

Transient Voltage Suppressors

400W SMA AEC-Q101

P4SMA-A Series

MERITEK

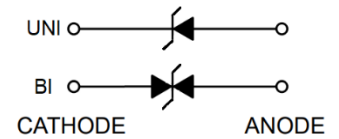
FEATURE

- IEC 61000-4-2 ESD: $\pm 30\text{kV}$ (Air), $\pm 30\text{kV}$ (Contact)
- 400W Peak Pulse Power (10/1000 μs Waveform), Repetition Rate: 0.01%
- Fast Response Time
- 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-214AC, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Cathode End Except Bipolar



MAXIMUM RATINGS

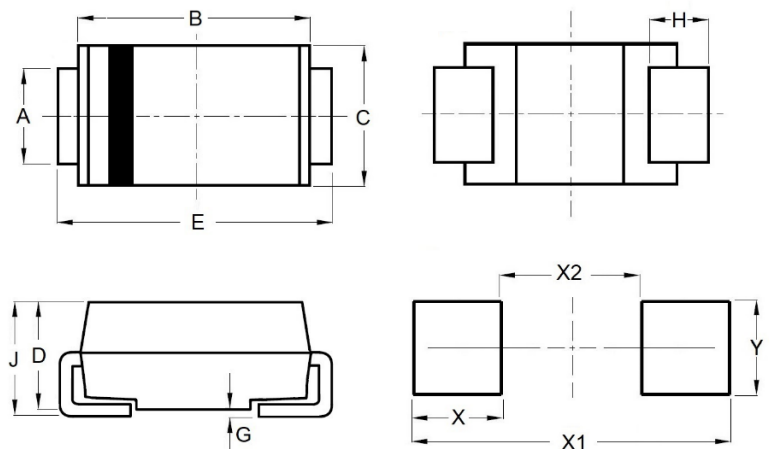
Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000 μs waveform	P_{PPM}	Minimum 400	W
Peak Pulse Current on 10/1000 μs waveform	I_{PPM}	See Table	A
Steady State Power Dissipation at $T_A = 50^\circ\text{C}$	$P_{M(AV)}$	3.3	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	I_{FSM}	40	A
Operating Junction And Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	30	$^\circ\text{C/W}$
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	120	$^\circ\text{C/W}$

Note:

1. $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.
2. Non-repetitive current pulse, and derate above $T_A = 25^\circ\text{C}$.
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-214(SMA)

Item	Min (mm)	Max (mm)
A	1.25	1.65
B	3.99	4.50
C	2.54	2.79
D	1.98	2.29
E	4.93	5.28
G	-	0.203
H	0.76	1.52
J	2.00	2.50
X	2.07	
X1	5.80	
X2	1.66	
Y	2.06	



