

Transient Voltage Suppressors 600W DO-214AA

P6SMB-E Series

MERITEK

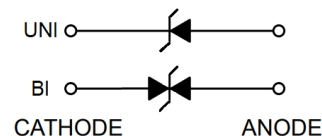
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{kV}$ (Air), $\pm 30\text{kV}$ (Contact)
- 600W Peak Pulse Power (10/1000 μs Waveform)
- 5.5V to 342V Standoff Voltage
- Fast Response Time
- Excellent Clamping Capability
- Glass Passivated Junction
- UL Flammability Classification Rating 94V-0



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

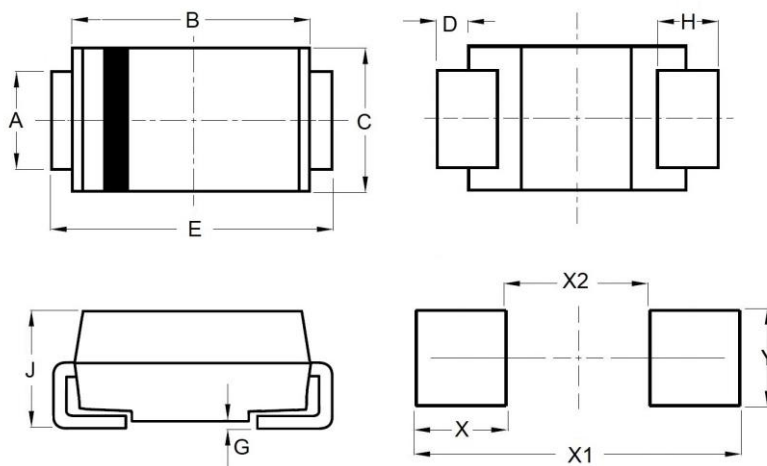
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation On 10/1000 μs Waveform	P_{PPM}	600	W
Peak Pulse Current On 10/1000 μs Waveform	I_{PPM}	See Table	A
Power Dissipation on Infinite Heat Sink At $T_L = 50^\circ\text{C}$	P_D	3.3	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed 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	



