Working Voltage: 43 V
Peak Pulse Power: 6600 W

Features

- Glass Passivated Junction technology
- T_J = 175 °C capability suitable for high reliability and automotive requirement
- 6600 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Meets ISO 7637-2 5a/5b and ISO 16750 load dump test (varied by test condition)
- AEC-Q101 qualified
- Low leakage current
- Low forward voltage drop for uni-directional polarity
- Both available in uni-directional and bi-directional polarity
- Excellent clamping capability
- Very fast response time
- Meets MSL level 1, per J-STD-020, LF maximum peak of 245 °C

DO-218AB

Typical Applications

Use in sensitive electronics protection against voltage transients induced by inductive load switching and lighting, especially for automotive load dump protection application.

Mechanical Data

- Case: DO-218AB
- Molding compound: UL94V-0 flammability
- Polarity: Heatsink is anode
- Terminal: Solderable per MIL-STD-750, Method 2026
- Mounting Position: Any

Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	6600	W
Peak power dissipation with a 10/10,000μs waveform for Unidirectional polarity	P_{PP}	5200	W
Peak pulse current with a 10/1000μs waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 25 °C	P_D	8.0	W
Peak forward surge current 8.3 ms single half sine-wave	I_{FSM}	700	A
Operating junction and storage temperature range	T_J, T_{STG}	–55 to +175	°C

Note:

(1)Non-repetitive current pulse per Fig.2 and derated above T_A= 25 °C per Fig.1

Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 1 - TVS Transients Clamping Waveform