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ELECTRICAL CHARACTERISTICS

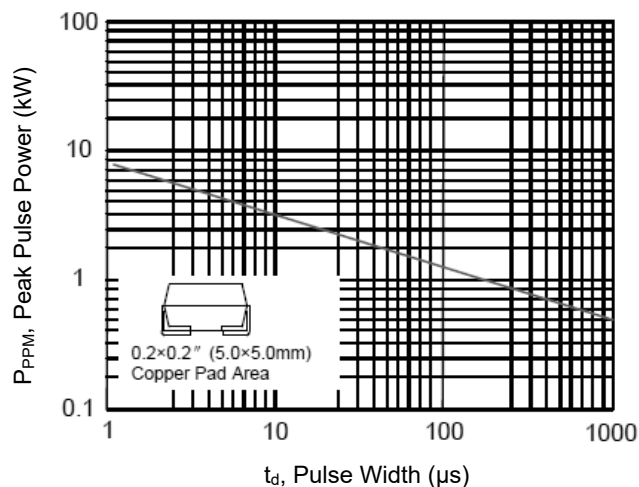
Part Number		Working Reverse Voltage	Reverse Breakdown Voltage		Test Current	Max Reverse Leakage Current	Max Clamping Voltage	Reverse Surge Current
Uni-Polar	Bi-Polar	V_{RWM} (V)	V_{BR} Min(V)	V_{BR} Max(V)	I_T (mA)	I_R (uA) @ V_{RWM}	V_C (V) @ I_{PP}	I_{PP} (A) Max
P4SMA6.8A-A	P4SMA6.8CA-A	5.80	6.45	7.14	10	1000	10.5	39.0
P4SMA7.5A-A	P4SMA7.5CA-A	6.40	7.13	7.88	10	500	11.3	36.3
P4SMA8.2A-A	P4SMA8.2CA-A	7.02	7.79	8.61	10	200	12.1	33.9
P4SMA9.1A-A	P4SMA9.1CA-A	7.78	8.65	9.55	1	50	13.4	30.6
P4SMA10A-A	P4SMA10CA-A	8.55	9.50	10.5	1	10	14.5	28.3
P4SMA11A-A	P4SMA11CA-A	9.40	10.5	11.6	1	5	15.6	26.3
P4SMA12A-A	P4SMA12CA-A	10.2	11.4	12.6	1	5	16.7	24.6
P4SMA13A-A	P4SMA13CA-A	11.1	12.4	13.7	1	1	18.2	22.5
P4SMA15A-A	P4SMA15CA-A	12.8	14.3	15.8	1	1	21.2	19.3
P4SMA16A-A	P4SMA16CA-A	13.6	15.2	16.8	1	1	22.5	18.2
P4SMA18A-A	P4SMA18CA-A	15.3	17.1	18.9	1	1	25.2	16.1
P4SMA20A-A	P4SMA20CA-A	17.1	19.0	21.0	1	1	27.7	14.8
P4SMA22A-A	P4SMA22CA-A	18.8	20.9	23.1	1	1	30.6	13.4
P4SMA24A-A	P4SMA24CA-A	20.5	22.8	25.2	1	1	33.2	12.3
P4SMA27A-A	P4SMA27CA-A	23.1	25.7	28.4	1	1	37.5	10.9
P4SMA30A-A	P4SMA30CA-A	25.6	28.5	31.5	1	1	41.4	9.9
P4SMA33A-A	P4SMA33CA-A	28.2	31.4	34.7	1	1	45.7	9.0
P4SMA36A-A	P4SMA36CA-A	30.8	34.2	37.8	1	1	49.9	8.2
P4SMA39A-A	P4SMA39CA-A	33.3	37.1	41.0	1	1	53.9	7.6
P4SMA43A-A	P4SMA43CA-A	36.8	40.9	45.2	1	1	59.3	6.9
P4SMA47A-A	P4SMA47CA-A	40.2	44.7	49.4	1	1	64.8	6.3
P4SMA51A-A	P4SMA51CA-A	43.6	48.5	53.6	1	1	70.1	5.8
P4SMA56A-A	P4SMA56CA-A	47.8	53.2	58.8	1	1	77.0	5.3
P4SMA62A-A	P4SMA62CA-A	53.0	58.9	65.1	1	1	85.0	4.8
P4SMA68A-A	P4SMA68CA-A	58.1	64.6	71.4	1	1	92.0	4.5
P4SMA75A-A	P4SMA75CA-A	64.1	71.3	78.8	1	1	103	4.0
P4SMA82A-A	P4SMA82CA-A	70.1	77.9	86.1	1	1	113	3.6
P4SMA91A-A	P4SMA91CA-A	77.8	86.5	95.5	1	1	125	3.3
P4SMA100A-A	P4SMA100CA-A	85.5	95.0	105	1	1	137	3.0
P4SMA110A-A	P4SMA110CA-A	94.0	105	116	1	1	152	2.7
P4SMA120A-A	P4SMA120CA-A	102	114	126	1	1	165	2.5
P4SMA130A-A	P4SMA130CA-A	111	124	137	1	1	179	2.3
P4SMA150A-A	P4SMA150CA-A	128	143	158	1	1	207	2.0
P4SMA160A-A	P4SMA160CA-A	136	152	168	1	1	219	1.9
P4SMA170A-A	P4SMA170CA-A	145	162	179	1	1	234	1.8
P4SMA180A-A	P4SMA180CA-A	154	171	189	1	1	246	1.7
P4SMA200A-A	P4SMA200CA-A	171	190	210	1	1	274	1.5
P4SMA220A-A	P4SMA220CA-A	185	209	231	1	1	328	1.3
P4SMA250A-A	P4SMA250CA-A	214	237	263	1	1	344	1.2
P4SMA300A-A	P4SMA300CA-A	256	285	315	1	1	414	1.0
P4SMA350A-A	P4SMA350CA-A	300	332	368	1	1	482	0.9
P4SMA400A-A	P4SMA400CA-A	342	380	420	1	1	548	0.8
P4SMA440A-A	P4SMA440CA-A	376	418	462	1	1	602	0.7
P4SMA480A-A	P4SMA480CA-A	408	456.0	504.0	1	1	658	0.6
P4SMA510A-A	P4SMA510CA-A	434	485.0	535.0	1	1	698	0.6
P4SMA530A-A	P4SMA530CA-A	450	503.5	556.5	1	1	725	0.6
P4SMA540A-A	P4SMA540CA-A	459	513.0	567.0	1	1	740	0.5
P4SMA550A-A	P4SMA550CA-A	467	522.5	577.5	1	1	760	0.5

Note:

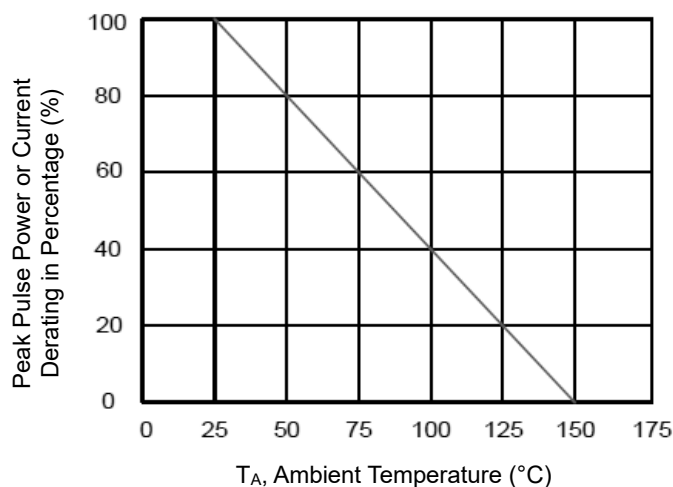
1. $T_A = 25^\circ\text{C}$ ambient temperature unless otherwise specified.
2. For Bi-Directional devices having V_{RWM} of 10V and under, the I_R limit is double.

