

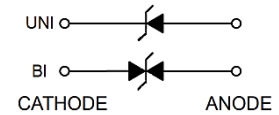
Transient Voltage Suppressors 1500W DO-214AB SMC AEC-Q101

SMCJ-A Series

MERITEK

FEATURE

- 5.0V to 440V Standoff Voltage
- 1500W Peak Pulse Power Capability (10/1000 μ s), Repetitive Rate:0.01%
- Glass Passivated Die Construction
- Excellent Clamping Capability
- Fast Response Time
- UL Safety Approved Certification No: E223045
- AEC-Q101 Compliance



MECHANICAL DATA

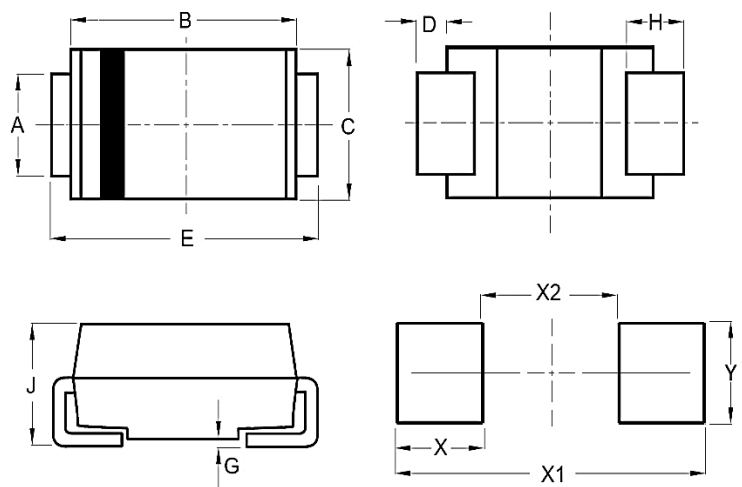
- Case: DO-214AB(SMC), Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- UL Flammability Classification Rating: 94V-0
- Polarity: Color Band Denotes Cathode End Except Bipolar

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Peak Power Dissipation with 10/1000 μ s Waveform	P_{PPM}	1500	W
Peak Pulse Current with 10/1000 μ s Waveform	I_{PP}	See Table	A
Power Dissipation at $T_L = 75^\circ\text{C}$	P_D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave	I_{FSM}	200	A
Maximum Instantaneous Forward Voltage at $I_F=100\text{A}$, Unidirectional Only	V_F	3.5/5.0	V
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

DIMENSIONS

Item	Min (mm)	Max (mm)
A	2.850	3.150
B	6.700	7.600
C	5.500	6.100
D	0.152	0.305
E	7.650	8.450
G	0.000	0.203
H	0.760	1.520
J	2.200	2.600
X	2.50	
X1	9.40	
X2	4.40	
Y	3.30	



