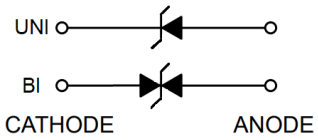
Transient Voltage Suppressors
1500W DO-214AB

1.5SMC series

MERITEK

FEATURE

- 1500W Peak Pulse Power (10/1000μs Waveform), Repetitive Rate:0.01%
- 5.8V to 513V Standoff Voltage
- Fast Response Time
- Excellent Clamping Capability
- Glass Passivated Junction
- UL Flammability Classification Rating 94V-0



MECHANICAL DATA

- Case: DO-214AB, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Color Band Denotes Cathode End Except Bipolar

RoHS

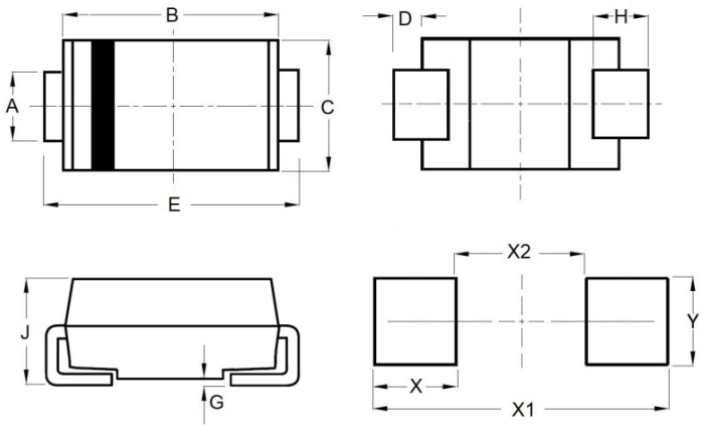
MAXIMUM RATINGS

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation On 10/1000μs Waveform	P_{PPM}	1500	W
Peak Pulse Current On 10/1000μs Waveform	I_{PPM}	See Table	A
Power Dissipation on infinite Heatsink at T_L= 75°C	P_D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed On Rated Load	I_{FSM}	200	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V_F	3.5/5.0	V
Operating Junction And Storage Temperature Range	T_J , T_{STG}	-55 to +150	°C

Note:
1. T_A = 25°C ambient temperature unless otherwise specified.
2. Non-repetitive current pulse, and derated above T_A = 25°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-214AB	Min (mm)	Max (mm)
A	2.90	3.20
B	6.60	7.15
C	5.55	6.04
D	0.15	0.30
E	7.75	7.95
G	--	0.20
H	0.75	1.51
J	1.98	2.53
X	3.03	
X1	9.90	
X2	3.84	
Y	3.82	



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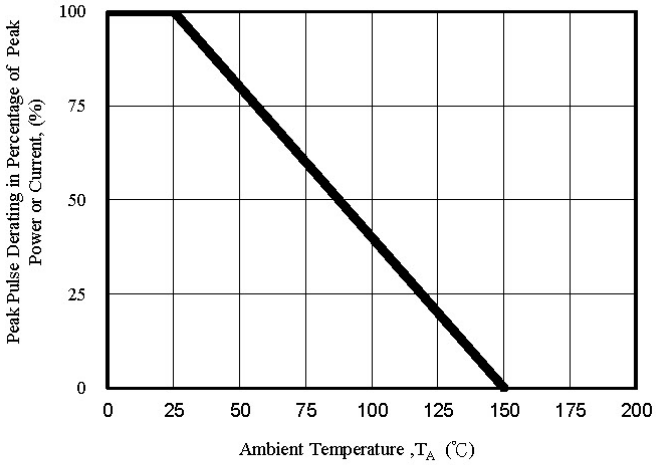
ELECTRICAL CHARACTERISTICS

