PROSEMI

**Automotive Load Dump Protection**
Vrwm 10-43V
Pppm 6600 Watts

Features

- 6600 watts Peak Pulse Power (10/1000µs)
- Available in Bi-directional polarity
- PN junction is passivated and protected by high temperature resistant insulating adhesive
- Low leakage current
- Low forward voltage drop
- High surge capability
- Meets ISO7637-2 surge specification (varied by test condition)
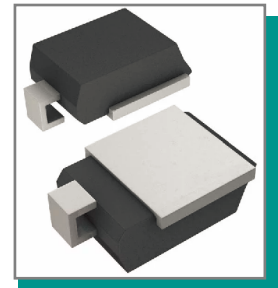
DO-218AB

Mechanical Characteristics

- JEDEC DO-218AB package
- Molding compound flammability rating: UL 94V-0
- Matt tinned lead
- Solderability according to J-STD-002 and JESD 22-B102

Applications

Designed to protect sensitive electronics from:

- Inductive Load Switching
- Automotive Load Dump

Absolute Maximum Rating			
Rating	Symbol	Value	Units
Peak Pulse Power (tp =10/1000µs)	P_{PPM}	6600	Watts
Peak Pulse Power (tp =10/10000µs)	P_{PPM}	5200	Watts
Peak pulse current (10/1000µs)	I_{PPM}	See Electrical Characteristics	A
Power dissipation on infinite heat sink T_A = 25 °C (Fig1)	P_D	8	W
Operating junction temperature range	T_J	-55 to + 175	℃
Storage temperature range	T_{STG}	-55 to + 175	℃

Note: The non-repetitive current pulse derating temperature is above T_A=25 ° C.

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Electrical Characteristics

Part Number Uni-polar	Reverse Standoff Voltage V_{RWM} (Volts)	Breakdown Voltage V_{BR}(Volts)@I_T		Test Current I_T (mA)	Maximum Clamping Voltage V_c@I_{PP} (Volts)	Maximum Peak Pulse Current I_{pp} (Amps)	Maximum Reverse Leakage I_R@V_{RWM} (µA)
		MIN	MAX				
SM8S10A	10	11.1	12.3	5	17.0	388	10
SM8S11A	11	12.2	13.5	5	18.2	363	10
SM8S12A	12	13.3	14.7	5	19.9	332	10
SM8S13A	13	14.4	15.9	5	21.5	307	10
SM8S14A	14	15.6	17.2	5	23.2	284	10
SM8S15A	15	16.7	18.5	5	24.4	270	10
SM8S16A	16	17.8	19.7	5	26.0	254	10
SM8S17A	17	18.9	20.9	5	27.6	239	10
SM8S18A	18	20.0	22.1	5	29.2	226	10
SM8S20A	20	22.2	24.5	5	32.4	204	10
SM8S22A	22	24.4	26.9	5	35.5	186	10
SM8S24A	24	26.7	29.5	5	38.9	170	10
SM8S26A	26	28.9	31.9	5	42.1	157	10
SM8S28A	28	31.1	34.4	5	45.4	145	10
SM8S30A	30	33.3	36.8	5	48.4	136	10
SM8S33A	33	36.7	40.6	5	53.3	124	10
SM8S36A	36	40.0	44.2	5	58.1	114	10
SM8S40A	40	44.4	49.1	5	64.5	102	10
SM8S43A	43	47.8	52.8	5	69.4	95.1	10

Note: The relationship between VBR and junction temperature is calculated by the formula:
VBR at TJ=VBR at 25 ° C x (1+α T x (TJ - 25))

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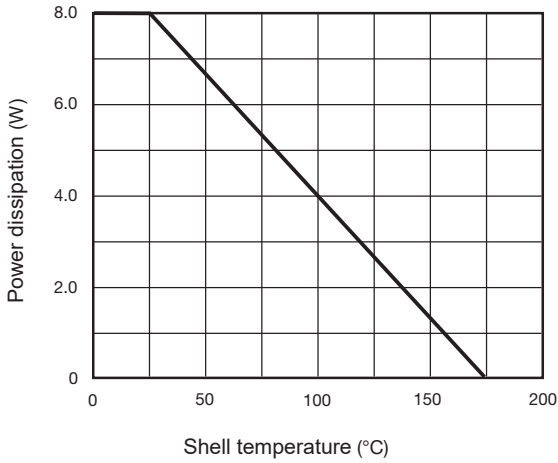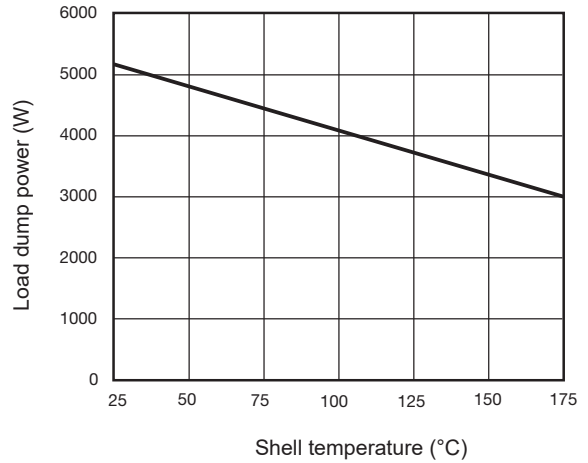# Typical Characteristics

