

Surface mount transient voltage suppressor power 6600 watts  
Stand-Off Voltage: 10 V~43 V

### FEATURES

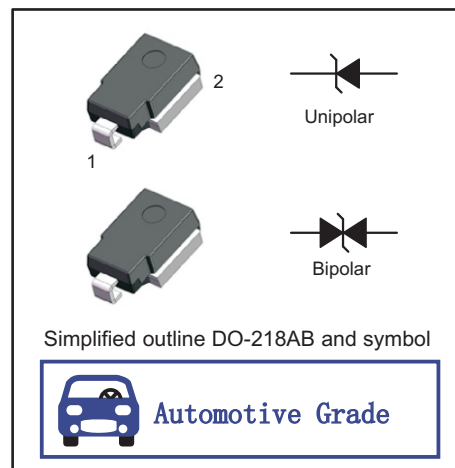
- Chips made by chemical methods
- Junction is protected by high-temperature resistant insulating adhesive passivation
- Low forward voltage drop
- Low reverse leakage current
- High surge capability
- Compliant with ISO 16750-2 Surge Specification
- The maximum peak temperature for lead-free soldering is 245 °C
- Hireliability application and automotive grade AEC-Q101 qualified
- Based on P/NHE3\_X-RoHS compatibility
- Used for the protection of sensitive circuits especially for the protection of automotive load dump

### MECHANICAL DATA

- Case: DO-218AB  
Complies with UL 94 V-0 flammability rating
- Terminals: Solderable per J-STD-002 and JESD 22-B102
- Approx. Weight: 2.85g / 0.1005oz

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



### Maximum Ratings and Thermal Characteristics (Tc=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation 10/1000 $\mu$ S waveform 10/10000 $\mu$ S waveform	$P_{PPM}$	6600 5200	W
Peak Pulse Current at 10/1000 $\mu$ S waveform	$I_{PPM}$	See Table 1	A
Steady state power dissipation at Tc =25°C With Infinite Heat Sink(Fig.1)	$P_D$	8.0	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave	$I_{FSM}$ (UNI)	700	A
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	0.9	°C/W
Operating Junction and Storage Temperature Range	$T_j, T_{STG}$	-55 to 175	°C

Notes:

1. Non-repetitive current pulse derated above Ta = 25°C per Fig. 2



Characteristics at Tc = 25°C

Table 1

Type		Marking		V <sub>RWM</sub>	Breakdown Voltage		Test Current	Max. Reverse Leakage		Max. Clamp Voltage	Max. Peak Pulse Current	Temperature Coefficient of V <sub>BR(1)</sub>
					V <sub>BR</sub> @ I <sub>T</sub>			IR@VR				
					UNI	BI	UNI	BI	V	Min	Max	I <sub>T</sub>
AT-SM8S10A	AT-SM8S10CA	SM8S10A	SM8S10CA	10	11.1	12.3	5	10	150	17	388	0.069
AT-SM8S11A	AT-SM8S11CA	SM8S11A	SM8S11CA	11	12.2	13.5	5	10	150	18.2	363	0.072
AT-SM8S12A	AT-SM8S12CA	SM8S12A	SM8S12CA	12	13.3	14.7	5	10	150	19.9	332	0.074
AT-SM8S13A	AT-SM8S13CA	SM8S13A	SM8S13CA	13	14.4	15.9	5	10	150	21.5	307	0.076
AT-SM8S14A	AT-SM8S14CA	SM8S14A	SM8S14CA	14	15.6	17.2	5	10	150	23.2	284	0.078
AT-SM8S15A	AT-SM8S15CA	SM8S15A	SM8S15CA	15	16.7	18.5	5	10	150	24.4	270	0.080
AT-SM8S16A	AT-SM8S16CA	SM8S16A	SM8S16CA	16	17.8	19.7	5	10	150	26	254	0.081
AT-SM8S17A	AT-SM8S17CA	SM8S17A	SM8S17CA	17	18.9	20.9	5	10	150	27.6	239	0.082
AT-SM8S18A	AT-SM8S18CA	SM8S18A	SM8S18CA	18	20	22.1	5	10	150	29.2	226	0.083
AT-SM8S20A	AT-SM8S20CA	SM8S20A	SM8S20CA	20	22.2	24.5	5	10	150	32.4	204	0.085
AT-SM8S22A	AT-SM8S22CA	SM8S22A	SM8S22CA	22	24.4	26.9	5	10	150	35.5	186	0.086
AT-SM8S24A	AT-SM8S24CA	SM8S24A	SM8S24CA	24	26.7	29.5	5	10	150	38.9	170	0.087
AT-SM8S26A	AT-SM8S26CA	SM8S26A	SM8S26CA	26	28.9	31.9	5	10	150	42.1	157	0.088
AT-SM8S28A	AT-SM8S28CA	SM8S28A	SM8S28CA	28	31.1	34.4	5	10	150	45.4	145	0.089
AT-SM8S30A	AT-SM8S30CA	SM8S30A	SM8S30CA	30	33.3	36.8	5	10	150	48.4	136	0.090
AT-SM8S33A	AT-SM8S33CA	SM8S33A	SM8S33CA	33	36.7	40.6	5	10	150	53.3	124	0.091
AT-SM8S36A	AT-SM8S36CA	SM8S36A	SM8S36CA	36	40	44.2	5	10	150	58.1	114	0.091
AT-SM8S40A	AT-SM8S40CA	SM8S40A	SM8S40CA	40	44.4	49.1	5	10	150	64.5	102	0.092
AT-SM8S43A	AT-SM8S43CA	SM8S43A	SM8S43CA	43	47.8	52.8	5	10	150	69.4	95.1	0.093

