

## 1A, 400V - 1000V Surface Mount Rectifier

### FEATURES

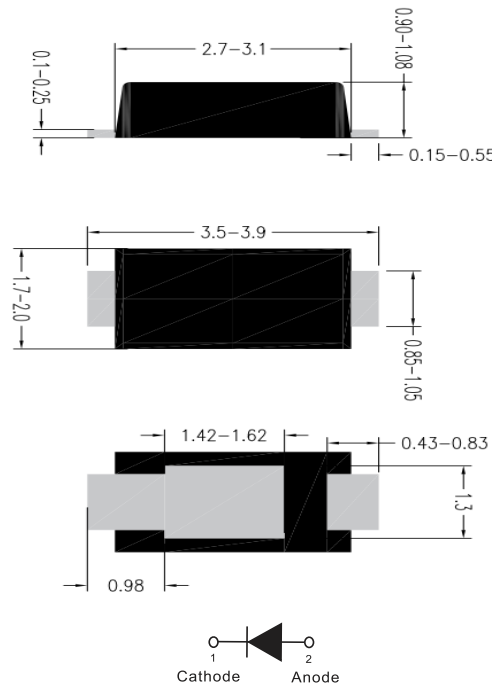
- Glass passivated junction chip
- Ideal for automated placement
- Low forward voltage drop
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

### MECHANICAL DATA

- Case: SOD-123HE
- Molding compound meets UL 94 V-0 flammability rating
- Moisture sensitivity level: level 1, per J-STD-020
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1A whisker test
- Polarity: As marked
- Weight: 16 mg (approximately)

### SOD-123HE

Unit : inch(mm)



<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)					
PARAMETER	SYMBOL	GS1004 HE	GS1006 HE	GS1010 HE	UNIT
Repetitive peak reverse voltage	$V_{RRM}$	400	600	1000	V
Reverse voltage, total rms value	$V_{RMS}$	280	420	700	V
Maximum DC blocking voltage	$V_{DC}$	400	600	1000	
Forward current	$I_{F(AV)}$	1			A
Surge peak forward current, 8.3 ms single half sine-wave superimposed on rated load per diode	$I_{FSM}$	30			A
Junction temperature	$T_J$	- 55 to +150			$^\circ\text{C}$
Storage temperature	$T_{STG}$	- 55 to +150			$^\circ\text{C}$

### THERMAL PERFORMANCE

PARAMETER	SYMBOL	TYP	UNIT
Junction to Lead Thermal Resistance	$R_{\theta JL}$	25	$^\circ\text{C}/\text{W}$
Junction to Ambient Thermal Resistance	$R_{\theta JA}$	85	$^\circ\text{C}/\text{W}$

### ELECTRICAL SPECIFICATIONS

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	$V_F$	-	1.1	V
Reverse current @ rated $V_R$ per diode <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	1	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	50	$\mu\text{A}$
Junction capacitance	1 MHz, $V_R = 4\text{V}$	$C_J$	7	-	pF