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	I_T (mA)	Uni	Bi	V_C (V) @ I_{PP}	I_{PP} (A) Max
P6SMB6.8-E	P6SMB6.8C-E	5.50	6.12	7.48	10	1000	2000	10.8	56.0
P6SMB6.8A-E	P6SMB6.8CA-E	5.80	6.45	7.14	10	1000	2000	10.5	57.0
P6SMB7.5-E	P6SMB7.5C-E	6.05	6.75	8.25	10	500	1000	11.7	51.0
P6SMB7.5A-E	P6SMB7.5CA-E	6.40	7.13	7.88	10	500	1000	11.3	53.0
P6SMB8.2-E	P6SMB8.2C-E	6.63	7.38	9.02	10	200	400	12.5	48.0
P6SMB8.2A-E	P6SMB8.2CA-E	7.02	7.79	8.61	10	200	400	12.1	50.0
P6SMB9.1-E	P6SMB9.1C-E	7.37	8.19	10.0	1	50	100	13.8	44.0
P6SMB9.1A-E	P6SMB9.1CA-E	7.78	8.65	9.50	1	50	100	13.4	45.0
P6SMB10-E	P6SMB10C-E	8.10	9.00	11.0	1	10	20	15.0	40.0
P6SMB10A-E	P6SMB10CA-E	8.55	9.50	10.5	1	10	20	14.5	41.0
P6SMB11-E	P6SMB11C-E	8.92	9.90	12.1	1	5	10	16.2	37.0
P6SMB11A-E	P6SMB11CA-E	9.40	10.5	11.6	1	5	10	15.6	38.0
P6SMB12-E	P6SMB12C-E	9.72	10.8	13.2	1	5	5	17.3	35.0
P6SMB12A-E	P6SMB12CA-E	10.2	11.4	12.6	1	5	5	16.7	36.0
P6SMB13-E	P6SMB13C-E	10.5	11.7	14.3	1	1	1	19.0	32.0
P6SMB13A-E	P6SMB13CA-E	11.1	12.4	13.7	1	1	1	18.2	33.0
P6SMB15-E	P6SMB15C-E	12.1	13.5	16.5	1	1	1	22.0	27.0
P6SMB15A-E	P6SMB15CA-E	12.8	14.3	15.8	1	1	1	21.2	28.0
P6SMB16-E	P6SMB16C-E	12.9	14.4	17.6	1	1	1	23.5	26.0
P6SMB16A-E	P6SMB16CA-E	13.6	15.2	16.8	1	1	1	22.5	27.0
P6SMB18-E	P6SMB18C-E	14.5	16.2	19.8	1	1	1	26.5	23.0
P6SMB18A-E	P6SMB18CA-E	15.3	17.1	18.9	1	1	1	25.2	24.0
P6SMB20-E	P6SMB20C-E	16.2	18.0	22.0	1	1	1	29.1	21.0
P6SMB20A-E	P6SMB20CA-E	17.1	19.0	21.0	1	1	1	27.7	22.0
P6SMB22-E	P6SMB22C-E	17.8	19.8	24.2	1	1	1	31.9	19.0
P6SMB22A-E	P6SMB22CA-E	18.8	20.9	23.1	1	1	1	30.6	20.0
P6SMB24-E	P6SMB24C-E	19.4	21.6	26.4	1	1	1	34.7	17.0
P6SMB24A-E	P6SMB24CA-E	20.5	22.8	25.2	1	1	1	33.2	18.0
P6SMB27-E	P6SMB27C-E	21.8	24.3	29.7	1	1	1	39.1	15.0
P6SMB27A-E	P6SMB27CA-E	23.1	25.7	28.4	1	1	1	37.5	16.0
P6SMB30-E	P6SMB30C-E	24.3	27.0	33.0	1	1	1	43.5	14.0
P6SMB30A-E	P6SMB30CA-E	25.6	28.5	31.5	1	1	1	41.4	14.4
P6SMB33-E	P6SMB33C-E	26.8	29.7	36.3	1	1	1	47.7	12.6
P6SMB33A-E	P6SMB33CA-E	28.2	31.4	34.7	1	1	1	45.7	13.2
P6SMB36-E	P6SMB36C-E	29.1	32.4	39.6	1	1	1	52.0	11.6
P6SMB36A-E	P6SMB36CA-E	30.8	34.2	37.8	1	1	1	49.9	12.0
P6SMB39-E	P6SMB39C-E	31.6	35.1	42.9	1	1	1	56.4	10.6
P6SMB39A-E	P6SMB39CA-E	33.3	37.1	41.0	1	1	1	53.9	11.2
P6SMB43-E	P6SMB43C-E	34.8	38.7	47.3	1	1	1	61.9	9.6
P6SMB43A-E	P6SMB43CA-E	36.8	40.9	45.2	1	1	1	59.3	10.1
P6SMB47-E	P6SMB47C-E	38.1	42.3	51.7	1	1	1	67.8	8.9
P6SMB47A-E	P6SMB47CA-E	40.2	44.7	49.4	1	1	1	64.8	9.3
P6SMB51-E	P6SMB51C-E	41.3	45.9	56.1	1	1	1	73.5	8.2
P6SMB51A-E	P6SMB51CA-E	43.6	48.5	53.6	1	1	1	70.1	8.6
P6SMB56-E	P6SMB56C-E	45.6	50.4	61.6	1	1	1	80.5	7.4

Note: $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.

