



SM8S10(A) - SM8S43(A)

SURFACE MOUNT AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSORS

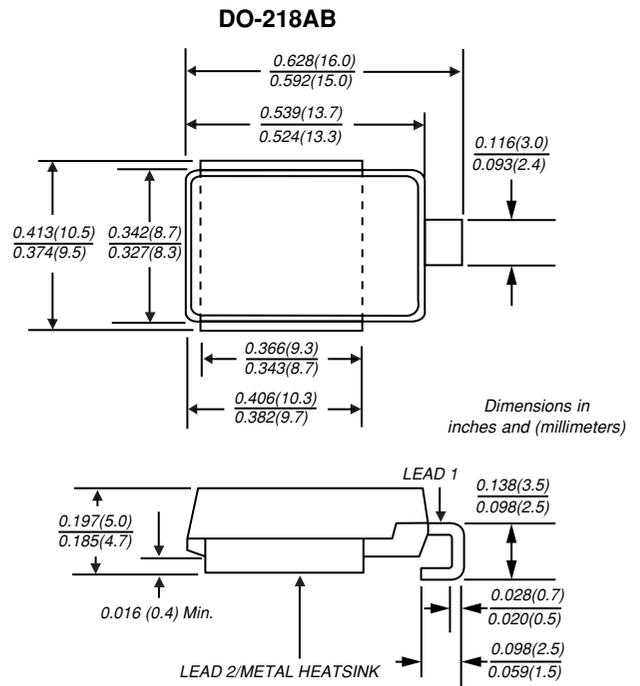
VOLTAGE RANGE: 10- 43V
POWER: 6600Watts

Features

- Ideally suited for load dump protection
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature stability due to unique oxide passivation and patented PAR[®] construction
- Integrally molded heatsink provides a very low thermal resistance for maximum heat dissipation
- Low leakage current at T_J = 175°C
- High temperature soldering guaranteed:
260°C for 10 seconds at terminals
- Low forward voltage drop

Mechanical Data

- Case: DO-218AB
integrally mounted in the encapsulation
- Terminals: Plated, solderable per MIL-STD-750, Method 2026
- Polarity: Heatsink is anode
- Mounting Position: Any



Maximum Ratings @ T_A = 25°C unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak pulse power dissipation with 10/1000μs waveform 10/10,000μs waveform	P _{PPM}	6600 5200	W
Steady state power dissipation	P _D	8.0	W
Peak pulse current with a 10/1000μs waveform ⁽¹⁾	I _{PPM}	See Table 1	A
Peak forward surge current, 8.3ms single half sine-wave	I _{FSM}	700	A
Typical thermal resistance junction to case	R _{θJC}	0.90	°C/W
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +175	°C

Notes: (1) Non-repetitive current pulse derated above T_A=25°C



Type	Breakdown Voltage $V_{(BR)}$ (V)		Test Current I_T	Stand-off Voltage V_{WM}	Maximum Reverse Leakage at V_{WM} I_D	Maximum Reverse Leakage at V_{WM} $T_c = 175^\circ C$	Max. Peak Pulse Current at 10/1000 μs Waveform	Maximum Clamping Voltage at I_{PPM} V_C
	Min.	Max.	(mA)	(V)	(μA)	$I_D(\mu A)$	(A)	(V)
SM8S10CA	11.1	13.6	5.0	10	15	250	351	18.8
SM8S10A	11.1	12.3	5.0	10	15	250	388	17.0
SM8S11CA	12.2	14.9	5.0	11	10	150	328	20.1
SM8S11A	12.2	13.5	5.0	11	10	150	363	18.2
SM8S12CA	13.3	16.3	5.0	12	10	150	300	22.0
SM8S12A	13.3	14.7	5.0	12	10	150	332	19.9
SM8S13CA	14.4	17.6	5.0	13	10	150	277	23.8
SM8S13A	14.4	15.9	5.0	13	10	150	307	21.5
SM8S14CA	15.6	19.1	5.0	14	10	150	256	25.8
SM8S14A	15.6	17.2	5.0	14	10	150	284	23.2
SM8S15CA	16.7	20.4	5.0	15	10	150	245	26.9
SM8S15A	16.7	18.5	5.0	15	10	150	270	24.4
SM8S16CA	17.8	21.8	5.0	16	10	150	229	28.8
SM8S16A	17.8	19.7	5.0	16	10	150	254	26.0
SM8S17CA	18.9	23.1	5.0	17	10	150	216	30.5
SM8S17A	18.9	20.9	5.0	17	10	150	239	27.6
SM8S18CA	20.0	24.4	5.0	18	10	150	205	32.2
SM8S18A	20.0	22.1	5.0	18	10	150	226	29.2
SM8S20CA	22.2	27.1	5.0	20	10	150	184	35.8
SM8S20A	22.2	24.5	5.0	20	10	150	204	32.4
SM8S22CA	24.4	29.8	5.0	22	10	150	168	39.4
SM8S22A	24.4	26.9	5.0	22	10	150	186	35.5
SM8S24CA	26.7	32.6	5.0	24	10	150	153	43.0
SM8S24A	26.7	29.5	5.0	24	10	150	170	38.9
SM8S26CA	28.9	35.3	5.0	26	10	150	142	46.6
SM8S26A	28.9	31.9	5.0	26	10	150	157	42.1
SM8S28CA	31.1	38.0	5.0	28	10	150	132	50.1
SM8S28A	31.1	34.4	5.0	28	10	150	145	45.4
SM8S30CA	33.3	40.7	5.0	30	10	150	123	53.5
SM8S30A	33.3	36.8	5.0	30	10	150	136	48.4
SM8S33CA	36.7	44.9	5.0	33	10	150	112	59.0
SM8S33A	36.7	40.6	5.0	33	10	150	124	53.3
SM8S36CA	40.0	48.9	5.0	36	10	150	103	64.3
SM8S36A	40.0	44.2	5.0	36	10	150	114	58.1
SM8S40CA	44.4	54.3	5.0	40	10	150	92.4	71.4
SM8S40A	44.4	49.1	5.0	40	10	150	102	64.5
SM8S43CA	47.8	58.4	5.0	43	10	150	86.0	76.7
SM8S43A	47.8	52.8	5.0	43	10	150	95.1	69.4

