

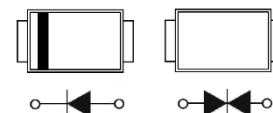
Transient Voltage Suppressors 5000W DO-214AB SMC

5.0SMDJ- Series

MERITEK

FEATURE

- 5000W Peak Pulse Power Capability (10/1000 μ s)
- Uni- and Bi-Directional Polarity Unit
- Glass Passivated Chip Junction
- Low Leakage Current
- Excellent Clamping Capability
- Very Fast Response Time



MECHANICAL DATA

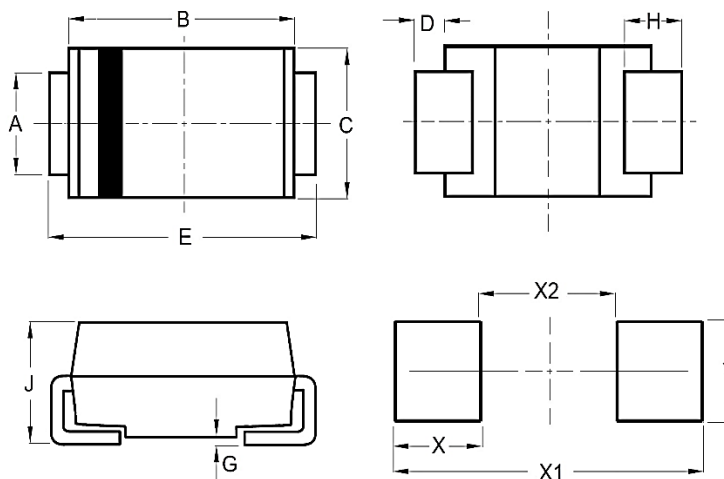
- Case: DO-214AB(SMC), Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- UL Flammability Classification Rating: 94V-0
- Polarity: Color Band Denotes Cathode End Except Bipolar

MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Peak Power Dissipation with A 10/1000 μ s Waveform	P_{PPM}	5000	W
Peak Pulse Current on 10/1000 μ s waveform	I_{PP}	See Table	A
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Unidirectional Only	I_{FSM}	300	A
Maximum Instantaneous Forward Voltage at $I_F = 100\text{A}$	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	3.25	2.75
B	6.52	7.11
C	5.52	6.22
D	0.152	0.305
E	7.64	8.13
G	0.000	0.203
H	0.76	1.52
X	3.03	
X1	9.90	
X2	3.84	
Y	3.82	



