SD8S SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE - 16 TO 43 Volts

FEATURES

◎ Halogen-Free
◎ RoHS compliant
◎ Glass Passivated Junction technology
◎ T_J = 175 °C capability suitable for high reliability
◎ Both available in uni and bi-polar directional polarity
◎ Low leakage current
◎ Low forward voltage drop for uni-directional polarity
◎ High surge capability
◎ Meets ISO7637-2 & ISO16750-2 surge specification (varied by test condition)
◎ AEC-Q101 qualified

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-218.Molded plastic over glass passivated junction
Molding compound meets UL 94 V-0 flammability rating□

Polarity: Heatsink is anode
Terminal: Solderable per MIL-STD-750, Method 2026
Mounting Position: Any

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25℃ ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μs waveform (Note 1)	P_{PPM}	6600	Watts
Peak Pulse Power Dissipation on 10/10000 μs waveform (Note 1)	P_{PPM}	5200	Watts
Peak Pulse Current of on 10/1000 μs waveform	I_{PPM}	SEE TABLE 1	Amps
Power dissipation on infinite heatsink at TC = 25 °C (fig. 1)	P_M (AV)	8	Watts
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method)	I_{FSM}	700	Amps
Operating junction and Storage Temperature Range	T_J , T_{STG}	-55 to + 175	℃

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

SD8S SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR
STAND-OFF VOLTAGE - 16 TO 43 Volts

6.6KW PART NUMBER		REVERSE STAND- OFF VOLTAGE V_{RWM}(V)	BREAKDOWN VOLTAGE V_{BR}(V) @I_T		TEST CURRENT I_T (mA)	MAXIMUN CLAMPING VOLTAGE @I_{PP} V_C (V)	PEAK PULSE CURRENT AT 10/1000 μs Ipp (A)	REVERSE LEAKAGE @ V_{RWM} I_R(μA)
UNI-POLAR	BI-POLAR		MIN	MAX				
SD8S16A	SD8S16CA	16.0	17.80	19.70	5	26.0	254.0	10
SD8S17A	SD8S17CA	17.0	18.90	20.90	5	27.6	239.0	10
SD8S18A	SD8S18CA	18.0	20.00	22.10	5	29.2	226.0	10
SD8S20A	SD8S20CA	20.0	22.20	24.50	5	32.4	204.0	10
SD8S22A	SD8S22CA	22.0	24.40	26.90	5	35.5	186.0	10
SD8S24A	SD8S24CA	24.0	26.70	29.50	5	38.9	170.0	10
SD8S26A	SD8S26CA	26.0	28.90	31.90	5	42.1	157.0	10
SD8S28A	SD8S28CA	28.0	31.10	34.40	5	45.4	145.0	10
SD8S30A	SD8S30CA	30.0	33.30	36.80	5	48.4	136.0	10
SD8S33A	SD8S33CA	33.0	36.70	40.6	5	53.3	124.0	10
SD8S36A	SD8S36CA	36.0	40.00	44.2	5	58.1	114.0	10
SD8S40A	SD8S40CA	40.0	44.40	49.1	5	64.5	102.0	10
SD8S43A	SD8S43CA	43.0	47.80	52.8	5	69.4	95.0	10

Note

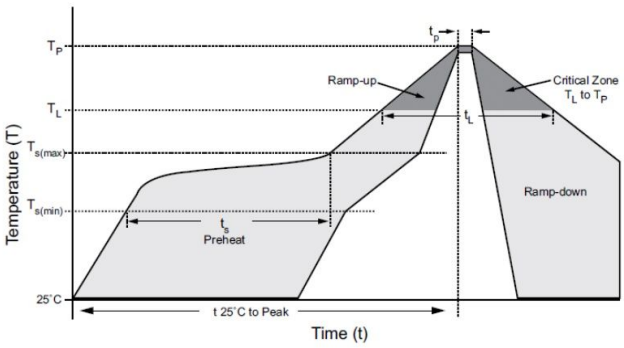
• For uni-directional part, the maximum VF = 1.8 V at IF = 100 A measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Soldering Parameters