For unidirectional products, the maximum V<sub>F</sub> is 1.8V at I<sub>F</sub>=100A, measured on an 8.3 ms single half sine wave or equivalent square wave, with a maximum duty cycle of 4 pulses per minute.

(1): V<sub>BR</sub> @ T<sub>J</sub>=V<sub>BR</sub>@25°C\*(1+αT\*(T<sub>J</sub>-25))



Fig.1 Steady State Power Derating Curve

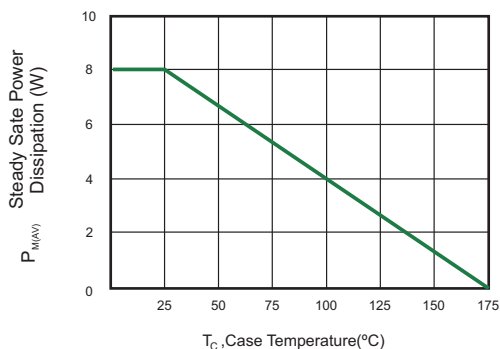


Fig.2 Load Dump Power Characteristic

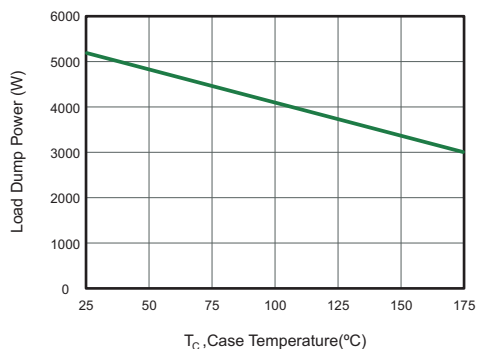


Fig.3 Pulse Waveform

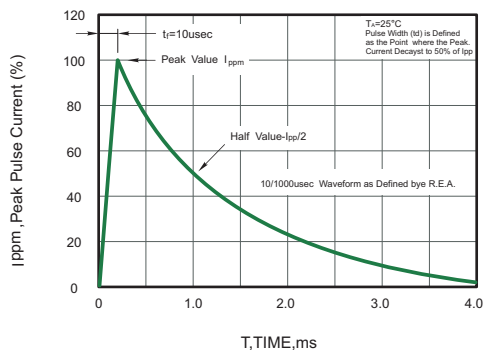


Fig.4 Reverse Power Capability

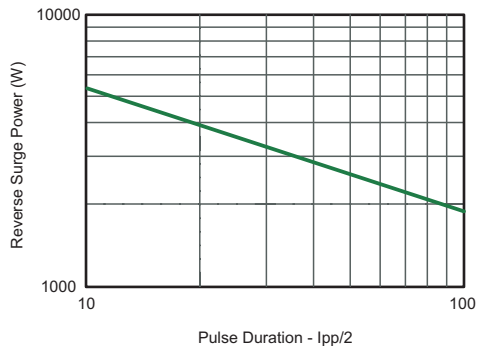


Fig.5 Typical Transient Thermal Impedance

