

1.5SMC6.8A

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

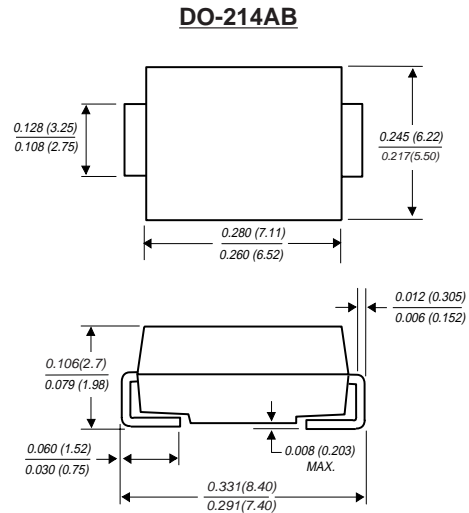
Stand-off Voltage: 6.8-91 Volts Peak pulse power: 1500 Watts

FEATURES

- Glass passivated chip
- 1500 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time

MECHANICAL DATA

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any



Dimensions in inches and (millimeters)

RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000 μ s waveform	P_{PP}	Minimum 1500	Watts
Peak pulse current with a 10/1000 μ s waveform	I_{PP}	See Next Table	Amps.
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	6.5	Watts
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽¹⁾	I_{FSM}	200	Amps.
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	Volts
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Note:

1 Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum.

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ELECTRICAL CHARACTERISTICS

Device*	V _{RWM} (Note 6)	I _R @ V _{RWM}	Breakdown Voltage				V _C @ I _{PP} (Note 8)		ΘV _{BR}
			V _{BR} V (Note 7)			@ I _T	V _C	I _{PP}	
	V	μA	Min	Nom	Max	mA	V	A	%/°C
1.5SMC6.8A	5.8	1000	6.45	6.8	7.14	10	10.5	143	0.057
1.5SMC7.5A	6.4	500	7.13	7.5	7.88	10	11.3	132	0.061
1.5SMC8.2A	7.02	200	7.79	8.2	8.61	10	12.1	124	0.065
1.5SMC9.1A	7.78	50	8.65	9.1	9.55	1	13.4	112	0.068
1.5SMC10A	8.55	10	9.5	10	10.5	1	14.5	103	0.073
1.5SMC11A	9.4	5	10.5	11	11.6	1	15.6	96	0.075
1.5SMC12A	10.2	5	11.4	12	12.6	1	16.7	90	0.078
1.5SMC13A	11.1	5	12.4	13	13.7	1	18.2	82	0.081
1.5SMC15A	12.8	5	14.3	15	15.8	1	21.2	71	0.084
1.5SMC16A	13.6	5	15.2	16	16.8	1	22.5	67	0.086
1.5SMC18A	15.3	5	17.1	18	18.9	1	25.2	59.5	0.088
1.5SMC20A	17.1	5	19	20	21	1	27.7	54	0.09
1.5SMC22A	18.8	5	20.9	22	23.1	1	30.6	49	0.092
1.5SMC24A	20.5	5	22.8	24	25.2	1	33.2	45	0.094
1.5SMC27A	23.1	5	25.7	27	28.4	1	37.5	40	0.096
1.5SMC30A	25.6	5	28.5	30	31.5	1	41.4	36	0.097
1.5SMC33A	28.2	5	31.4	33	34.7	1	45.7	33	0.098
1.5SMC36A	30.8	5	34.2	36	37.8	1	49.9	30	0.099
1.5SMC39A	33.3	5	37.1	39	41	1	53.9	28	0.1
1.5SMC43A	36.8	5	40.9	43	45.2	1	59.3	25.3	0.101
1.5SMC47A	40.2	5	44.7	47	49.4	1	64.8	23.2	0.101
1.5SMC51A	43.6	5	48.5	51	53.6	1	70.1	21.4	0.102
1.5SMC56A	47.8	5	53.2	56	58.8	1	77	19.5	0.103
1.5SMC62A	53	5	58.9	62	65.1	1	85	17.7	0.104
1.5SMC68A	58.1	5	64.6	68	71.4	1	92	16.3	0.104
1.5SMC75A	64.1	5	71.3	75	78.8	1	103	14.6	0.105
1.5SMC82A	70.1	5	77.9	82	86.1	1	113	13.3	0.105
1.5SMC91A	77.8	5	86.5	91	95.5	1	125	12	0.106

2. A transient suppressor is normally 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.
3. V_{BR} measured at pulse test current I_T at an ambient temperature of 25°C.
4. Surge current waveform per Figure 2 and derate per Figure 3 of the General Data – 1500 Watt at the beginning of this group.
5. For bidirectional use suffix C or CA for types 1.5SMC6.8A(e.g. 1.5SMC6.8CA)