Note: 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



Figure 1- Power Derating Curve

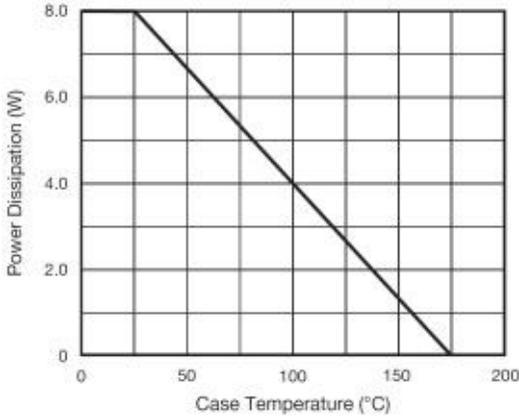


Figure 3 - Pulse Waveform

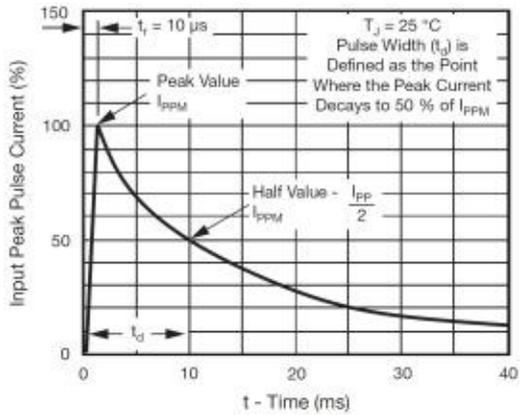


Figure 5 - Typical Transient Thermal Impedance

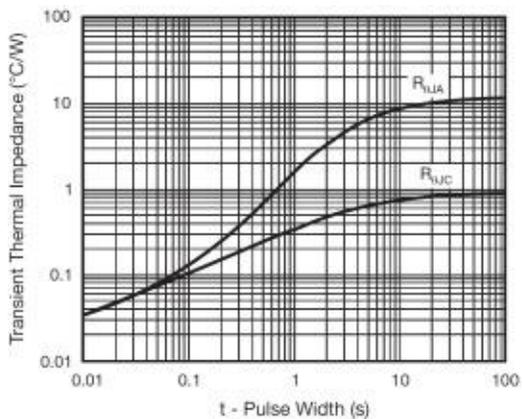


Figure 2- Load Dump Power Characteristics (10 ms Exponential Waveform)

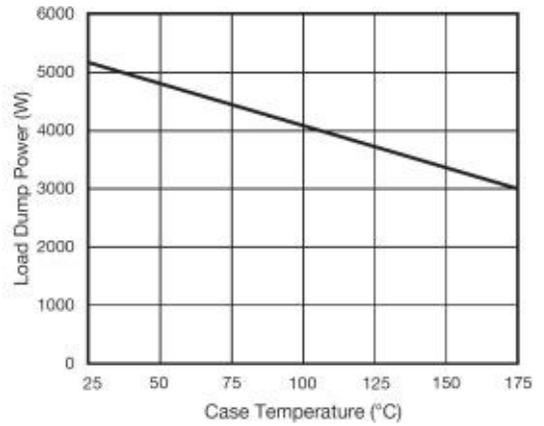


Figure 4 - Reverse Power Capability

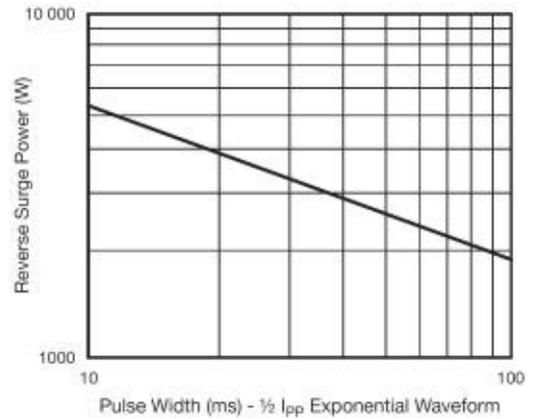


Figure 6 - Typical Junction Capacitance