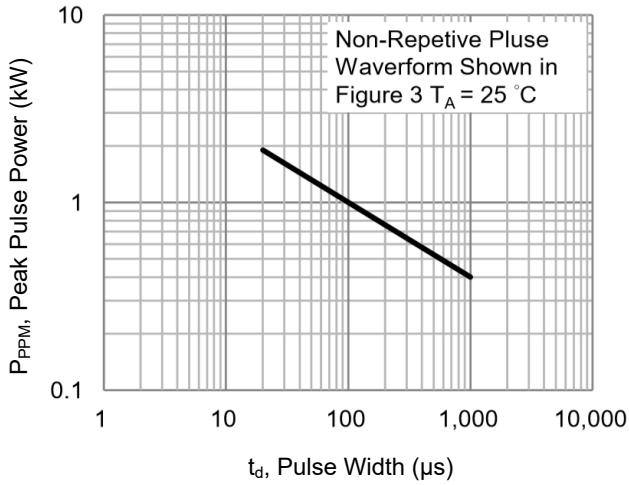
ELECTRICAL CHARACTERISTICS

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	I_T (mA)	Uni	Bi	$V_C(V)$ @ I_{PP}	$I_{PP}(A)$ Max
P6SMB56A-E	P6SMB56CA-E	47.8	53.2	58.8	1	1	1	77.0	7.8
P6SMB62-E	P6SMB62C-E	50.2	55.8	68.2	1	1	1	89.0	6.8
P6SMB62A-E	P6SMB62CA-E	53.0	58.9	65.1	1	1	1	85.0	7.1
P6SMB68-E	P6SMB68C-E	55.1	61.2	74.8	1	1	1	98.0	6.1
P6SMB68A-E	P6SMB68CA-E	58.1	64.6	71.4	1	1	1	92.0	6.5
P6SMB75-E	P6SMB75C-E	60.7	67.5	82.5	1	1	1	108	5.5
P6SMB75A-E	P6SMB75CA-E	64.1	71.3	78.8	1	1	1	103	5.8
P6SMB82-E	P6SMB82C-E	66.4	73.8	90.2	1	1	1	118	5.1
P6SMB82A-E	P6SMB82CA-E	70.1	77.9	86.1	1	1	1	113	5.3
P6SMB91-E	P6SMB91C-E	73.7	81.9	100	1	1	1	131	4.5
P6SMB91A-E	P6SMB91CA-E	77.8	86.5	95.5	1	1	1	125	4.8
P6SMB100-E	P6SMB100C-E	81.0	90	110	1	1	1	144	4.2
P6SMB100A-E	P6SMB100CA-E	85.5	95	105	1	1	1	137	4.4
P6SMB110-E	P6SMB110C-E	89.2	99	121	1	1	1	158	3.8
P6SMB110A-E	P6SMB110CA-E	94.0	105	116	1	1	1	152	4.0
P6SMB120-E	P6SMB120C-E	97.2	108	132	1	1	1	173	3.5
P6SMB120A-E	P6SMB120CA-E	102	114	126	1	1	1	165	3.6
P6SMB130-E	P6SMB130C-E	105	117	143	1	1	1	187	3.2
P6SMB130A-E	P6SMB130CA-E	111	124	137	1	1	1	179	3.3
P6SMB150-E	P6SMB150C-E	121	135	165	1	1	1	215	2.8
P6SMB150A-E	P6SMB150CA-E	128	143	158	1	1	1	207	2.9
P6SMB160-E	P6SMB160C-E	130	144	176	1	1	1	230	2.6
P6SMB160A-E	P6SMB160CA-E	136	152	168	1	1	1	219	2.7
P6SMB170-E	P6SMB170C-E	138	153	187	1	1	1	244	2.5
P6SMB170A-E	P6SMB170CA-E	145	162	179	1	1	1	234	2.6
P6SMB180-E	P6SMB180C-E	146	162	198	1	1	1	258	2.3
P6SMB180A-E	P6SMB180CA-E	154	171	189	1	1	1	246	2.4
P6SMB200-E	P6SMB200C-E	162	180	220	1	1	1	287	2.1
P6SMB200A-E	P6SMB200CA-E	171	190	210	1	1	1	274	2.2
P6SMB220-E	P6SMB220C-E	175	198	242	1	1	1	344	1.8
P6SMB220A-E	P6SMB220CA-E	185	209	231	1	1	1	328	1.9
P6SMB250-E	P6SMB250C-E	202	225	275	1	1	1	360	1.7
P6SMB250A-E	P6SMB250CA-E	214	237	263	1	1	1	344	1.8
P6SMB300A-E	--	256	285	315	1	1	--	414	1.5
P6SMB350A-E	--	300	332	368	1	1	--	482	1.3
P6SMB400A-E	--	342	380	420	1	1	--	548	1.1

