

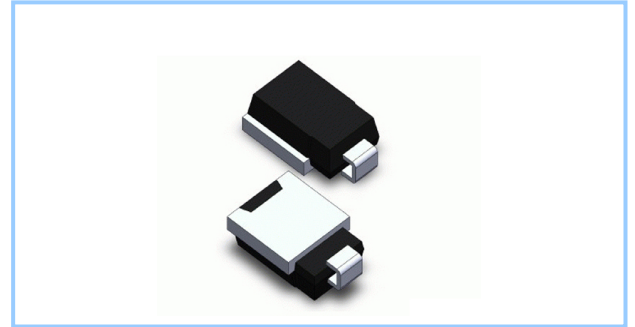
## SM8S10 thru SM8S43A

# Surface Mount Automotive Transient Voltage Suppressors

High Temperature Stability and High Reliability Conditions

### Features

- Surface mount package.
- Excellent clamping capability.
- Glass passivated junction.
- Fast response time: Less than 1 ns for Uni-direction, from 0 Volts to BV min
- Plastic material has UL flammability classification 94V-0
- RoHS compliant in lead-free versions



**DO-218AB**

### Mechanical Characteristics

CASE: SOD-BLOCK Molded Plastic over glass passivated junction.

Polarity: .Heatsink is anode.

### Maximum Ratings And Characteristics @ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Units
Peak Pulse Power dissipation on 10/1000us Waveform (Note 1, FIG.1)	P <sub>PPM</sub>	6600	W
Power Dissipation on Infinite Heatsink at T <sub>c</sub> =25°C (FIG.2)	P <sub>D</sub>	8	W
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method) (Note 2. 3)	I <sub>FSM</sub>	700	Amps
Operating Junction Temperature Range	T <sub>J</sub>	-55 to 150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to 150	°C

#### Notes:

1. Non-repetitive current pulse, per Fig.1 and derated above T<sub>A</sub>=25°C per Fig.2.
2. Mounted on 5.0mm<sup>2</sup> (0.03mm thick) Copper Pads to each terminal.
3. 8.3 ms single half sine-wave, or equivalent square wave, Duty cycle=4 pluses per minute maximum.

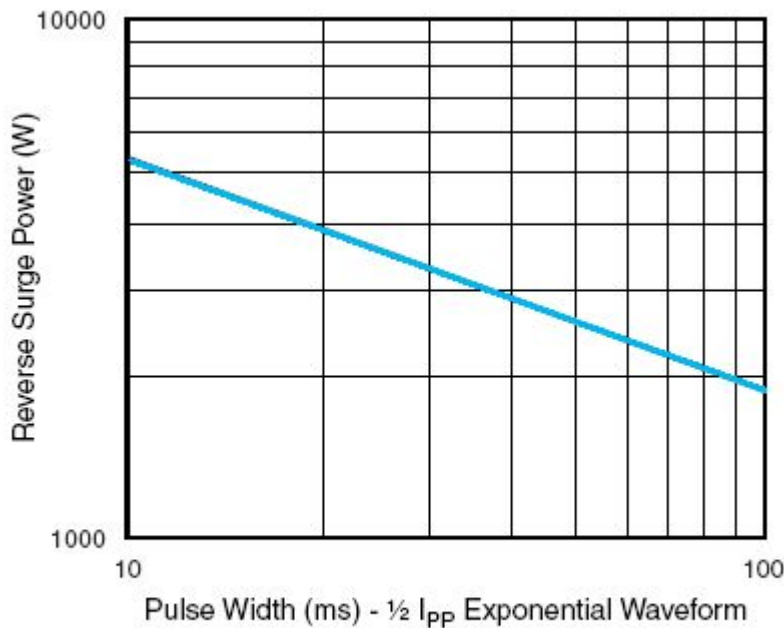
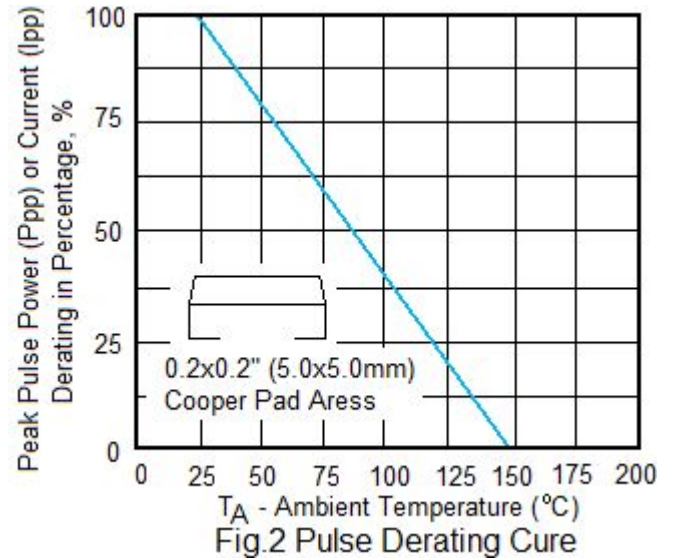
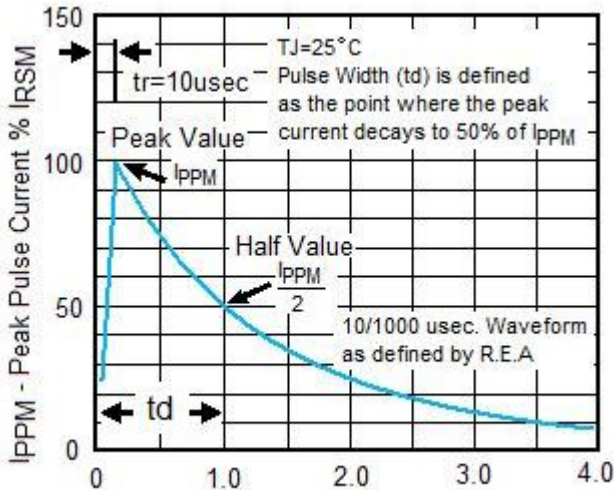
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### Electrical Specification @ Tamb 25°C