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ELECTRICAL CHARACTERISTICS

Part Number		Working Reverse Voltage	Max Reverse Leakage @V _{RWM}	Breakdown Voltage @ I _T			Max Clamping Voltage @ I _{PP}	Max Reverse Surge Current
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)
5.0SMDJ11	5.0SMDJ11C	11.0	800	12.20	14.90	10	20.1	248.8
5.0SMDJ11A	5.0SMDJ11CA	11.0	800	12.20	13.50	10	18.2	274.7
5.0SMDJ12	5.0SMDJ12C	12.0	800	13.30	16.30	10	22.0	227.3
5.0SMDJ12A	5.0SMDJ12CA	12.0	800	13.30	14.70	10	19.9	251.3
5.0SMDJ13	5.0SMDJ13C	13.0	500	14.40	17.60	10	23.8	210.1
5.0SMDJ13A	5.0SMDJ13CA	13.0	500	14.40	15.90	10	21.5	232.6
5.0SMDJ14	5.0SMDJ14C	14.0	200	15.60	19.10	10	25.8	193.8
5.0SMDJ14A	5.0SMDJ14CA	14.0	200	15.60	17.20	10	23.3	215.5
5.0SMDJ15	5.0SMDJ15C	15.0	100	16.70	20.40	1.0	26.9	185.9
5.0SMDJ15A	5.0SMDJ15CA	15.0	100	16.70	18.50	1.0	24.4	204.9
5.0SMDJ16	5.0SMDJ16C	16.0	50.0	17.80	21.80	1.0	28.8	173.6
5.0SMDJ16A	5.0SMDJ16CA	16.0	50.0	17.80	19.70	1.0	26.0	192.3
5.0SMDJ17	5.0SMDJ17C	17.0	20.0	18.90	23.10	1.0	30.5	163.9
5.0SMDJ17A	5.0SMDJ17CA	17.0	20.0	18.90	20.90	1.0	27.6	181.2
5.0SMDJ18	5.0SMDJ18C	18.0	10.0	20.00	24.40	1.0	32.2	155.3
5.0SMDJ18A	5.0SMDJ18CA	18.0	10.0	20.00	22.10	1.0	29.2	171.2
5.0SMDJ19	5.0SMDJ19C	19.0	10.0	21.13	25.76	1.0	34.0	147.0
5.0SMDJ19A	5.0SMDJ19CA	19.0	10.0	21.10	23.30	1.0	30.8	162.4
5.0SMDJ20	5.0SMDJ20C	20.0	5.0	22.20	27.10	1.0	35.8	139.7
5.0SMDJ20A	5.0SMDJ20CA	20.0	5.0	22.20	24.50	1.0	32.4	154.3
5.0SMDJ22	5.0SMDJ22C	22.0	5.0	24.40	29.80	1.0	39.4	126.9
5.0SMDJ22A	5.0SMDJ22CA	22.0	5.0	24.40	26.90	1.0	35.5	140.8
5.0SMDJ24	5.0SMDJ24C	24.0	5.0	26.70	32.60	1.0	43.0	116.3
5.0SMDJ24A	5.0SMDJ24CA	24.0	5.0	26.70	29.50	1.0	38.9	128.5
5.0SMDJ26	5.0SMDJ26C	26.0	5.0	28.90	35.30	1.0	46.6	107.3
5.0SMDJ26A	5.0SMDJ26CA	26.0	5.0	28.90	31.90	1.0	42.1	118.8
5.0SMDJ28	5.0SMDJ28C	28.0	5.0	31.10	38.00	1.0	50.0	100.0
5.0SMDJ28A	5.0SMDJ28CA	28.0	5.0	31.10	34.40	1.0	45.4	110.1
5.0SMDJ30	5.0SMDJ30C	30.0	5.0	33.30	40.70	1.0	53.5	93.5
5.0SMDJ30A	5.0SMDJ30CA	30.0	5.0	33.30	36.80	1.0	48.4	103.3
5.0SMDJ33	5.0SMDJ33C	33.0	5.0	36.70	44.90	1.0	59.0	84.7
5.0SMDJ33A	5.0SMDJ33CA	33.0	5.0	36.70	40.60	1.0	53.3	93.8
5.0SMDJ36	5.0SMDJ36C	36.0	5.0	40.00	48.90	1.0	64.3	77.8
5.0SMDJ36A	5.0SMDJ36CA	36.0	5.0	40.00	44.20	1.0	58.1	86.1
5.0SMDJ40	5.0SMDJ40C	40.0	5.0	44.40	54.30	1.0	71.4	70.0
5.0SMDJ40A	5.0SMDJ40CA	40.0	5.0	44.40	49.10	1.0	64.5	77.5
5.0SMDJ43	5.0SMDJ43C	43.0	5.0	47.80	58.40	1.0	76.7	65.2
5.0SMDJ43A	5.0SMDJ43CA	43.0	5.0	47.80	52.80	1.0	69.4	72.0
5.0SMDJ45	5.0SMDJ45C	45.0	5.0	50.00	61.10	1.0	80.3	62.3
5.0SMDJ45A	5.0SMDJ45CA	45.0	5.0	50.00	55.30	1.0	72.7	68.8