Reflow Condition		Lead-free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150℃
	-Temperature Max ($T_{s(max)}$)	200℃
	-Time (min to max) (t_s)	60 -120 secs
Average ramp up rate(Liquidus Temp(T_L) to peak		3℃/second max
$T_{s(max)}$ to T_L - Ramp-up Rate		3℃/second max
Reflow	-Temperature Min (T_L)	217℃
	Time (t_L) maintained above T_L	60 - 150 seconds
Peak temperature(T_P)		245 $^{+0/-5}$℃
Time within 5℃ of actual peak Temperature(t_p)		20 - 40 seconds
Ramp-down Rate		6℃/second max
Time 2 5℃ to peak Temperature(T_p)		8 minutes Max.

Note：Number of reflow cycles allowed 3 times

Soldering Profile



RATINGS AND CHARACTERISTIC CURVES

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

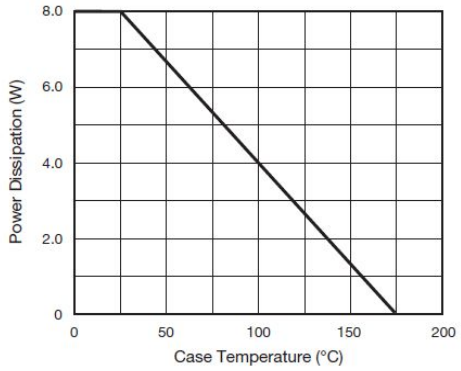


Fig. 1 - Power Derating Curve

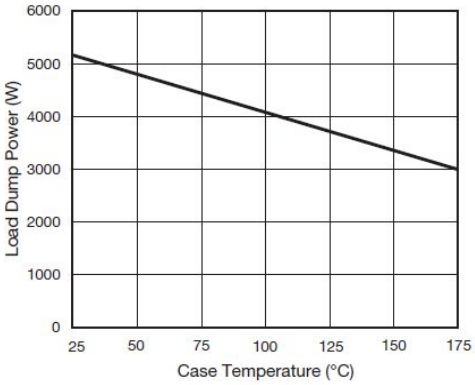


Fig. 2 - Load Dump Power Characteristics
(10 ms Exponential Waveform)