#### Notes:

1. Pulse test with  $PW = 0.3\text{ ms}$
2. Pulse test with  $PW = 30\text{ ms}$

## CHARACTERISTICS CURVES

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

Fig.1 Forward Current Derating Curve

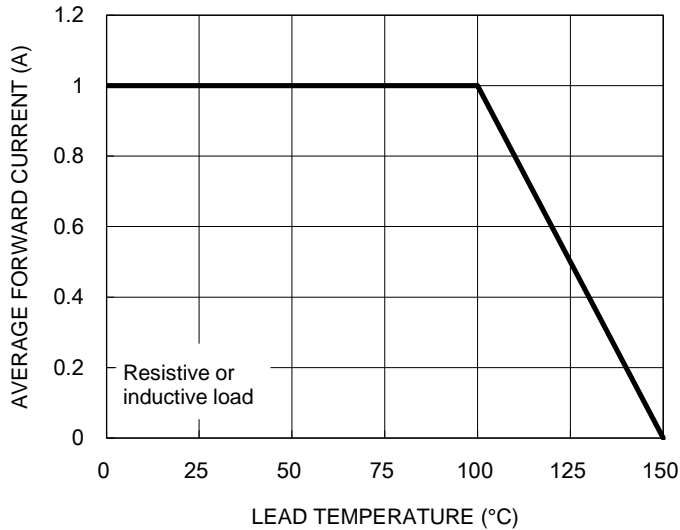


Fig.2 Typical Junction Capacitance

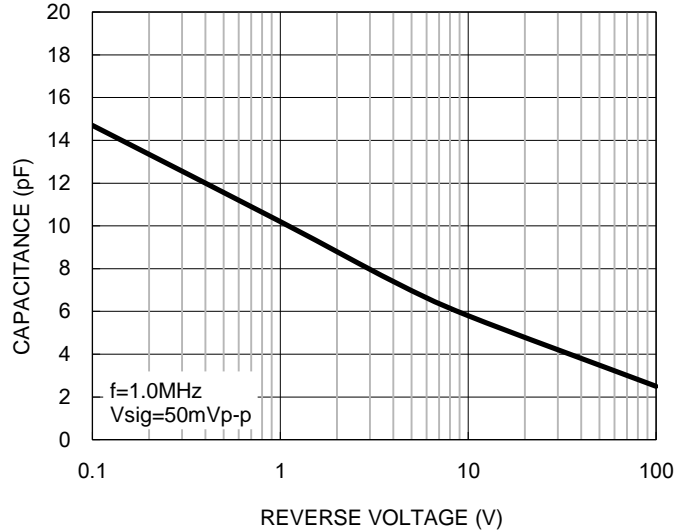


Fig.3 Typical Reverse Characteristics

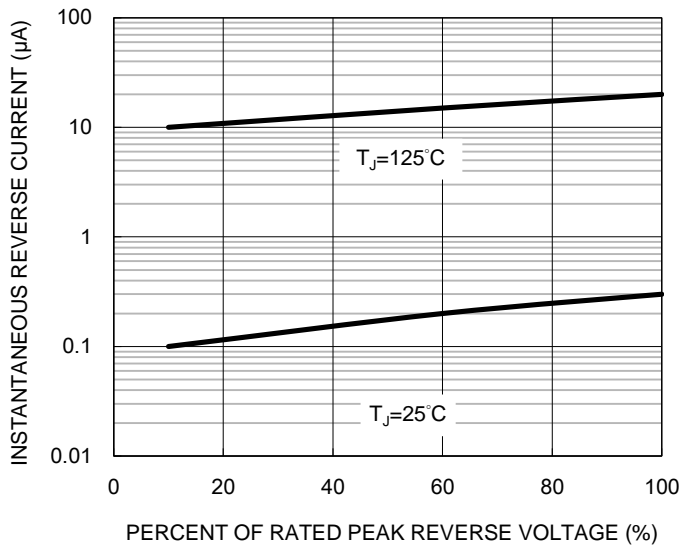


Fig.4 Typical Forward Characteristics

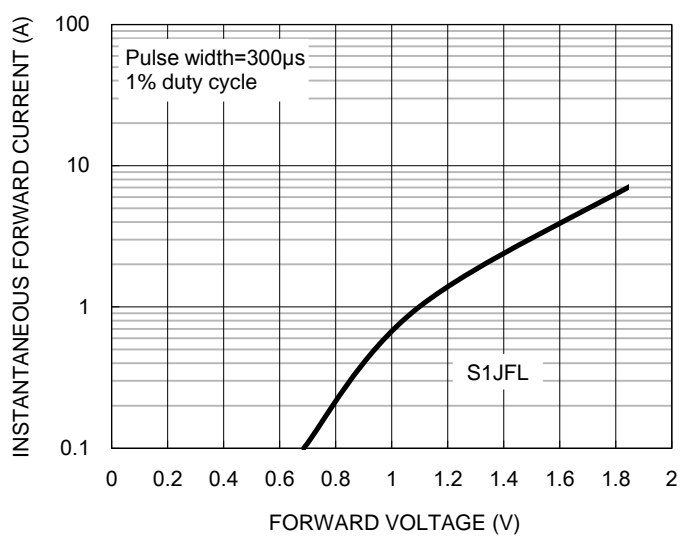


Fig.5 Maximum Non-repetitive Forward Surge Current