Fig. 1 - Power Derating Curve

Fig. 2 - Load dump power Curve
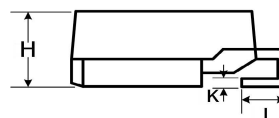**(10ms exponential wave)**
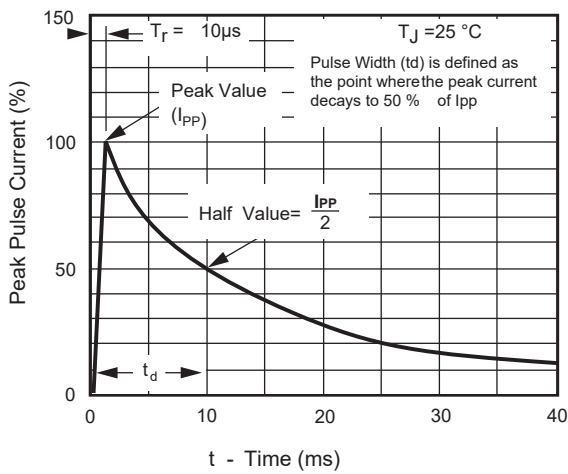
Fig. 3 - Pulse Waveform
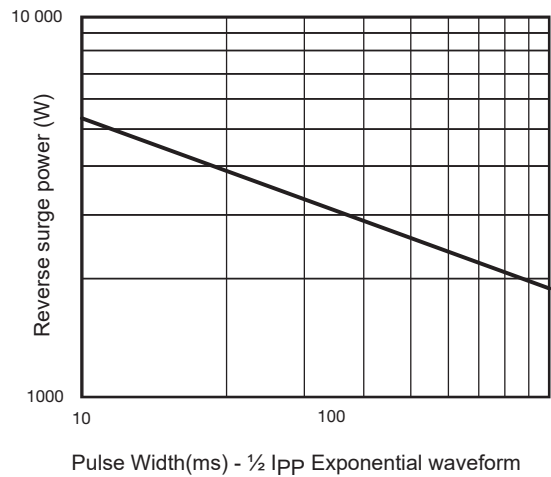
Fig. 4 - Reverse power tolerance

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Outline Drawing – (DO-218AB)

Ref.（mm）	Millimeters	
	Min.	Max.
A	15.0	16.0
B	13.3	13.7
C	9.7	10.3
D	8.3	8.7
D1	2.4	3.0
E	8.9	9.5
F	9.9	10.5
H	4.7	5.0
I	2.0	2.6
K	0.5	0.7

Part Numbering System

SM8S xxx A

A: Uni-directional

VR Voltage

SM8S 6600W
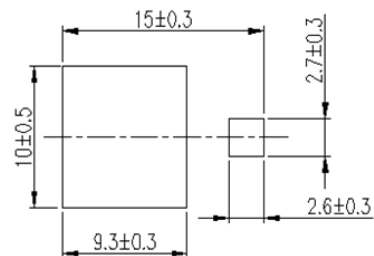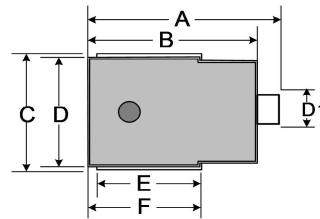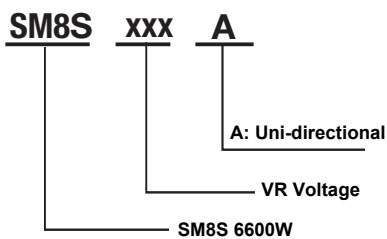
Package Information

Out line	Reel（pcs）	Per carton（pcs）	Packing Option
Taping	750	3000	box

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