

Transient Voltage Suppressors

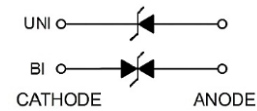
5000W DO-214AB AEC-Q101

5KSMC-A Series

MERITEK

FEATURE

- ISO 10605 (C=330pF, R=330Ω) ESD: ±30KV (Air), ±30KV (Contact)
- Meet ISO 7637-2 Load Dump Test (Varied by Test Condition)
- 5000W Peak Pulse Power (10/1000μs Waveform)
- 12V to 70V Standoff Voltage
- Fast Response Time
- Excellent Clamping Capability
- AEC-Q101 Compliant



MECHANICAL DATA

- Case: DO-214AB (SMC), Molded Plastic
- Lead: Solderable Per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Cathode End Except Bipolar

MAXIMUM RATINGS

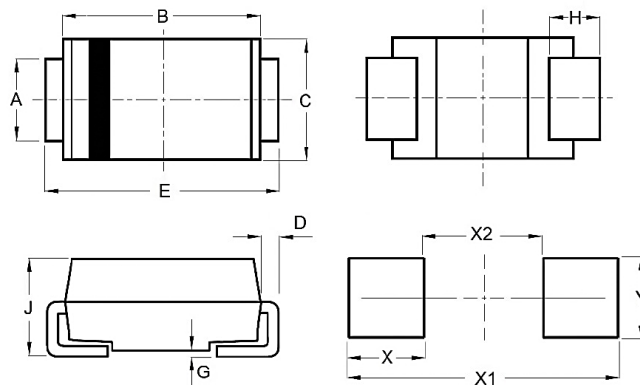
Parameter, T _A = 25°C		Symbol	Value	Unit
Peak Pulse Power Dissipation	t _p =10/1000μs	P _{PP}	5000	W
Peak Pulse Current	t _p =10/1000μs	I _{PP}	See Next Table	A
Power Dissipation on Infinite Heat Sink	T _L =50°C	P _D	6.5	W
Peak Forward Surge Current (Unidirectional)	8.3ms Single Half Sine-Wave	I _{FSM}	300	A
ESD Discharge (IEC61000-4-2)	Air	V _{ESD}	±30	KV
	Contact		±30	
Typical Thermal Resistance Junction to Ambient		R _{θJA}	125	°C/W
Operating Junction and Storage Temperature Range		T _J , T _{STG}	-55~+150	°C

Note:

1. Not applicable to parts with V_{RWM} lower than battery voltage.
2. Non-repetitive current pulse, and derated above T_A = 25°C.
3. Mounted on 100cm² copper pads to each terminal.
4. Mounted on a FR4 PCB, single-sided copper, standard footprint.
5. To calculate V_{BR} versus T_J: V_{BR} at T_J = V_{BR} at 25°C x (1+ αT x (T_J - 25)).
6. To calculate V_C versus T_J: V_C at T_J = V_C at 25°C x (1+ αT x (T_J - 25)).

DIMENSIONS

Item	Min (mm)	Max (mm)
A	2.75	3.25
B	6.60	7.11
C	5.59	6.22
D	0.15	0.31
E	7.75	8.13
G	0.05	0.20
H	0.76	1.52
J	2.00	2.62
X		3.03
X1		9.90
X2		3.84
Y		3.82



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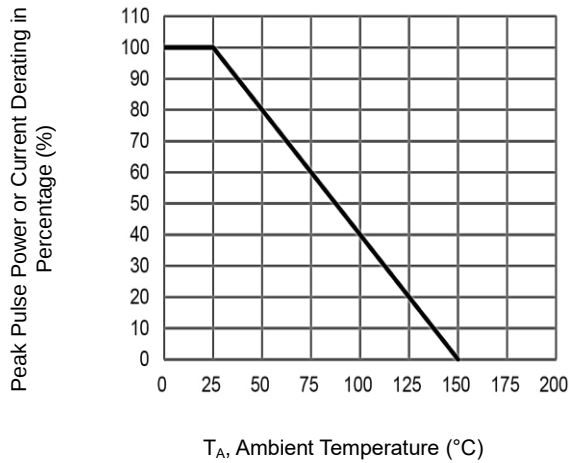
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ELECTRICAL CHARACTERISTICS