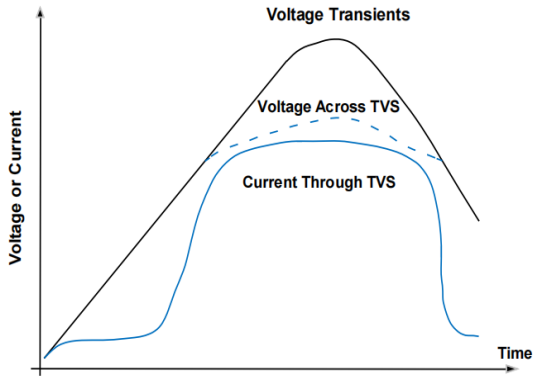


Figure 2 - Pulse Derating Curve

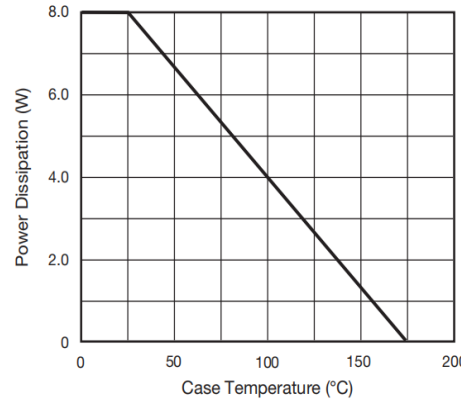


Figure 3 - Load Dump Power Characteristics

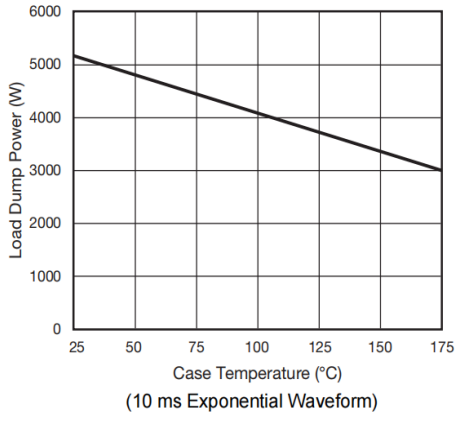


Figure 4 - Pulse Waveform

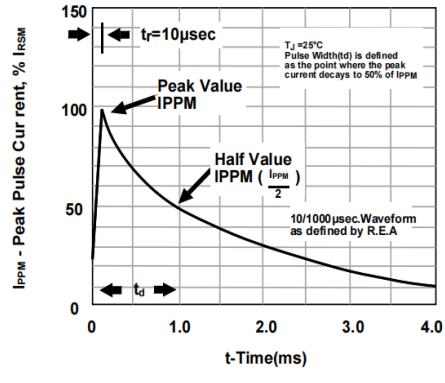


Figure 5 - Typical Junction Capacitance

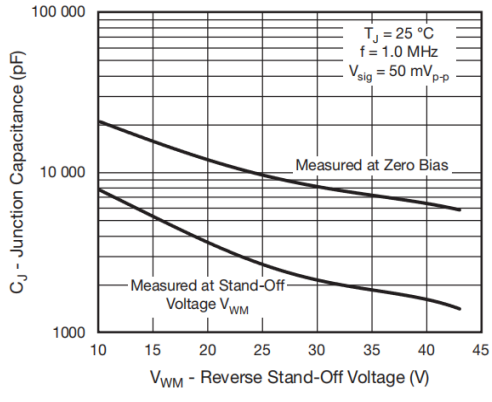
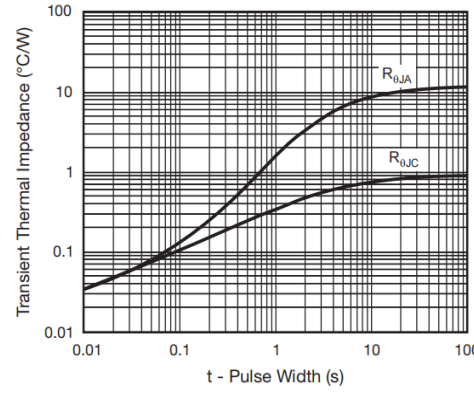
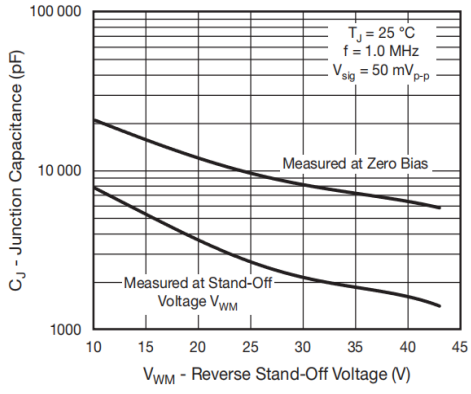


Figure 6 - Typical Transient Thermal Impedance

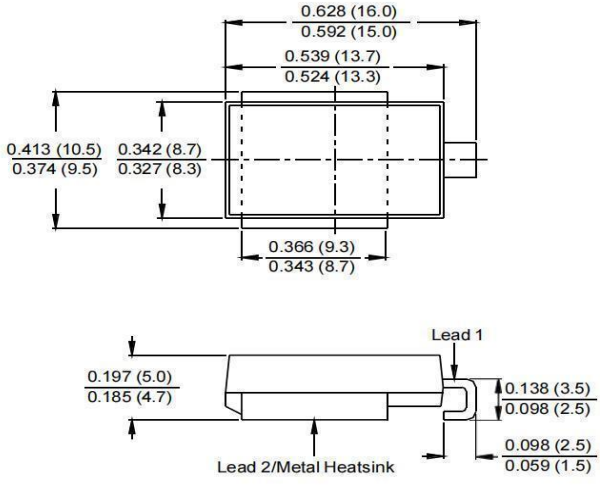


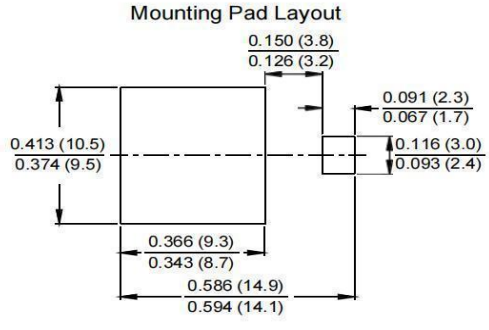
Ratings and Characteristic Curves (T_A=25°C unless otherwise noted)

Figure 7 - Typical Junction Capacitance



PACKAGE OUTLINE DIMENSIONS





Dimensions in inches (millimeters)

PACKAGING

Part Number	Component Package	Quantity	Packaging Option	Packaging Specification
SM8SXXX	DO-218	750	Tape & Reel - 24mm/13" tape	EIA STD RS-481

Part System

Electrical Characteristics(T_A=25℃ unless otherwise noted)

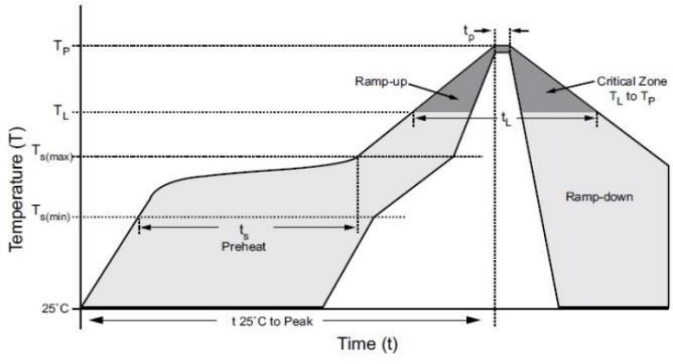
Part Number		Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	Maximum I_R @V_{RWM} T_J=175 (uA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A) (1)	Maximum Clamping Voltage V_C@I_{PP} (V)
Uni	Bi	Min (V)	Max (V)	I_T (mA)					
SM8S36A	SM8S36CA	40.0	44.2	5.0	10	150	36	114	58.1

NOTE:

1. Surge current waveform is defined at 10/1000uS waveform
2. For uni-directional part, the maximum VF = 1.8 V at IF = 100 A measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Recommended Soldering Parameters

IR-Reflow Condition			
Pre Heat	Temp. min	150	℃
	Temp. max	200	℃
	Time(min to max)	60-120	sec
Ramp up rate (150-200℃)		<3	℃/sec
Reflow	Liquidus Temp.	>217	℃
	Peak Temp.	245	℃
	Time(Liq. to Peak)	60-150	sec
Ramp up rate (220-200℃)		<3	℃/sec
Time within 5℃of actual peak temp.		20-40	sec
Ramp down Rate		<6	℃/sec
Time(25℃ to Peak temp.)		<8	min



Note:: Number of reflow cycles allowed 3 times