



Case Style SMP

High Current Density Surface Mount
Glass-Passivated RectifiersReverse Voltage 50 to 600 V
Forward Current 1.0 A

Features

- Very low profile - typical height of 1.0mm
- Ideal for automated placement
- Glass passivated chip junction
- For use in rectification, power supply, home appliances and telecommunication
- High temperature soldering:
260°C maximum/10 seconds at terminals
- Meets MSL level 1 per J-STD-020C

Mechanical Data

Case: SMP

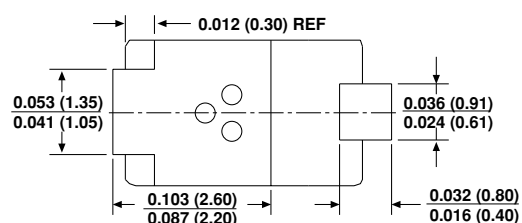
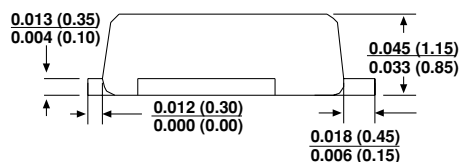
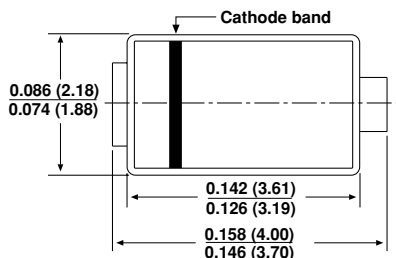
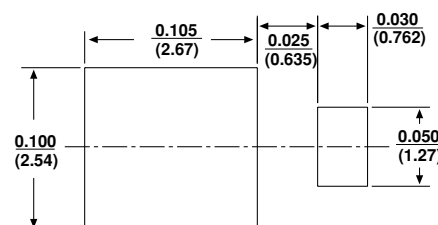
Terminals: Matte Tin plated (E3 Suffix) leads, solderable per J-STD-002B and MIL-STD-750, Method 2026

Polarity: Color band denotes cathode end

Weight: 0.0009 oz., 0.024 g

Epoxy meets UL 94V-0 flammability rating

Mounting Pad Layout

Dimensions in inches
and (millimeters)

Maximum Ratings & Thermal Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	S1PA	S1PB	S1PD	S1PG	S1PJ	Unit
Device marking code		SA	SB	SD	SG	SJ	
Maximum reverse voltage	V_{RM}	50	100	200	400	600	V
Maximum average forward rectified current Fig.1	$I_{F(AV)}$	1					A
Peak forward surge current 10ms single half sine-wave superimposed on rated load	I_{FSM}	30					A
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JC}$	105 15 20					°C/W
Operating junction temperature	T_J	150					°C
Storage temperature	T_{STG}	-55 to +150					°C

Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Maximum instantaneous forward voltage ⁽²⁾ at $I_F=1A$, $T_J=25^\circ C$ at $I_F=1A$, $T_J=125^\circ C$	V_F	1.1 0.95	V
Maximum reverse current $T_J = 25^\circ C$ $T_J = 125^\circ C$	I_R	1.0 50	μA
Typical reverse recovery time at at $I_F = 0.5A$, $I_R = 1.0A$, $I_{rr} = 0.25A$	t_{rr}	1.8	μs
Typical junction capacitance at 4.0V, 1MHz	C_J	6.0	pF

Notes: (1) Thermal resistance from junction to ambient and junction to lead mounted on P.C.B. with 5.0 x 5.0mm copper pad areas. $R_{\theta JL}$ is measured at the terminal of cathode band. $R_{\theta JC}$ is measured at the top centre of the body

(2) Pulse test: 300 μs pulse width, 1% duty cycle

Ratings and Characteristic Curves ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 – Maximum Forward Current Derating Curve