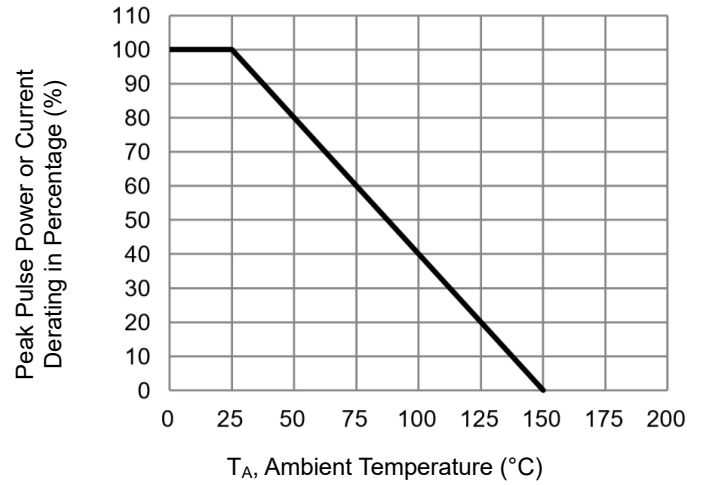
Note: $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.

CHARACTERISTIC CURVES

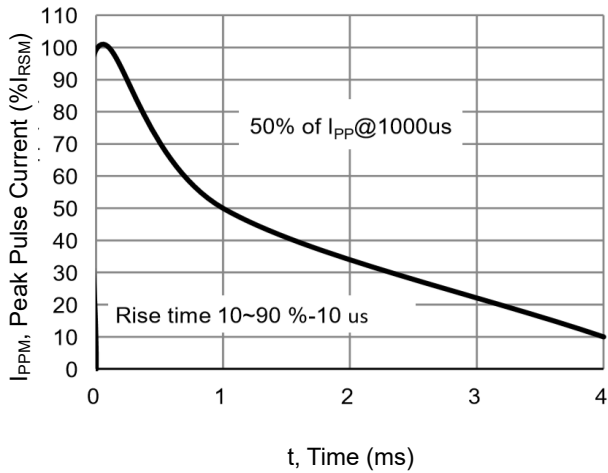
Peak Pulse Power Rating Curve



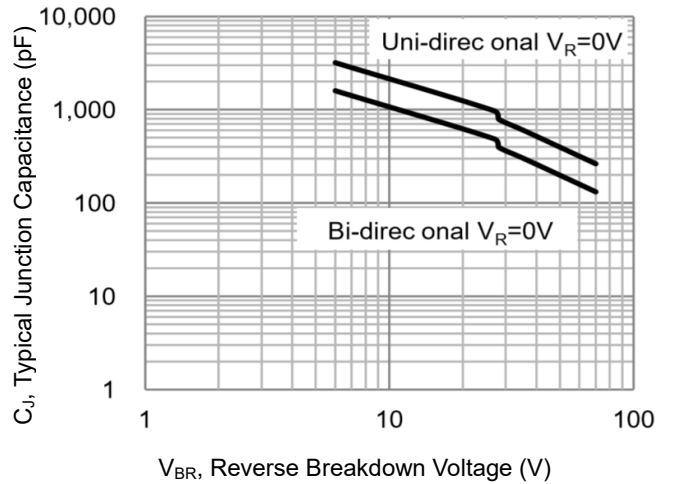
Pulse Derating Curve



Pulse Waverform



Typical Junction Capacitance



*Specifications subject to change without notice.