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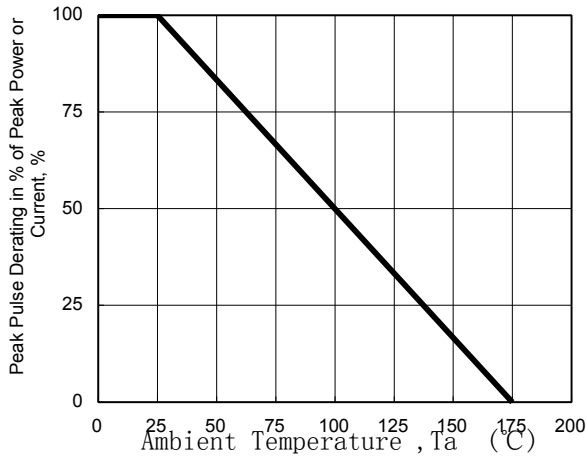


Fig. 1 - Pulse Derating Curve

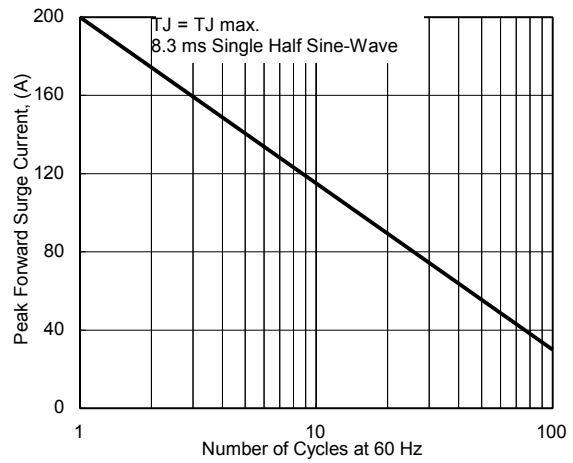


Fig. 2 - Maximum Non-Repetitive Surge Current

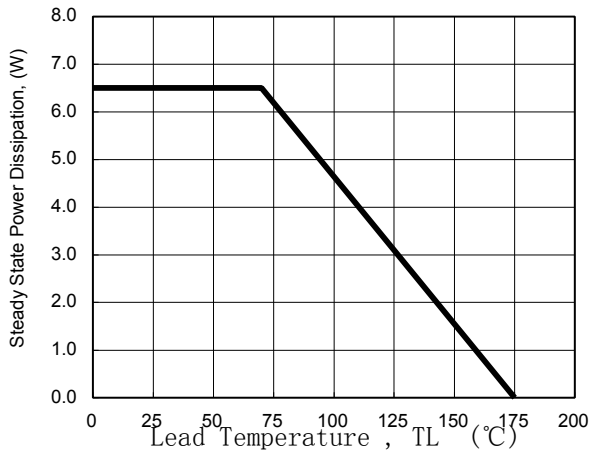


Fig. 3 - Steady State Power Derating Curve

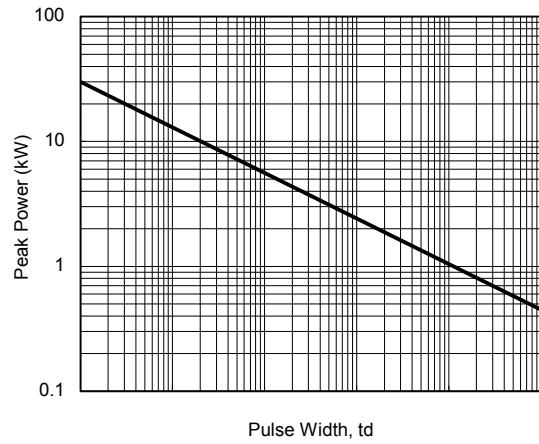


Fig. 4 - Peak Pulse Power Rating Curve

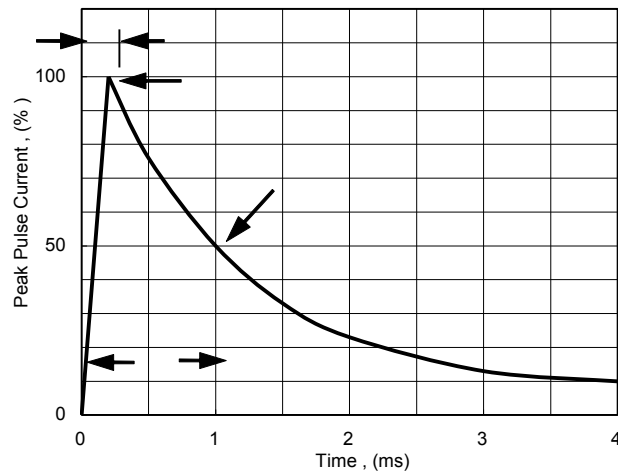


Fig. 5 - Pulse Waveform