



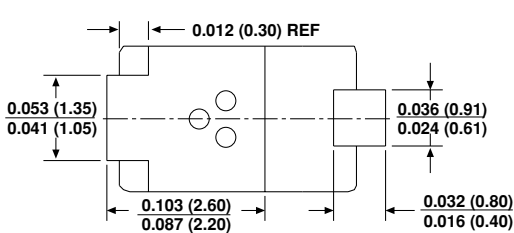
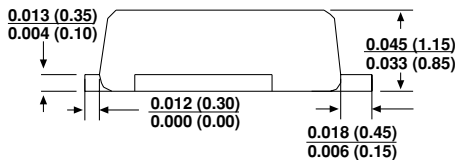
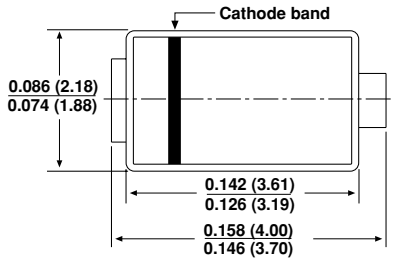
New Product



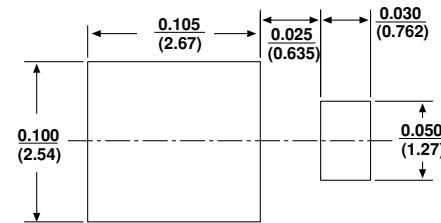
## High Current Density Surface Mount Glass-Passivated Rectifiers

Case Style SMP

Reverse Voltage 50 to 600 V  
Forward Current 1.0 A



Dimensions in inches  
and (millimeters)



### 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

## 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 <sup>(1)</sup>	$R_{\theta JA}$ $R_{\theta JL}$ $R_{\theta JC}$	105 15 20					°C/W
Operating junction temperature	$T_J$	150					°C
Storage temperature	$T_{STG}$	-55 to +150					°C

## Electrical Characteristics

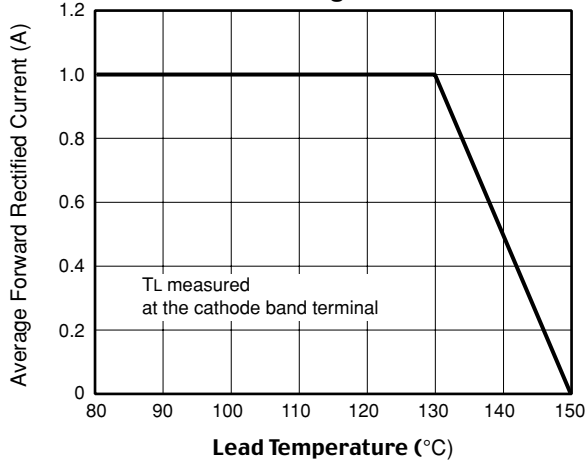
Ratings at 25°C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Maximum instantaneous forward voltage <sup>(2)</sup> 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 at rated $V_R$ <sup>(2)</sup> $T_J = 25^\circ C$ $T_J = 125^\circ C$	$I_R$	1.0 50	$\mu A$
Typical reverse recovery time at at $I_F = 0.5A$ , $I_R = 1.0A$ , $I_{rr} = 0.25A$	$t_{rr}$	1.8	$\mu s$
Typical junction capacitance at 4.0V, 1MHz	$C_J$	6.0	pF