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ELECTRICAL CHARACTERISTICS

Part Number		Working Reverse Voltage	Max Reverse Leakage @V _{RWM}	Breakdown Voltage @ I _T			Max Clamping Voltage @ I _{PP}	Max Reverse Surge Current
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)
5.0SMDJ48	5.0SMDJ48C	48.0	5.0	53.30	65.10	1.0	85.5	58.5
5.0SMDJ48A	5.0SMDJ48CA	48.0	5.0	53.30	58.90	1.0	77.4	64.6
5.0SMDJ51	5.0SMDJ51C	51.0	5.0	56.70	69.30	1.0	91.1	54.9
5.0SMDJ51A	5.0SMDJ51CA	51.0	5.0	56.70	62.70	1.0	82.4	60.7
5.0SMDJ54	5.0SMDJ54C	54.0	5.0	60.00	73.30	1.0	96.3	51.9
5.0SMDJ54A	5.0SMDJ54CA	54.0	5.0	60.00	66.30	1.0	87.1	57.4
5.0SMDJ58	5.0SMDJ58C	58.0	5.0	64.40	78.70	1.0	103.0	48.5
5.0SMDJ58A	5.0SMDJ58CA	58.0	5.0	64.40	71.20	1.0	93.6	53.4
5.0SMDJ60	5.0SMDJ60C	60.0	5.0	66.70	81.50	1.0	107.0	46.7
5.0SMDJ60A	5.0SMDJ60CA	60.0	5.0	66.70	73.70	1.0	96.8	51.7
5.0SMDJ64	5.0SMDJ64C	64.0	5.0	71.10	86.90	1.0	114.0	43.9
5.0SMDJ64A	5.0SMDJ64CA	64.0	5.0	71.10	78.60	1.0	103.0	48.5
5.0SMDJ70	5.0SMDJ70C	70.0	5.0	77.80	95.10	1.0	125.0	40.0
5.0SMDJ70A	5.0SMDJ70CA	70.0	5.0	77.80	86.00	1.0	113.0	44.2
5.0SMDJ75	5.0SMDJ75C	75.0	5.0	83.30	102.00	1.0	134.0	37.3
5.0SMDJ75A	5.0SMDJ75CA	75.0	5.0	83.30	92.10	1.0	121.0	41.3
5.0SMDJ78	5.0SMDJ78C	78.0	5.0	86.70	106.00	1.0	139.0	36.0
5.0SMDJ78A	5.0SMDJ78CA	78.0	5.0	86.70	95.80	1.0	126.0	39.7
5.0SMDJ80	5.0SMDJ80C	80.0	5.0	88.96	108.80	1.0	143.2	34.9
5.0SMDJ80A	5.0SMDJ80CA	80.0	5.0	88.80	97.60	1.0	129.6	38.6
5.0SMDJ85	5.0SMDJ85C	85.0	5.0	94.40	115.00	1.0	151.0	33.1
5.0SMDJ85A	5.0SMDJ85CA	85.0	5.0	94.40	104.00	1.0	137.0	36.5
5.0SMDJ90	5.0SMDJ90C	90.0	5.0	100.00	122.00	1.0	160.0	31.3
5.0SMDJ90A	5.0SMDJ90CA	90.0	5.0	100.00	111.00	1.0	146.0	34.2
5.0SMDJ100	5.0SMDJ100C	100.0	5.0	111.00	136.00	1.0	179.0	27.9
5.0SMDJ100A	5.0SMDJ100CA	100.0	5.0	111.00	123.00	1.0	162.0	30.9
5.0SMDJ110	5.0SMDJ110C	110.0	5.0	122.00	149.00	1.0	196.0	25.5
5.0SMDJ110A	5.0SMDJ110CA	110.0	5.0	122.00	135.00	1.0	177.0	28.2
5.0SMDJ120	5.0SMDJ120C	120.0	5.0	133.00	163.00	1.0	214.0	23.4
5.0SMDJ120A	5.0SMDJ120CA	120.0	5.0	133.00	147.00	1.0	193.0	25.9
5.0SMDJ130	5.0SMDJ130C	130.0	5.0	144.00	176.00	1.0	231.0	21.6
5.0SMDJ130A	5.0SMDJ130CA	130.0	5.0	144.00	159.00	1.0	209.0	23.9
5.0SMDJ140	5.0SMDJ140C	140.0	5.0	155.68	190.40	1.0	250.6	20.0
5.0SMDJ140A	5.0SMDJ140CA	140.0	5.0	155.00	171.00	1.0	226.8	22.0
5.0SMDJ150	5.0SMDJ150C	150.0	5.0	167.00	204.00	1.0	268.0	18.7
5.0SMDJ150A	5.0SMDJ150CA	150.0	5.0	167.00	185.00	1.0	243.0	20.6
5.0SMDJ160	5.0SMDJ160C	160.0	5.0	178.00	218.00	1.0	287.0	17.4
5.0SMDJ160A	5.0SMDJ160CA	160.0	5.0	178.00	197.00	1.0	259.0	19.3
5.0SMDJ170	5.0SMDJ170C	170.0	5.0	189.00	231.00	1.0	304.0	16.4
5.0SMDJ170A	5.0SMDJ170CA	170.0	5.0	189.00	209.00	1.0	275.0	18.2