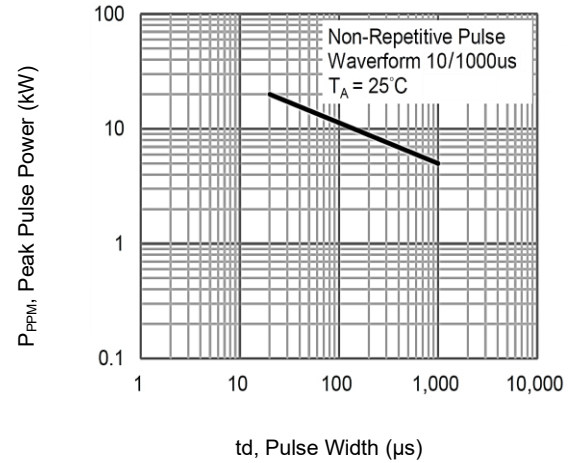
Part Number		Reverse Standoff Voltage	Breakdown Voltage @ I_T		Test Current	Reverse Leakage @ V_{RWM}	Clamping Voltage @ I_{PP}	Peak Pulse Current	Temperature Coefficient of V_{BR}
Uni-Polar	Bi-Polar	V_{RWM} (V)	V_{BR} (V) Min	V_{BR} (V) Max	I_T (mA)	I_R (μ A) Max	V_C (V) Max	I_{PP} (A) Max	(%/°C) Typ
5KSMC12A-A	5KSMC12CA-A	12	13.3	14.7	10	5	19.9	252	0.062
5KSMC13A-A	5KSMC13CA-A	13	14.4	15.9	10	5	21.5	233	0.063
5KSMC14A-A	5KSMC14CA-A	14	15.6	17.2	10	5	23.2	216	0.065
5KSMC15A-A	5KSMC15CA-A	15	16.7	18.5	1	5	24.4	205	0.066
5KSMC16A-A	5KSMC16CA-A	16	17.8	19.7	1	5	26.0	193	0.067
5KSMC17A-A	5KSMC17CA-A	17	18.9	20.9	1	5	27.6	181	0.068
5KSMC18A-A	5KSMC18CA-A	18	20.0	22.1	1	5	29.2	172	0.069
5KSMC20A-A	5KSMC20CA-A	20	22.2	24.5	1	5	32.4	155	0.069
5KSMC22A-A	5KSMC22CA-A	22	24.4	26.9	1	5	35.5	141	0.070
5KSMC24A-A	5KSMC24CA-A	24	26.7	29.5	1	5	38.9	129	0.071
5KSMC26A-A	5KSMC26CA-A	26	28.9	31.9	1	5	42.1	119	0.071
5KSMC28A-A	5KSMC28CA-A	28	31.1	34.4	1	5	45.4	110	0.071
5KSMC30A-A	5KSMC30CA-A	30	33.3	36.8	1	5	48.4	103	0.072
5KSMC33A-A	5KSMC33CA-A	33	36.7	40.6	1	5	53.3	93.9	0.073
5KSMC36A-A	5KSMC36CA-A	36	40.0	44.2	1	5	58.1	86.1	0.073
5KSMC40A-A	-	40	44.4	49.1	1	5	64.5	77.6	0.074
5KSMC43A-A	-	43	47.8	52.8	1	5	69.4	72.1	0.075
5KSMC45A-A	-	45	50.0	55.3	1	5	72.7	68.8	0.075
5KSMC48A-A	-	48	53.3	58.9	1	5	77.4	64.7	0.076
5KSMC51A-A	-	51	56.7	62.7	1	5	82.4	60.7	0.076
5KSMC54A-A	-	54	60.0	66.3	1	5	87.1	57.5	0.077
5KSMC58A-A	-	58	64.4	71.2	1	5	93.6	53.5	0.078
5KSMC60A-A	-	60	66.7	73.7	1	5	96.8	51.7	0.078
5KSMC64A-A	-	64	71.1	78.6	1	5	103	48.6	0.079
5KSMC70A-A	-	70	77.8	86.0	1	5	113	44.3	0.080