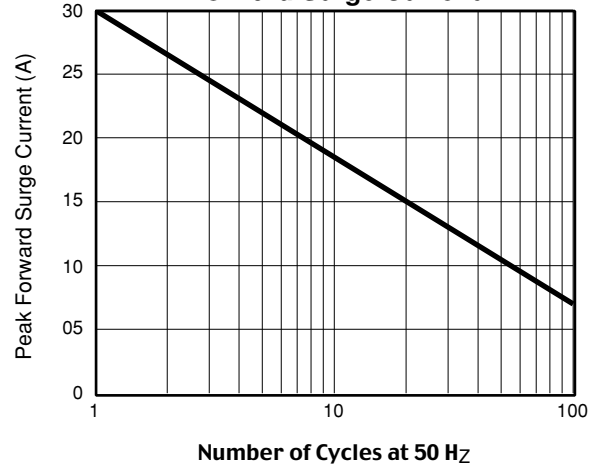
Notes: (1) Thermal resistance from junction to ambient and junction to lead mounted on P.C.B. with 5.0 x 5.0mm copper pad areas.  $R_{\theta JL}$  is measured at the terminal of cathode band.  $R_{\theta JC}$  is measured at the top centre of the body  
(2) Pulse test: 300 $\mu s$  pulse width, 1% duty cycle

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

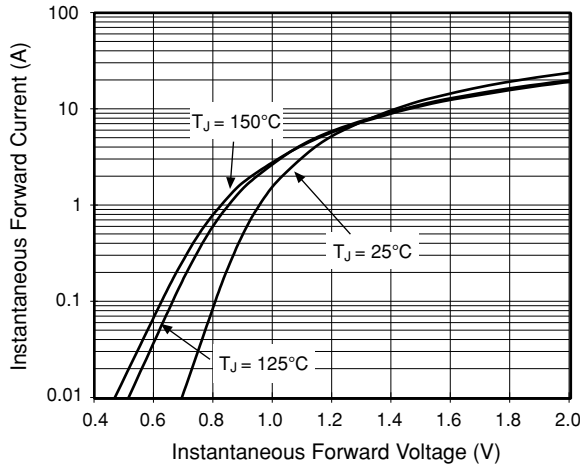
**Fig. 1 – Maximum Forward Current Derating Curve**



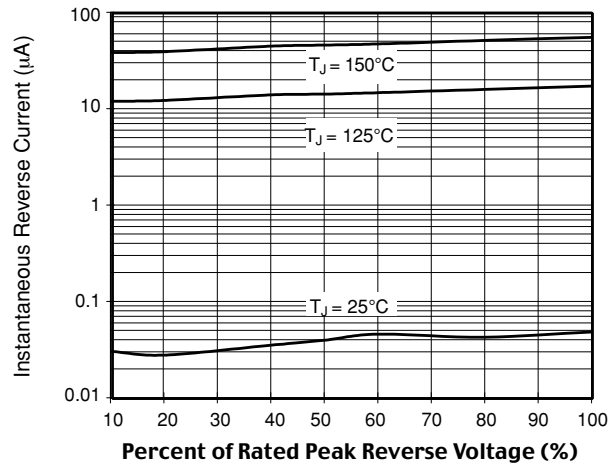
**Fig. 2 – Maximum Non-Repetitive Peak Forward Surge Current**



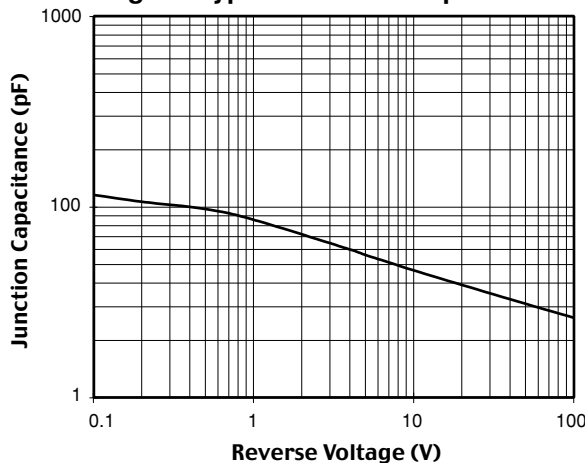
**Fig. 3 – Typical Instantaneous Forward Characteristics**



**Fig. 4 – Typical Reverse Leakage Characteristics**



**Fig. 5 – Typical Junction Capacitance**



**Fig. 6 – Typical Transient Thermal Impedance**