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ELECTRICAL CHARACTERISTICS

Part Number		Reverse Standoff Voltage	Max. Reverse Leakage Current @V _{RWM}	Breakdown Voltage @ I _T		Test Current	Max. Clamping Voltage @ I _{PP}	
Uni-Polar	Bi-Polar	V _{RWM} (V)	I _R (μA)	V _{BR,MIN} (V)	V _{BR,MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)
SMCJ5.0A-A	SMCJ5.0CA-A	5.0	800	6.40	7.00	10	9.2	163.0
SMCJ6.0A-A	SMCJ6.0CA-A	6.0	800	6.67	7.37	10	10.3	145.6
SMCJ6.5A-A	SMCJ6.5CA-A	6.5	500	7.22	7.98	10	11.2	133.9
SMCJ7.0A-A	SMCJ7.0CA-A	7.0	200	7.78	8.60	10	12.0	125.0
SMCJ7.5A-A	SMCJ7.5CA-A	7.5	100	8.33	9.21	1.0	12.9	116.3
SMCJ8.0A-A	SMCJ8.0CA-A	8.0	50	8.89	9.83	1.0	13.6	110.3
SMCJ8.5A-A	SMCJ8.5CA-A	8.5	1	9.44	10.40	1.0	14.4	104.2
SMCJ9.0A-A	SMCJ9.0CA-A	9.0	1	10.00	11.10	1.0	15.4	97.4
SMCJ10A-A	SMCJ10CA-A	10.0	1	11.10	12.30	1.0	17.0	88.2
SMCJ11A-A	SMCJ11CA-A	11.0	1	12.20	13.50	1.0	18.2	82.4
SMCJ12A-A	SMCJ12CA-A	12.0	1	13.30	14.70	1.0	19.9	75.3
SMCJ13A-A	SMCJ13CA-A	13.0	1	14.40	15.90	1.0	21.5	69.7
SMCJ14A-A	SMCJ14CA-A	14.0	1	15.60	17.20	1.0	23.2	64.7
SMCJ15A-A	SMCJ15CA-A	15.0	1	16.70	18.50	1.0	24.4	61.5
SMCJ16A-A	SMCJ16CA-A	16.0	1	17.80	19.70	1.0	26.0	57.7
SMCJ17A-A	SMCJ17CA-A	17.0	1	18.90	20.90	1.0	27.6	54.4
SMCJ18A-A	SMCJ18CA-A	18.0	1	20.00	22.10	1.0	29.2	51.4
SMCJ20A-A	SMCJ20CA-A	20.0	1	22.20	24.50	1.0	32.4	46.3
SMCJ22A-A	SMCJ22CA-A	22.0	1	24.40	26.90	1.0	35.3	42.2
SMCJ24A-A	SMCJ24CA-A	24.0	1	26.70	29.50	1.0	38.9	38.6
SMCJ26A-A	SMCJ26CA-A	26.0	1	28.90	31.90	1.0	42.1	35.6
SMCJ28A-A	SMCJ28CA-A	28.0	1	31.10	34.40	1.0	45.4	33.0
SMCJ30A-A	SMCJ30CA-A	30.0	1	33.30	36.80	1.0	48.4	31.0
SMCJ33A-A	SMCJ33CA-A	33.0	1	33.70	40.60	1.0	53.3	28.1
SMCJ36A-A	SMCJ36CA-A	36.0	1	36.70	44.90	1.0	58.1	25.8
SMCJ40A-A	SMCJ40CA-A	40.0	1	40.00	44.20	1.0	64.5	23.2
SMCJ43A-A	SMCJ43CA-A	43.0	1	44.40	54.30	1.0	69.4	21.6
SMCJ45A-A	SMCJ45CA-A	45.0	1	47.80	58.40	1.0	72.7	20.6
SMCJ48A-A	SMCJ48CA-A	48.0	1	53.30	58.90	1.0	77.4	19.4
SMCJ51A-A	SMCJ51CA-A	51.0	1	56.70	62.70	1.0	82.4	18.2
SMCJ54A-A	SMCJ54CA-A	54.0	1	60.00	66.30	1.0	87.1	17.2
SMCJ58A-A	SMCJ58CA-A	58.0	1	64.40	71.20	1.0	93.6	16.0
SMCJ60A-A	SMCJ60CA-A	60.0	1	66.70	73.70	1.0	96.8	15.5
SMCJ64A-A	SMCJ64CA-A	64.0	1	71.10	78.60	1.0	103.0	14.6
SMCJ70A-A	SMCJ70CA-A	70.0	1	77.80	86.00	1.0	113.0	13.3
SMCJ75A-A	SMCJ75CA-A	75.0	1	83.30	92.10	1.0	121.0	12.4
SMCJ78A-A	SMCJ78CA-A	78.0	1	86.70	95.80	1.0	126.0	11.9
SMCJ85A-A	SMCJ85CA-A	85.0	1	94.40	104.00	1.0	137.0	11.0
SMCJ90A-A	SMCJ90CA-A	90.0	1	100.00	111.00	1.0	146.0	10.3
SMCJ100A-A	SMCJ100CA-A	100.0	1	111.00	123.00	1.0	162.0	9.3
SMCJ110A-A	SMCJ110CA-A	110.0	1	122.00	135.00	1.0	177.0	8.4
SMCJ120A-A	SMCJ120CA-A	120.0	1	133.00	147.00	1.0	193.0	7.8
SMCJ130A-A	SMCJ130CA-A	130.0	1	144.00	159.00	1.0	209.0	7.2
SMCJ150A-A	SMCJ150CA-A	150.0	1	167.00	185.00	1.0	243.0	6.2
SMCJ160A-A	SMCJ160CA-A	160.0	1	178.00	197.00	1.0	259.0	5.8