CHARACTERISTIC CURVES

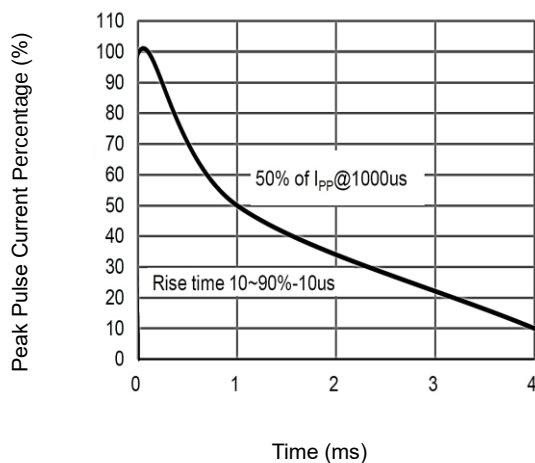
Pulse Derating Curve



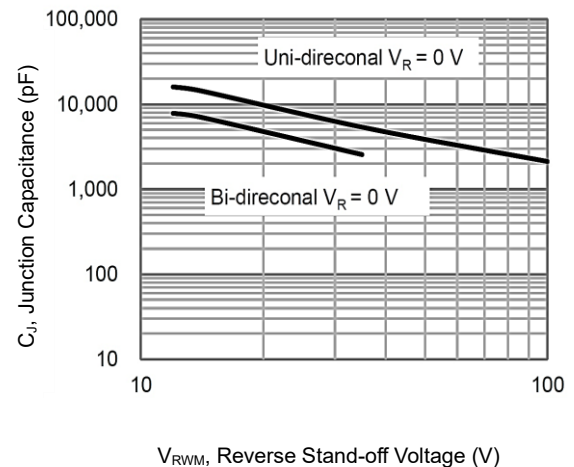
Peak Pulse Power Rating Curve



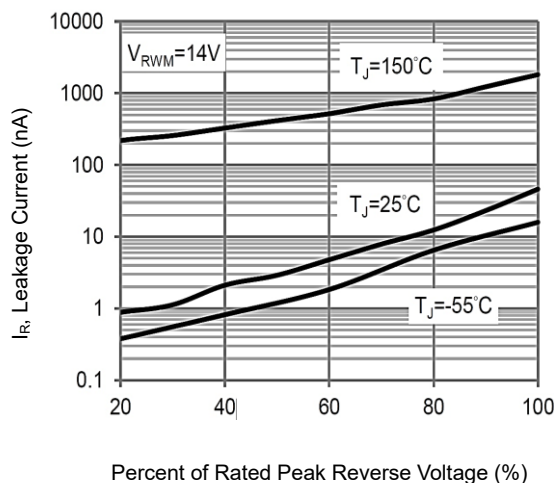
Pulse Waveform



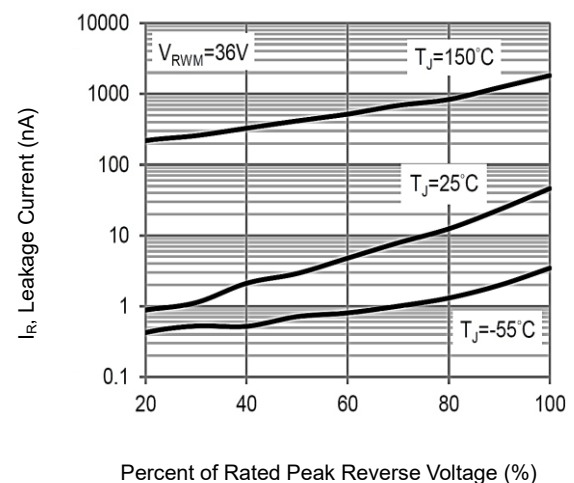
Typical Junction Capacitance



Typical Reverse Characteristics



Typical Reverse Characteristics



*Specifications subject to change without notice.