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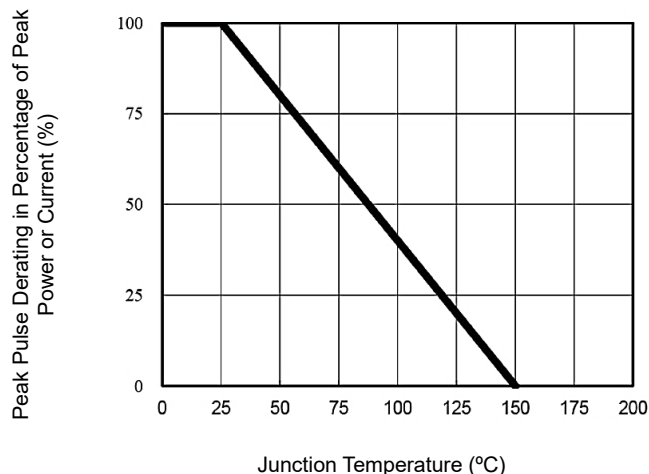
Part Number		Working Reverse Voltage	Max Reverse Leakage @V _{RWM}	Breakdown Voltage @ I _T			Max Clamping Voltage @ I _{PP}	Max Reverse Surge Current
Uni-Polar	Bi-Polar	V _{RWM} (V)	I _R (μA)	V _{BR, MIN} (V)	V _{BR, MAX} (V)	I _T (mA)	V _C (V)	I _{PP} (A)
5.0SMDJ180	5.0SMDJ180C	180.0	5.0	200.16	244.80	1.0	322.2	15.5
5.0SMDJ180A	5.0SMDJ180CA	180.0	5.0	200.00	220.00	1.0	291.6	17.1
5.0SMDJ190	5.0SMDJ190C	190.0	5.0	211.28	258.40	1.0	340.1	14.7
5.0SMDJ190A	5.0SMDJ190CA	190.0	5.0	211.00	232.00	1.0	307.8	16.2
5.0SMDJ200A	5.0SMDJ200CA	200.0	5.0	224.00	247.00	1.0	324.0	15.4
5.0SMDJ220A	5.0SMDJ220CA	220.0	5.0	246.00	272.00	1.0	356.0	14.0
5.0SMDJ250A	5.0SMDJ250CA	250.0	5.0	279.00	309.00	1.0	405.0	12.3
5.0SMDJ300A	5.0SMDJ300CA	300.0	5.0	335.00	371.00	1.0	486.0	10.3
5.0SMDJ350A	5.0SMDJ350CA	350.0	5.0	391.00	432.00	1.0	567.0	8.8
5.0SMDJ400A	5.0SMDJ400CA	400.0	5.0	447.00	494.00	1.0	648.0	7.7
5.0SMDJ440A	5.0SMDJ440CA	440.0	5.0	492.00	543.00	1.0	713.0	7.0

Note:

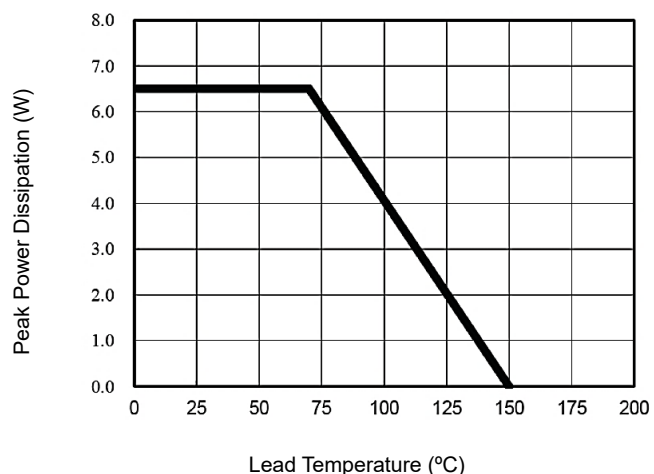
1. Non-repetitive current pulse and derated above T_A=25°C.
2. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.
3. V_F < 3.5V for devices of V_{BR} < 200V and V_F < 5.0V for devices of V_{BR} > 201V.
4. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
5. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices.
6. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double.

