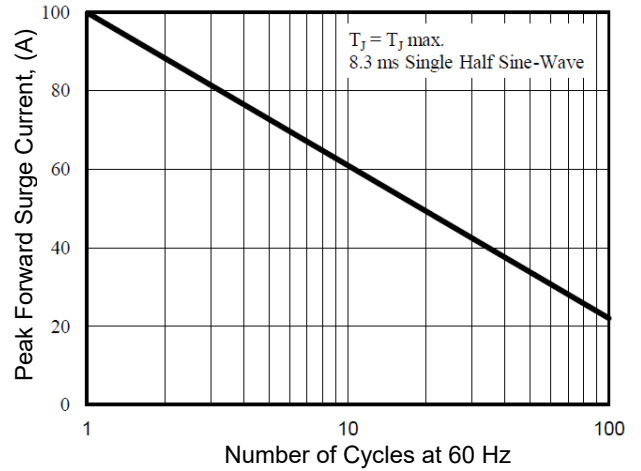
1. $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.
2. The available parts are "A" type only, the parts without A (V_{BR} is $\pm 10\%$) is not available.
3. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices.
4. For Bi-directional devices having V_R of 10 volts and under, the I_R limit is double.

CHARACTERISTIC CURVES

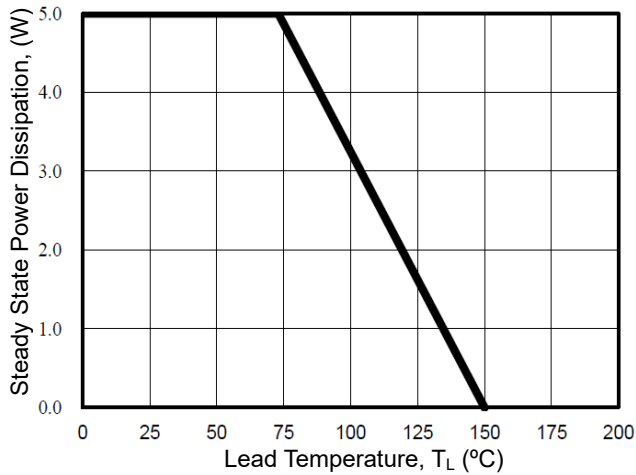
Pulse Derating Curve



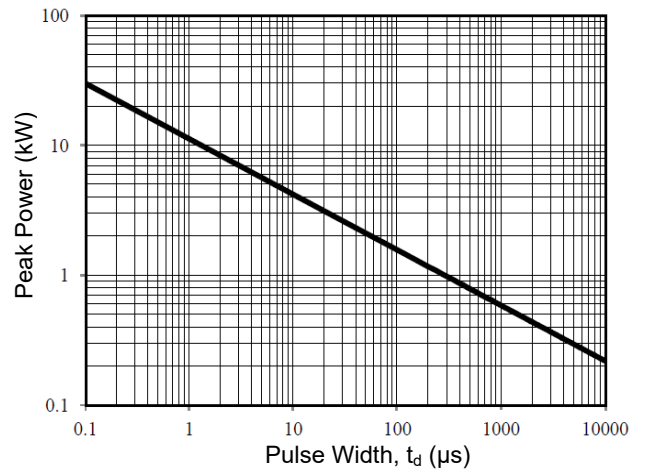
Maximum Non-Repetitive Surge Current



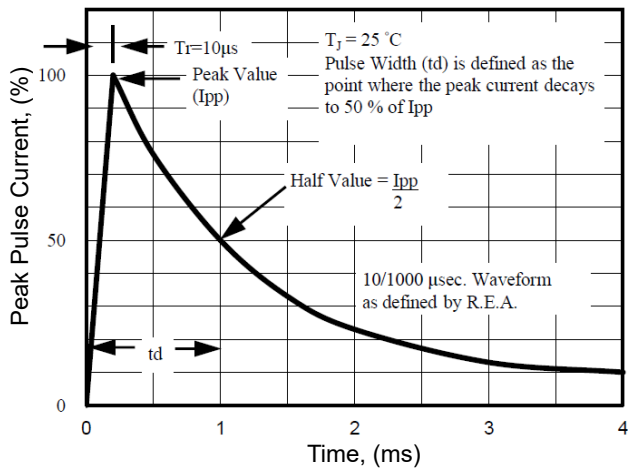
Steady State Power Derating Curve



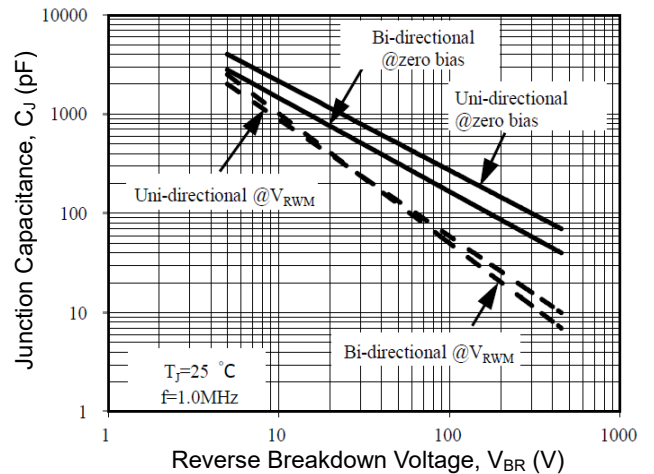
Peak Pulse Power Rating Curve



Pulse Waveform



Typical Junction Capacitance



*Specifications subject to change without notice.