Type Number	Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RMW</sub>
(uni)	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SM8S10	10	11.1	14.1	5.0	18.8	351	15.0
SM8S10A	10	11.1	12.8	5.0	17.0	388	15.0
SM8S11	11	12.2	15.4	5.0	20.1	328	10.0
SM8S11A	11	12.2	14.0	5.0	18.2	363	10.0
SM8S12	12	13.3	16.9	5.0	22.0	300	10.0
SM8S12A	12	13.3	15.3	5.0	19.9	332	10.0
SM8S13	13	14.4	18.2	5.0	23.8	277	10.0
SM8S13A	13	14.4	16.5	5.0	21.5	307	10.0
SM8S14	14	15.6	19.8	5.0	25.8	256	10.0
SM8S14A	14	15.6	17.9	5.0	23.2	284	10.0
SM8S15	15	16.7	21.1	5.0	26.9	245	10.0
SM8S15A	15	16.7	19.2	5.0	24.4	270	10.0
SM8S16	16	17.8	22.6	5.0	28.8	229	10.0
SM8S16A	16	17.8	20.5	5.0	26.0	254	10.0
SM8S17	17	18.9	23.9	5.0	30.5	216	10.0
SM8S17A	17	18.9	21.7	5.0	27.6	239	10.0
SM8S18	18	20.0	25.3	5.0	32.2	205	10.0
SM8S18A	18	20.0	23.3	5.0	29.2	226	10.0
SM8S20	20	22.2	28.1	5.0	35.8	184	10.0
SM8S20A	20	22.2	25.5	5.0	32.4	204	10.0
SM8S22	22	24.4	30.9	5.0	39.4	168	10.0
SM8S22A	22	24.4	28.0	5.0	35.5	186	10.0
SM8S24	24	26.7	33.8	5.0	43.0	153	10.0
SM8S24A	24	26.7	30.7	5.0	38.9	170	10.0
SM8S26	26	28.9	36.6	5.0	46.6	142	10.0
SM8S26A	26	28.9	33.2	5.0	42.1	157	10.0
SM8S28	28	31.1	39.4	5.0	50.0	132	10.0
SM8S28A	28	31.1	35.8	5.0	45.4	145	10.0
SM8S30	30	33.3	42.2	5.0	53.5	123	10.0
SM8S30A	30	33.3	38.3	5.0	48.4	136	10.0
SM8S33	33	36.7	46.5	5.0	59.0	112	10.0
SM8S33A	33	36.7	42.2	5.0	53.3	124	10.0
SM8S36	36	40.0	50.7	5.0	64.3	103	10.0
SM8S36A	36	40.0	46.0	5.0	58.1	114	10.0
SM8S40	40	44.4	56.3	5.0	71.4	92.4	10.0
SM8S40A	40	44.4	51.1	5.0	64.5	102	10.0
SM8S43	43	47.8	58.4	5.0	76.7	86	10.0
SM8S43A	43	47.8	52.8	5.0	69.4	95.1	10.0

SM8S10 thru SM8S43A

Ratings and Characteristic Curves  $T_A=25^\circ\text{C}$  unless otherwise noted



**SM8S10 thru SM8S43A**

**Package Outline Dimensions and Pad Layouts**

**SMD-BLOCK (mm)**

