

Surface Mount Automotive Transient Voltage Suppressors
6600watts/5200watts

V_{WM} : 14V~48V

V_{BR} : 15.6~58.7V

Features

- ◆ Junction passivation optimized design passivated anisotropic rectifier technology
- ◆ $T_J = 175^{\circ}\text{C}$ capability suitable for high reliability and automotive requirement.
- ◆ Available in uni/bi-directional polarity only
- ◆ Low leakage current
- ◆ High surge capability

Mechanical Data

- ◆ Case: DO-218AB
- ◆ Terminals: Plated, solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight: 2.58g / 0.091oz

Maximum Ratings and Electrical characteristics

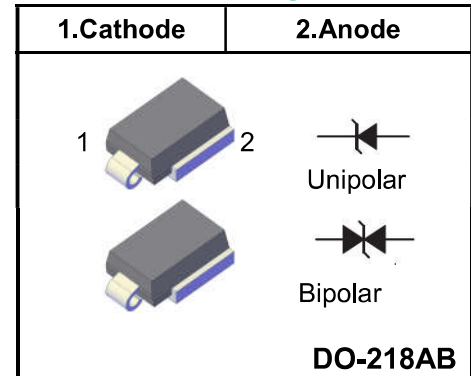
$T_c = 25^{\circ}\text{C}$, RH=45%-75%, unless otherwise noted

Parameter		Symbol	Value	Unit
Peak pulse power dissipation with	10/1000 μs waveform	P_{PPM}	6600	W
	10/10 000 μs waveform		5200	
Power dissipation on infinite heat sink at $T_c = 25^{\circ}\text{C}$		P_D	8.0	W
Peak pulse current with 10/1000 μs waveform (NOTE 1)		I_{PPM}	See next Table	A
Peak forward surge current, 8.3ms single half sine-wave		I_{FSM}	700	A
Typical thermal resistance junction to case		$R_{\theta Jc}$	0.9	$^{\circ}\text{C/W}$
Operating junction and storage temperature range		T_J, T_{STG}	-55 to +175	$^{\circ}\text{C}$

NOTE:

1. Non-repetitive current pulse derated above $T_A = 25^{\circ}\text{C}$

Pinning



Electrical Characteristics

Part Number		V_R	I_T	$I_R@V_R$		$V_{BR}@I_T$		$V_C@I_{PP}$	I_{PP}
Uni-polar	Bi-polar	V	mA	$\mu A@25^\circ C$	$\mu A@175^\circ C$	Min(V)	Max(V)	V	A
SM8S14A	SM8S14CA	14.0	5	5	150	15.6	17.2	23.2	284
SM8S15A	SM8S15CA	15.0	5	5	150	16.7	18.5	24.4	270
SM8S16A	SM8S16CA	16.0	5	5	150	17.8	19.7	26.0	253
SM8S17A	SM8S17CA	17.0	5	5	150	18.9	20.9	27.6	239
SM8S18A	SM8S18CA	18.0	5	5	150	20.0	22.1	29.2	226
SM8S20A	SM8S20CA	20.0	5	5	150	22.2	24.5	32.4	204
SM8S22A	SM8S22CA	22.0	5	5	150	24.4	26.9	35.5	186
SM8S24A	SM8S24CA	24.0	5	5	150	26.7	29.5	38.9	170
SM8S26A	SM8S26CA	26.0	5	5	150	28.9	31.9	42.1	157
SM8S28A	SM8S28CA	28.0	5	5	150	31.1	34.4	45.4	145
SM8S30A	SM8S30CA	30.0	5	5	150	33.3	36.8	48.4	136
SM8S33A	SM8S33CA	33.0	5	5	150	36.7	40.6	53.3	124
SM8S36A	SM8S36CA	36.0	5	5	150	40.0	44.2	58.1	114
SM8S40A	SM8S40CA	40.0	5	5	150	44.4	49.1	64.5	102
SM8S43A	SM8S43CA	43.0	5	5	150	47.8	52.8	69.4	95
SM8S48A	SM8S48CA	48.0	5	5	150	53.3	58.7	80.6	82

Note:

1..For all types maximum $V_F=1.8V$ at $I_F=100A$ measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum.