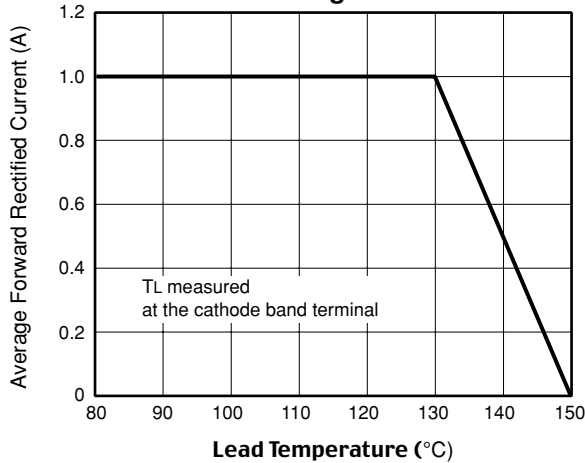


Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current

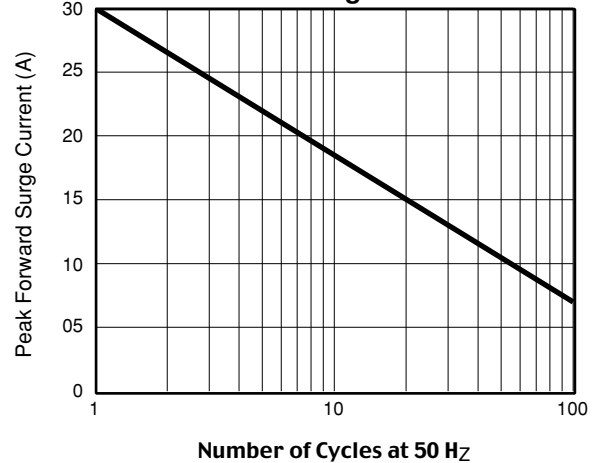


Fig. 3 – Typical Instantaneous Forward Characteristics

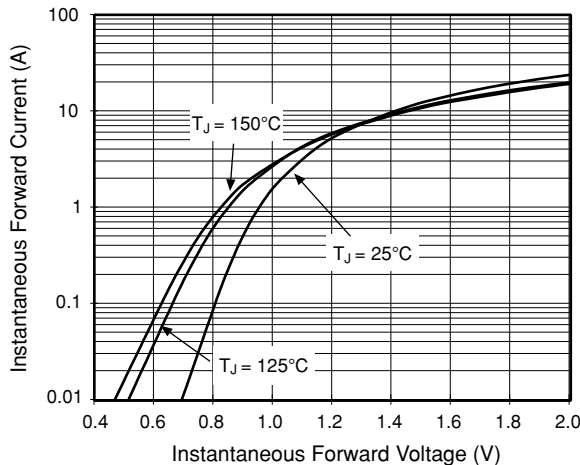


Fig. 4 – Typical Reverse Leakage Characteristics

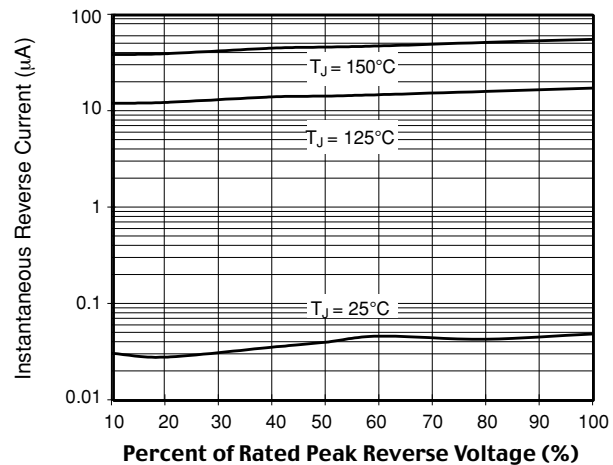


Fig. 5 – Typical Junction Capacitance

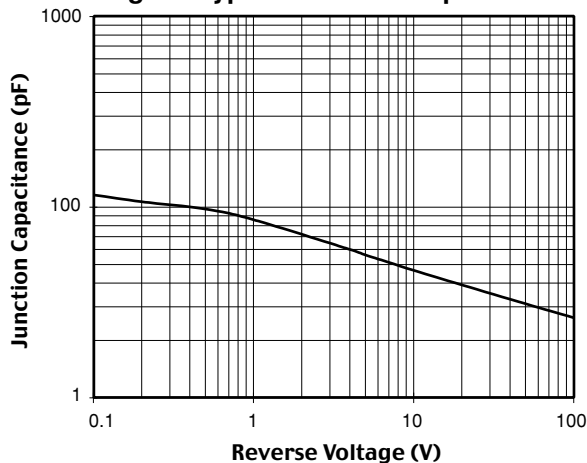


Fig. 6 – Typical Transient Thermal Impedance