CHARACTERISTIC CURVES

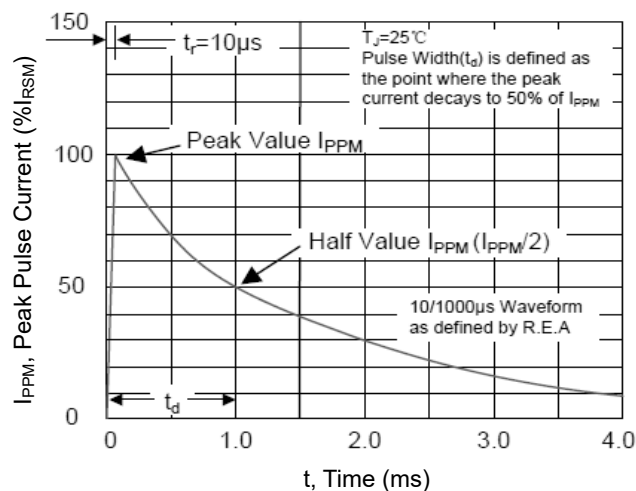
Peak Pulse Power Rating Curve



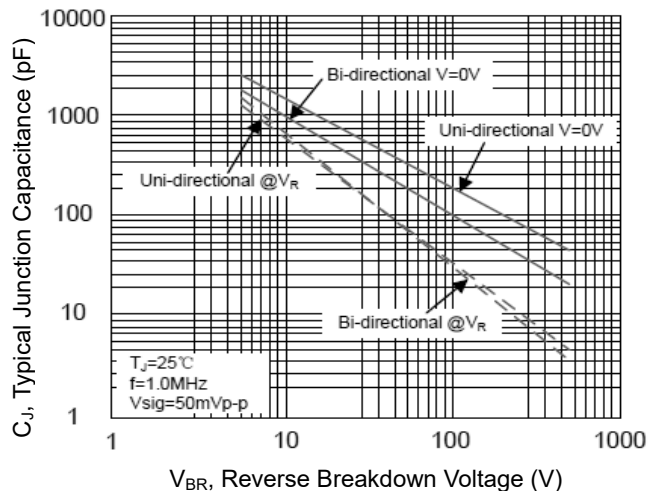
Pulse Derating Curve



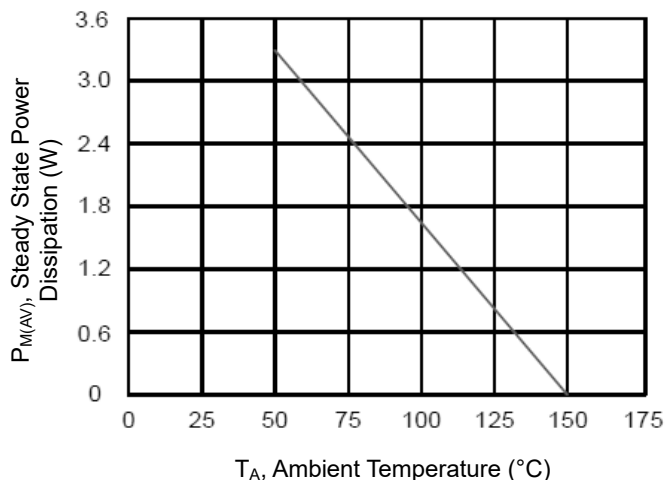
Pulse Waveform



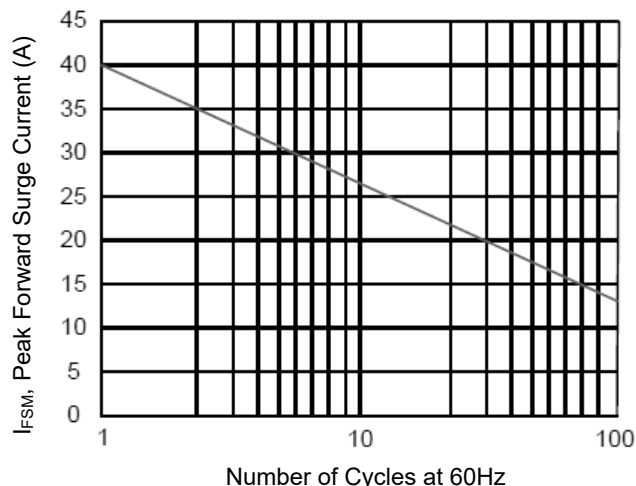
Typical Junction Capacitance



Steady State Power Dissipation Derating Curve



Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



*Specifications subject to change without notice.