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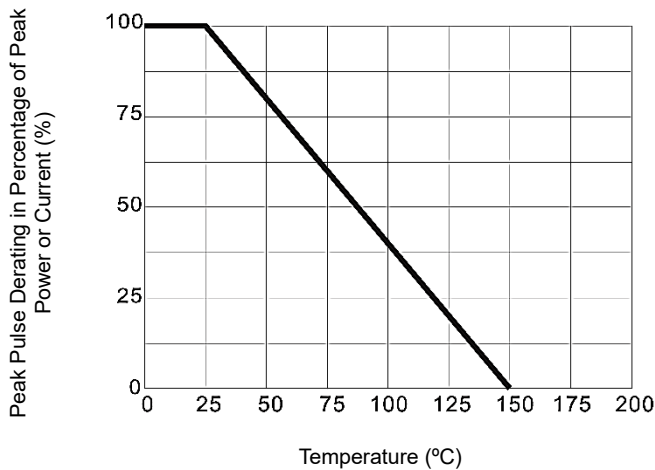
Part Number		Reverse Standoff Voltage	Max. Reverse Leakage Current @ V_{RWM}	Breakdown Voltage @ I_T		Test Current	Max. Clamping Voltage @ I_{PP}	
Uni-Polar	Bi-Polar	V_{RWM} (V)	I_R (μ A)	$V_{BR,MIN}$ (V)	$V_{BR,MAX}$ (V)	I_T (mA)	V_C (V)	I_{PP} (A)
SMCJ170A-A	SMCJ170CA-A	170.0	1	189.00	209.00	1.0	275.0	5.5
SMCJ180A-A	SMCJ180CA-A	180.0	1	201.00	222.00	1.0	292.0	5.1
SMCJ200A-A	SMCJ200CA-A	200.0	1	224.00	247.00	1.0	324.0	4.6
SMCJ220A-A	SMCJ220CA-A	220.0	1	246.00	272.00	1.0	356.0	4.2
SMCJ250A-A	SMCJ250CA-A	250.0	1	279.00	309.00	1.0	405.0	3.7
SMCJ300A-A	SMCJ300CA-A	300.0	1	335.00	371.00	1.0	486.0	3.1
SMCJ350A-A	SMCJ350CA-A	350.0	1	391.00	432.00	1.0	567.0	2.6
SMCJ400A-A	SMCJ400CA-A	400.0	1	447.00	494.00	1.0	648.0	2.3
SMCJ440A-A	SMCJ440CA-A	440.0	1	492.00	543.00	1.0	713.0	2.1

Note:

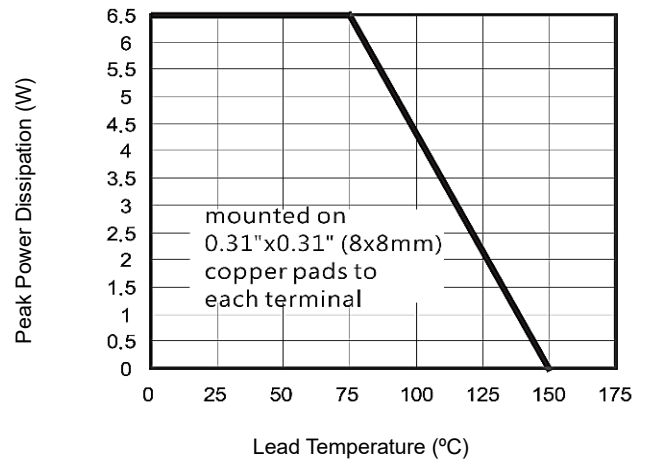
1. Non-repetitive current pulse and derated above $T_A=25^{\circ}\text{C}$.
2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
3. $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$ and $V_F < 5.0\text{V}$ for devices of $V_{BR} > 201\text{V}$.
4. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices.
5. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double.
6. Mounted on copper pad area of $0.2 \times 0.2 \text{ inch}^2$ ($5.0 \times 5.0 \text{ mm}^2$)
7. All terms and symbols are consistent with ANS/IEEE C62.35