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} (V) Min	V_{BR} (V) Max	IT(mA)	I_R (uA) @ V_{RWM}	V_C (V) @ I_{PP}	I_{PP}(A) Max
1.5SMC6.8A	1.5SMC6.8CA	5.8	6.46	7.14	10	1000	10.5	142.86
1.5SMC7.5A	1.5SMC7.5CA	6.4	7.13	7.88	10	500	11.3	132.74
1.5SMC8.2A	1.5SMC8.2CA	7.0	7.79	8.61	10	200	12.1	123.97
1.5SMC9.1A	1.5SMC9.1CA	7.8	8.65	9.56	1	50	13.4	111.94
1.5SMC10A	1.5SMC10CA	8.6	9.50	10.50	1	10	14.5	103.45
1.5SMC11A	1.5SMC11CA	9.4	10.45	11.55	1	5	15.6	96.15
1.5SMC12A	1.5SMC12CA	10.2	11.4	12.60	1	5	16.7	89.82
1.5SMC13A	1.5SMC13CA	11.1	12.35	13.65	1	1	18.2	82.42
1.5SMC15A	1.5SMC15CA	12.8	14.25	15.75	1	1	21.2	70.75
1.5SMC16A	1.5SMC16CA	13.6	15.20	16.80	1	1	22.5	66.67
1.5SMC18A	1.5SMC18CA	15.3	17.10	18.90	1	1	25.2	59.52
1.5SMC20A	1.5SMC20CA	17.1	19.00	21.00	1	1	27.7	54.15
1.5SMC22A	1.5SMC22CA	18.8	20.90	23.10	1	1	30.6	49.02
1.5SMC24A	1.5SMC24CA	20.5	22.80	25.20	1	1	33.2	45.18
1.5SMC27A	1.5SMC27CA	23.1	25.65	28.35	1	1	37.5	40.00
1.5SMC30A	1.5SMC30CA	25.6	28.50	31.50	1	1	41.4	36.23
1.5SMC33A	1.5SMC33CA	28.2	31.35	34.65	1	1	45.7	32.82
1.5SMC36A	1.5SMC36CA	30.8	34.20	37.80	1	1	49.9	30.06
1.5SMC39A	1.5SMC39CA	33.3	37.05	40.95	1	1	53.9	27.83
1.5SMC43A	1.5SMC43CA	36.8	40.85	45.15	1	1	59.3	25.30
1.5SMC47A	1.5SMC47CA	40.2	44.65	49.35	1	1	64.8	23.15
1.5SMC51A	1.5SMC51CA	43.6	48.45	53.55	1	1	70.1	21.40
1.5SMC56A	1.5SMC56CA	47.8	53.20	58.80	1	1	77.0	19.48
1.5SMC62A	1.5SMC62CA	53.0	58.90	65.10	1	1	85.0	17.65
1.5SMC68A	1.5SMC68CA	58.1	64.60	71.40	1	1	92.0	16.30
1.5SMC75A	1.5SMC75CA	64.1	71.25	78.75	1	1	103	14.56
1.5SMC82A	1.5SMC82CA	70.1	77.90	86.10	1	1	113	13.27
1.5SMC91A	1.5SMC91CA	77.8	86.45	95.55	1	1	125	12.00
1.5SMC100A	1.5SMC100CA	85.5	95.00	105.0	1	1	137	10.95
1.5SMC110A	1.5SMC110CA	94.0	104.5	115.5	1	1	152	9.87
1.5SMC120A	1.5SMC120CA	102.0	114.0	126.0	1	1	165	9.09
1.5SMC130A	1.5SMC130CA	111.0	123.5	136.5	1	1	179	8.38
1.5SMC150A	1.5SMC150CA	128.0	142.5	157.5	1	1	207	7.25
1.5SMC160A	1.5SMC160CA	136.0	152.0	168.0	1	1	219	6.85
1.5SMC170A	1.5SMC170CA	145.0	161.5	178.5	1	1	234	6.41
1.5SMC180A	1.5SMC180CA	154.0	171.0	189.0	1	1	246	6.10
1.5SMC200A	1.5SMC200CA	171.0	190.0	210.0	1	1	274	5.47
1.5SMC220A	1.5SMC220CA	185.0	209.0	231.0	1	1	328	4.57
1.5SMC250A	1.5SMC250CA	214.0	237.5	262.5	1	1	344	4.36
1.5SMC300A	1.5SMC300CA	256.0	285.0	315.0	1	1	414	3.62
1.5SMC350A	1.5SMC350CA	299.3	332.5	367.5	1	1	482.0	3.11
1.5SMC380A	1.5SMC380CA	324.9	361.0	399.0	1	1	524.4	2.86
1.5SMC400A	1.5SMC400CA	342.0	380.0	420.0	1	1	548.0	2.72
1.5SMC440A	1.5SMC440CA	376.2	418.0	462.0	1	1	602.0	2.47
1.5SMC500A	1.5SMC500CA	427.5	475.0	525.0	1	1	690.0	2.17
1.5SMC520A	1.5SMC520CA	444.6	494.0	546.0	1	1	717.6	2.09
1.5SMC550A	1.5SMC550CA	470.3	522.5	577.5	1	1	759.0	1.98
1.5SMC600A	1.5SMC600CA	513.0	570.0	630.0	1	1	828.0	1.81