2.Surge waveform:10/1000us

V_R : Stand-off voltage - Maximum voltage that can be applied

V_{BR} : Breakdown voltage

V_C : Clamping voltage- Peak voltage measured across the suppressor at a specified I_{pp}

I_R : Reverse leakage current

I_T : Test current

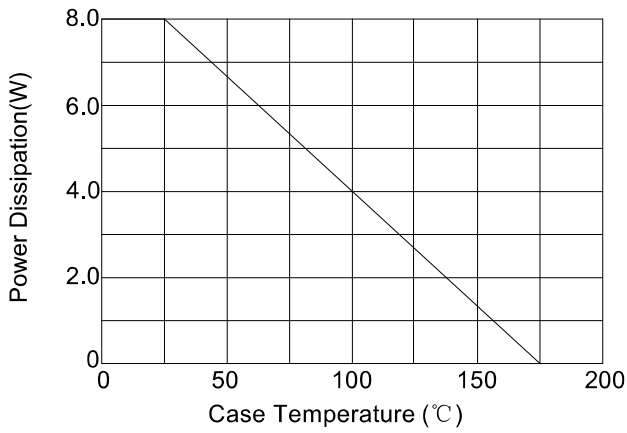


FIG.1: Power Derating Curve

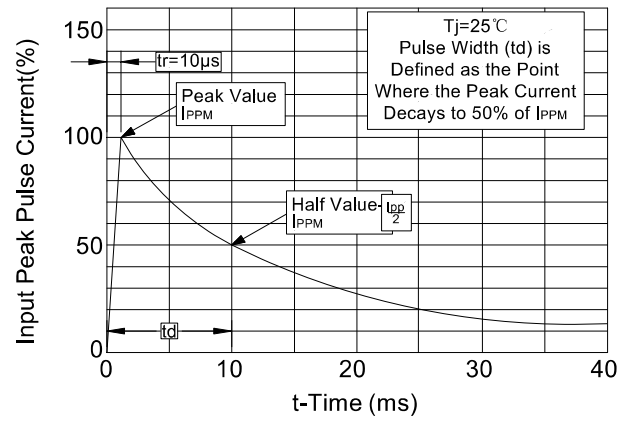


FIG.2: Pulse Waveform

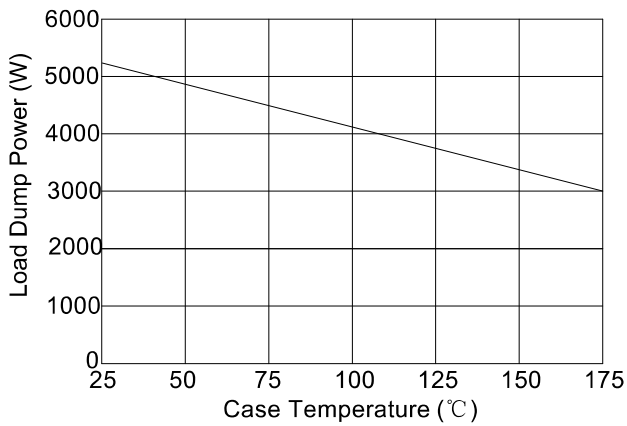


FIG.3: Load Dump Power Characteristics (10ms Exponential Wavaform)