CHARACTERISTIC CURVES

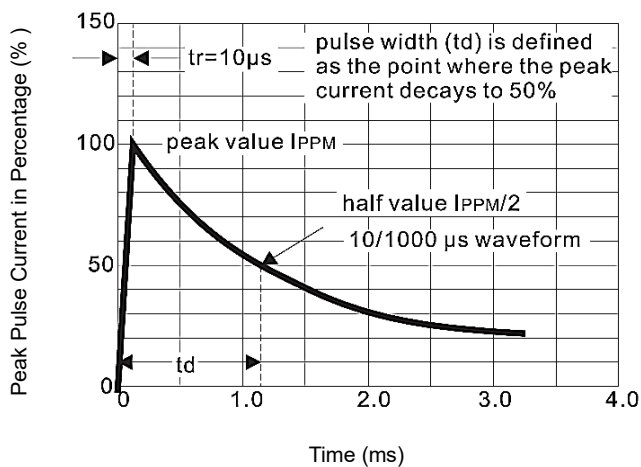
Pulse Derating Curve



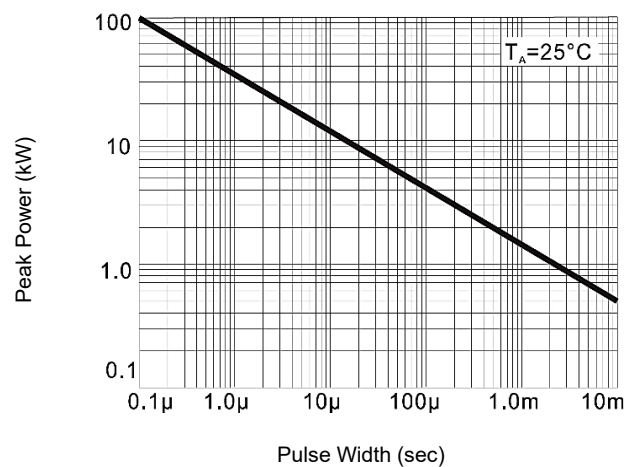
Steady State Pulse Derating Curve



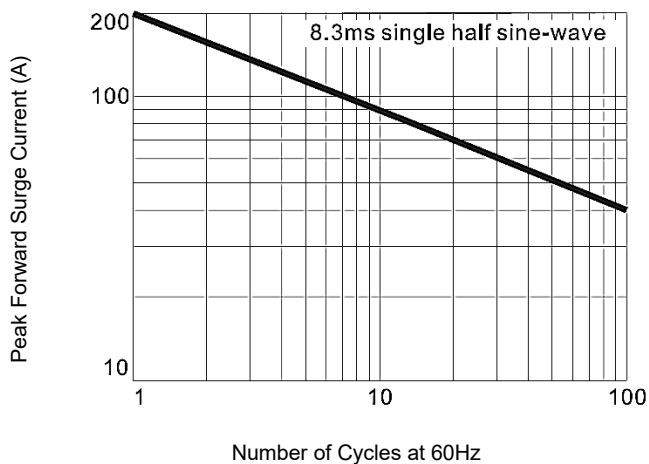
Pulse Waveform



Peak Pulse Power Rating Curve



Maximum Non-Repetitive Surge Current



Typical Junction Capacitance