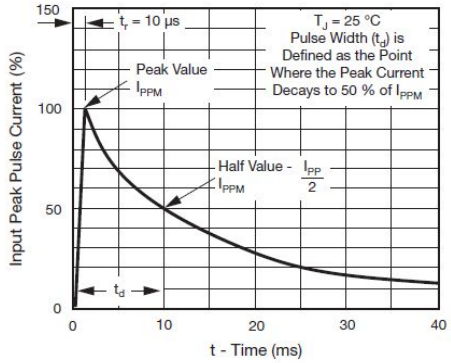


Fig. 3 - Pulse Waveform

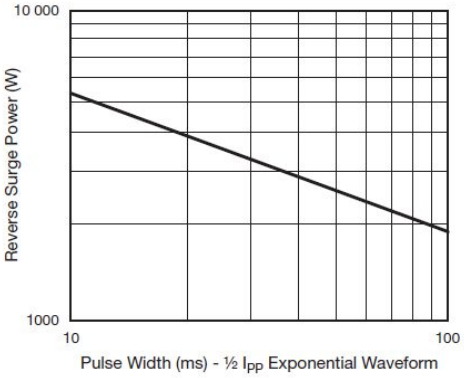


Fig. 4 - Reverse Power Capability

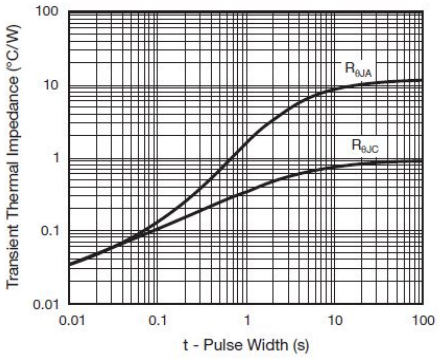


Fig. 5 - Typical Transient Thermal Impedance

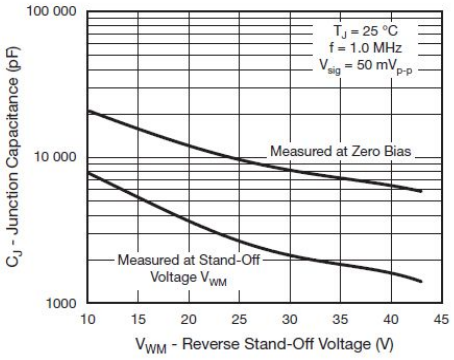
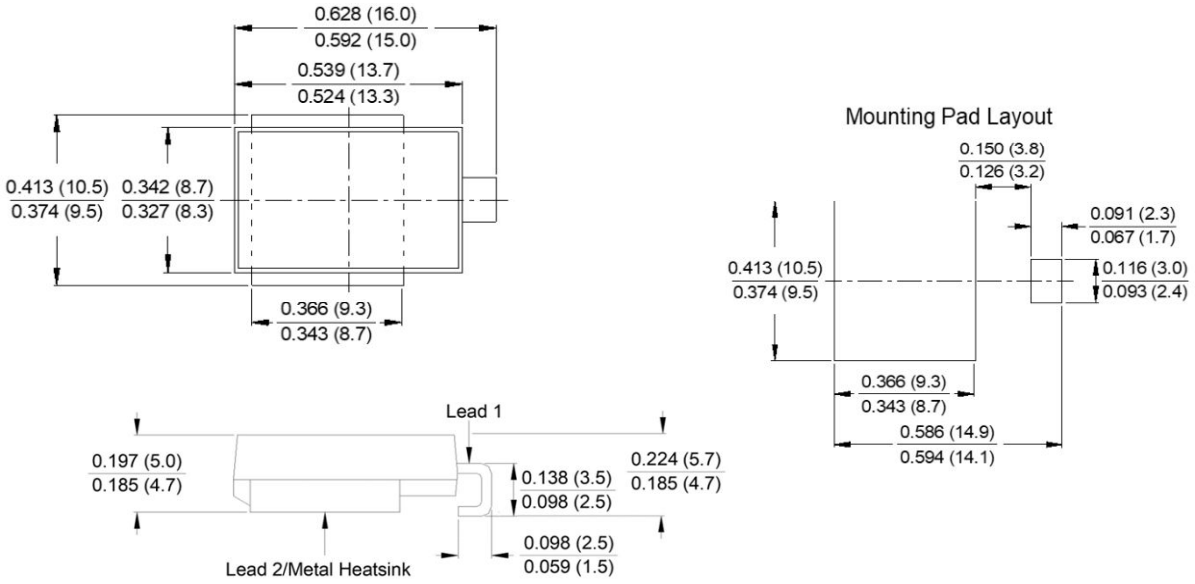


Fig. 6 - Typical Junction Capacitance

PACKAGE OUTLINE DIMENSIONS

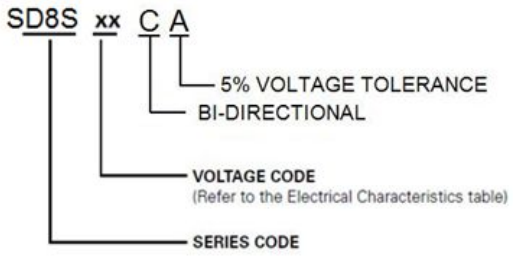
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



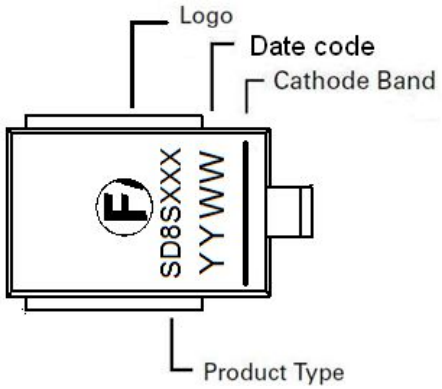
SD8S SERIES

GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR

Part Numbering System



Part Marking System



Packaging

Part number	Component Package	Quantity	Packaging Option	Packaging Specification
SD8SXXX	DO-218	750	Tape & Reel - 24mm/13" tape	EIA STD RS-481