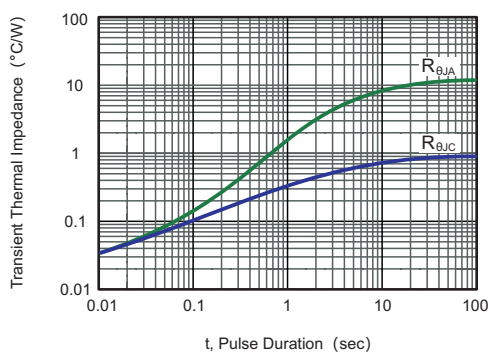
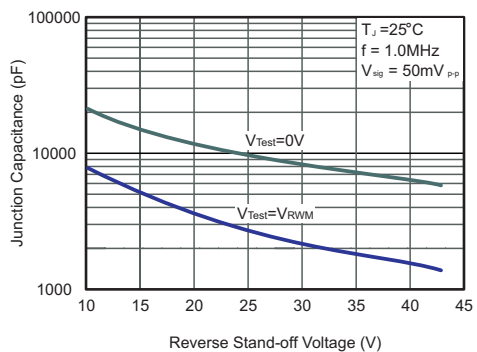


Fig.6 Typical Junction Capacitance

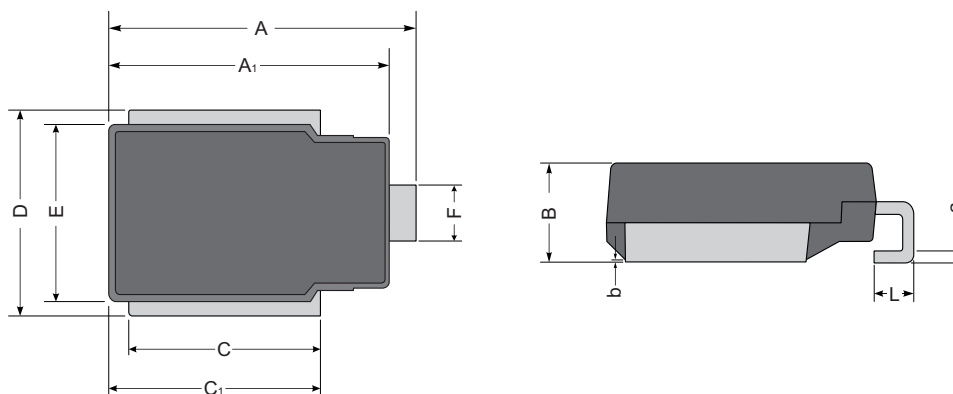




PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

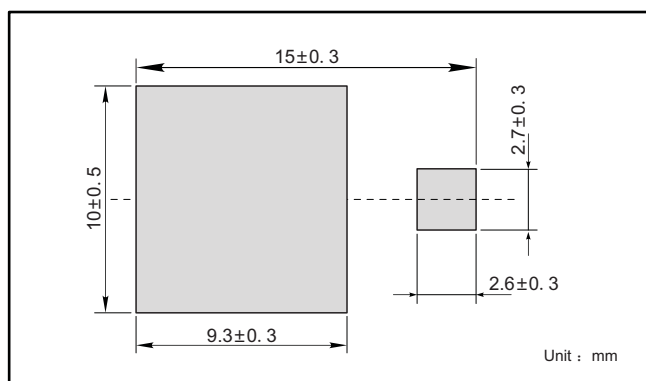
DO-218AB



DO-218AB mechanical data

UNIT		A	A <sub>1</sub>	B	C	C <sub>1</sub>	D	E	F	L	a	b
mm	max	16.0	13.7	5.0	9.5	10.5	10.5	8.7	3.0	2.6	0.7	\
	min	15.0	13.3	4.7	8.9	9.9	9.5	8.3	2.4	2.0	0.5	0.1
mil	max	630	539	197	374	413	413	343	118	102	28	\
	min	591	524	185	350	390	374	327	94	79	20	3.9

The recommended mounting pad size





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