CHARACTERISTIC CURVES

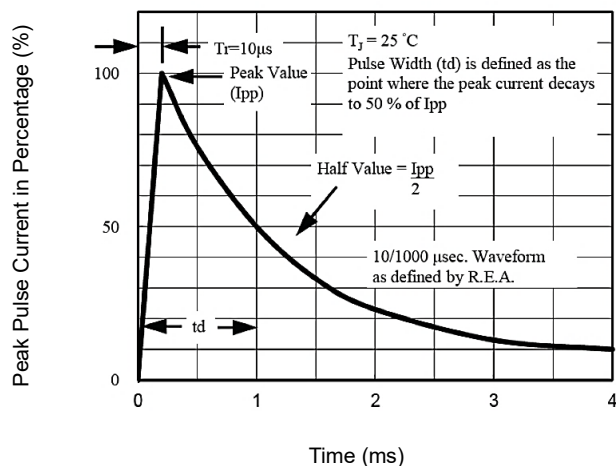
Pulse Derating Curve



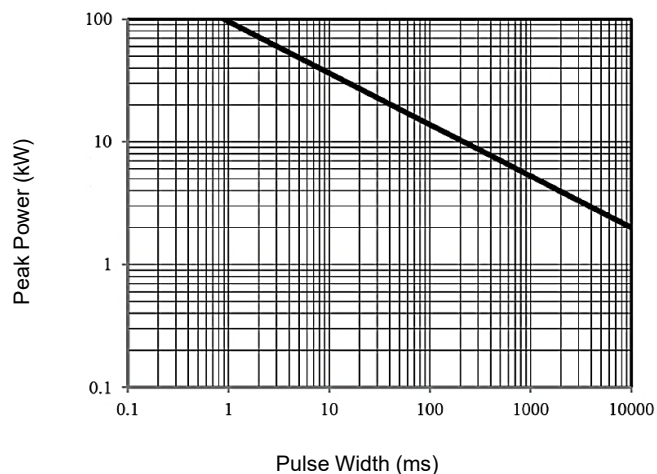
Steady State Pulse Derating Curve



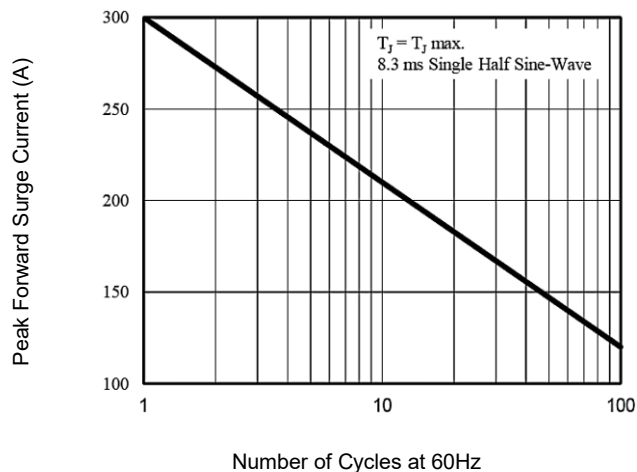
Pulse Waveform



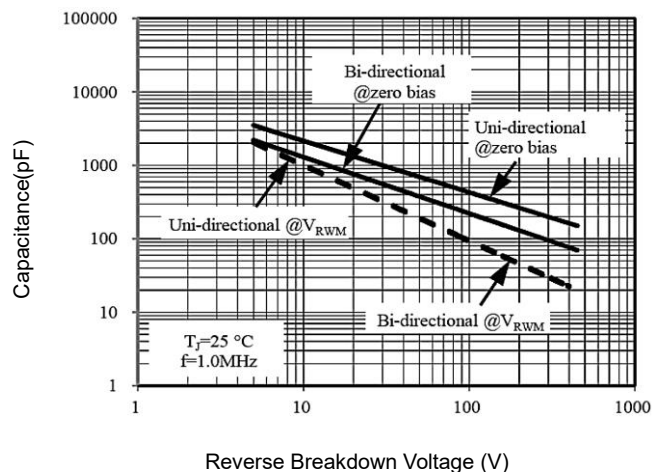
Peak Pulse Power Rating Curve



Maximum Non-Repetitive Surge Current



Typical Junction Capacitance



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*Specifications subject to change without notice.