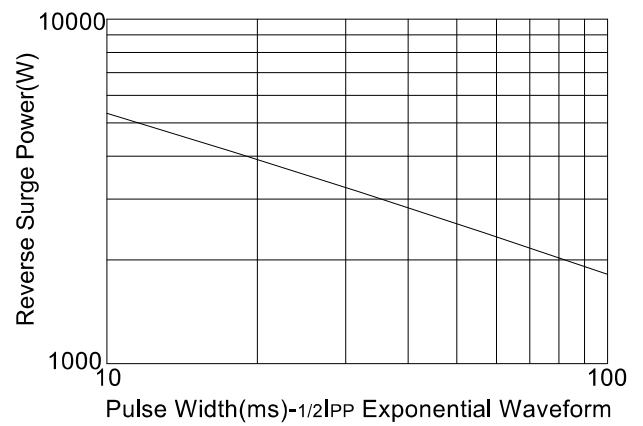


FIG.4: Reverse Power Capability

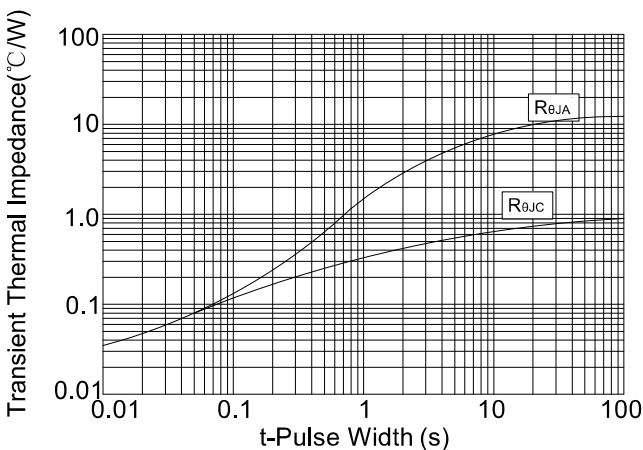


FIG.5: Typical Transient Thermal Impedance

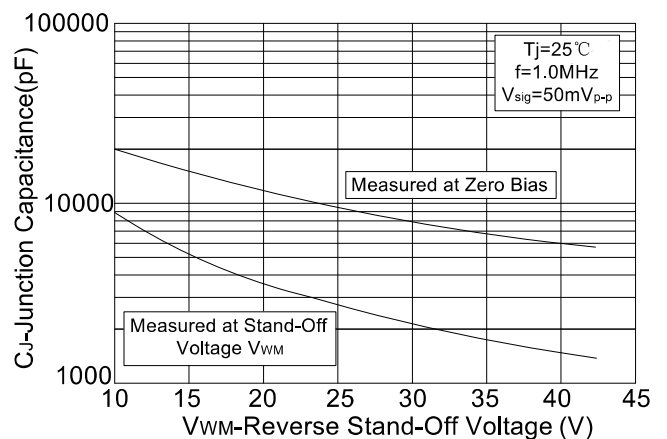
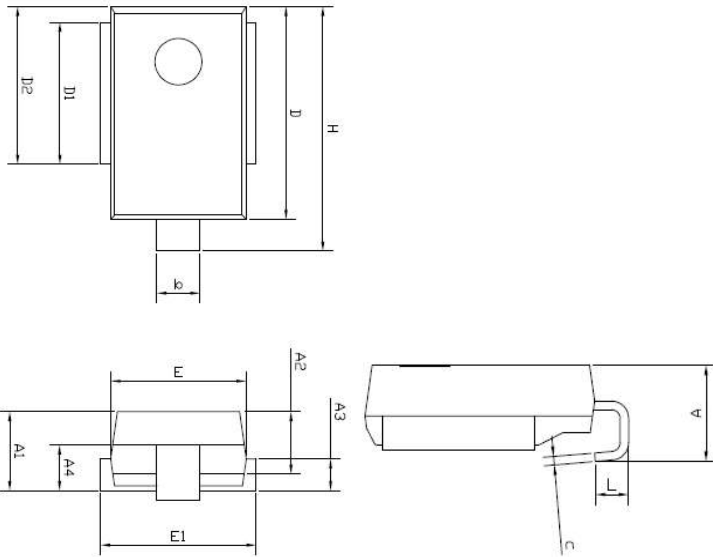


FIG.6: Typical Junction Capacitance

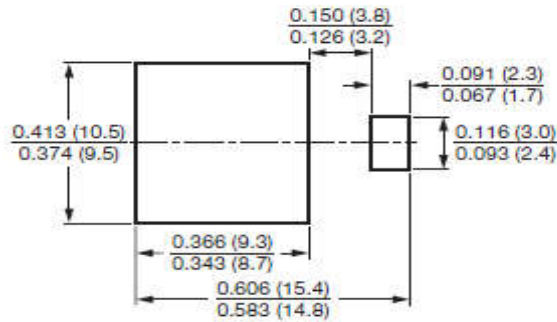
Package Outline DO-218AB

NOTE :
1. PACKAGE BODY SIZES EXCLUDE MOLD FLASH PROTRUSIONS OR GATE BURRS.
2. COPLANARITY : 0.1mm
3. DIMENSION L IS MEASURED IN GAUGE PLANE.



SYMBOLS	DIMENSIONS IN MILLIMETERS		
	MIN	NOM	MAX
A	4.70	-	5.70
A1	4.70	5.00	5.25
A2	3.45	3.95	4.25
A3	1.70	2.00	2.50
A4	2.65	3.10	3.55
b	2.30	-	3.00
c	0.45	-	0.90
D	13.20	13.50	13.80
D1	8.70	9.00	9.30
D2	9.70	10.00	10.30
E	8.20	8.50	8.80
E1	9.50	-	10.00
H	15.00	15.50	16.00
L	1.50	2.00	2.50

Foot Print Recommendation (mm)



Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
DO-218AB	Reel	500PCS	EIA-481-1