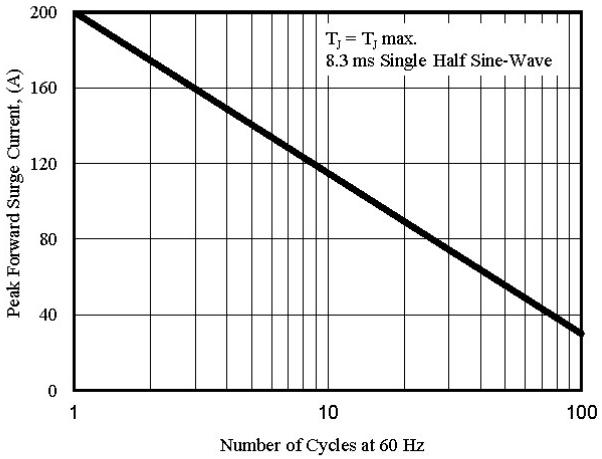
Note:
1. T_A = 25°C ambient temperature unless otherwise specified.
2. The available parts are “A” type only, the parts without A(V_{BR} is ±10%)is not availed
3. Add suffix’C’ or ‘CA’ after part number to specify Bi-directional devices
4. For Bi-Directional device having VR of 10 volts and under, the IR limit is double

CHARACTERISTIC CURVES

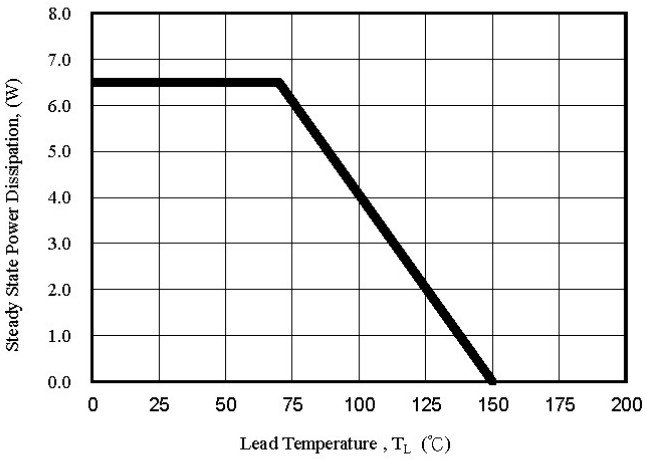
Pulse Derating Curve



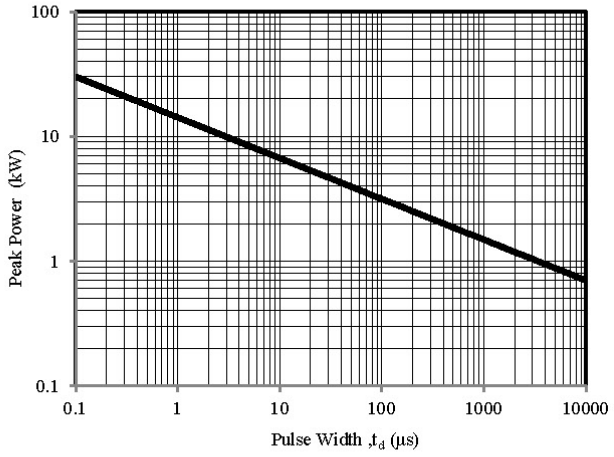
Maximum Non-Repetitive Surge Current



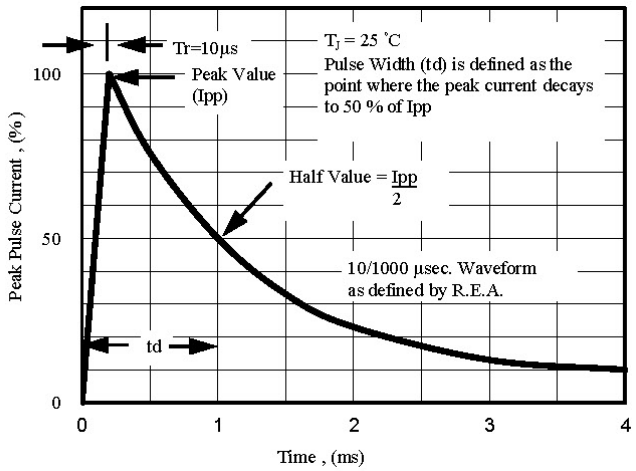
Steady State Power Derating Curve



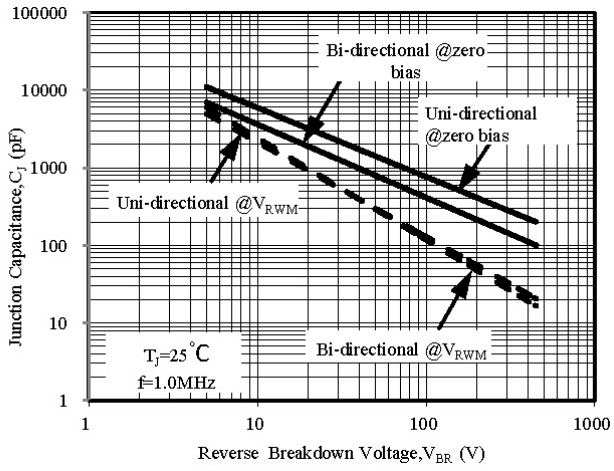
Peak Pulse Power Rating Curve



Pulse Waveform



Typical Junction Capacitance



*Specifications subject to change without notice.