

## 2A, 200V-1000V Surface Mount Rectifier

**SOD-123FL**

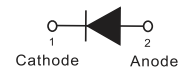
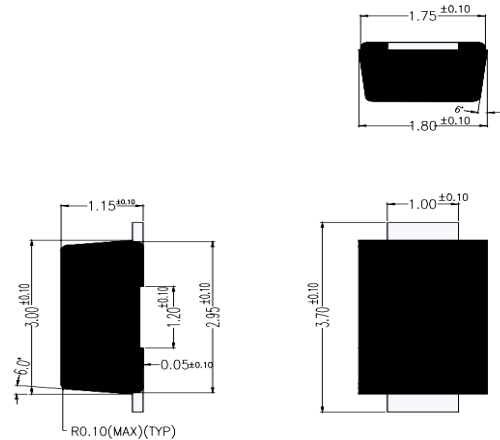
Unit : inch(mm)

**FEATURES**

- Glass passivated junction chip
- Ideal for automated placement
- Low reverse leakage
- Moisture sensitivity level: level 1, per J-STD-020
- 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-123FL
- Molding compound meets UL 94V-0 flammability rating
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Meet JESD 201 class 1 whisker test
- Polarity: Indicated by cathode band
- Weight: 0.016 g (approximately)



<b>ABSOLUTE MAXIMUM RATINGS</b> ( $T_A = 25^\circ\text{C}$ unless otherwise noted)							
PARAMETER	SYMBOL	GS2002 FL	GS2004 FL	GS2006 FL	GS2008 FL	GS2010 FL	UNIT
Repetitive peak reverse voltage	$V_{RRM}$	200	400	600	800	1000	V
Reverse voltage, total rms value	$V_{R(RMS)}$	140	280	420	560	700	V
DC blocking voltage	$V_{DC}$	200	400	600	800	1000	V
Forward current	$I_F$	2					A
Surge peak forward current single half sine-wave superimposed on rated load	8.3 ms at $T_A = 25^\circ\text{C}$	40					A
	1.0 ms at $T_A = 25^\circ\text{C}$	100					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	$R_{\theta JL}$	81	$^\circ\text{C/W}$
Junction-to-ambient thermal resistance	$R_{\theta JA}$	116	$^\circ\text{C/W}$
Junction-to-case thermal resistance	$R_{\theta JC}$	69	$^\circ\text{C/W}$

**Thermal Performance Note:** Units mounted on PCB (5mm x 5mm Cu pad test board)

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

PARAMETER	CONDITIONS	SYMBOL	TYP	MAX	UNIT
Forward voltage <sup>(1)</sup>	$I_F = 1\text{A}, T_J = 25^\circ\text{C}$	$V_F$	0.90	-	V
	$I_F = 2\text{A}, T_J = 25^\circ\text{C}$		0.97	1.1	V
	$I_F = 1\text{A}, T_J = 125^\circ\text{C}$		0.81	-	V
	$I_F = 2\text{A}, T_J = 125^\circ\text{C}$		0.90	1.0	V
Reverse current @ rated $V_R$ <sup>(2)</sup>	$T_J = 25^\circ\text{C}$	$I_R$	-	5	$\mu\text{A}$
	$T_J = 125^\circ\text{C}$		-	100	$\mu\text{A}$
Junction capacitance	1 MHz, $V_R = 4.0\text{V}$	$C_J$	10	-	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

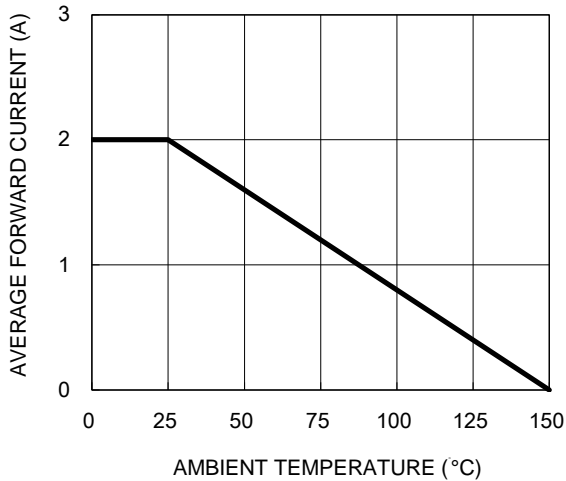


Fig.2 Typical Junction Capacitance

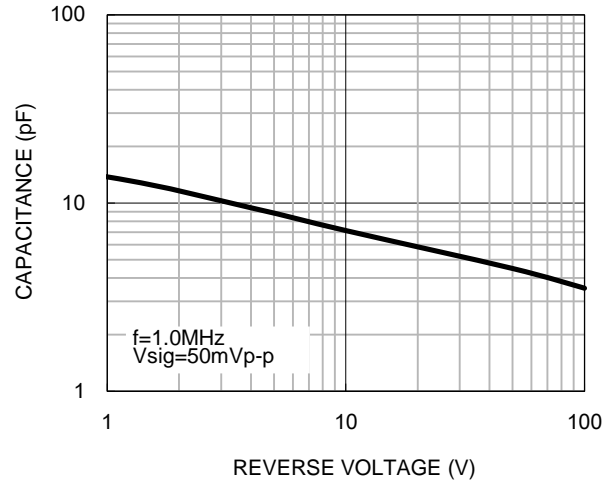


Fig.3 Typical Reverse Characteristics

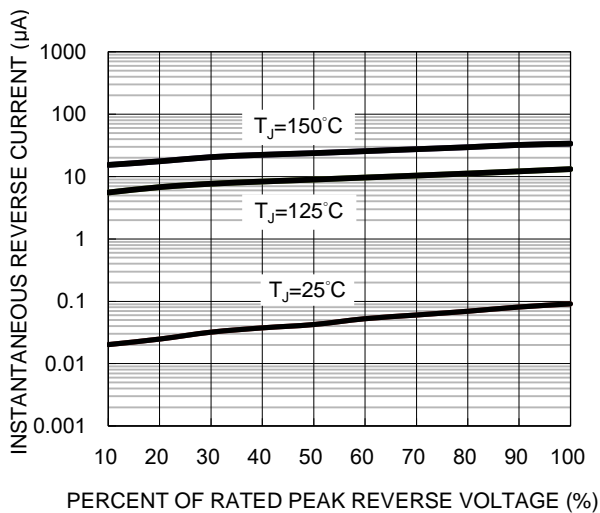


Fig.4 Typical Forward Characteristics

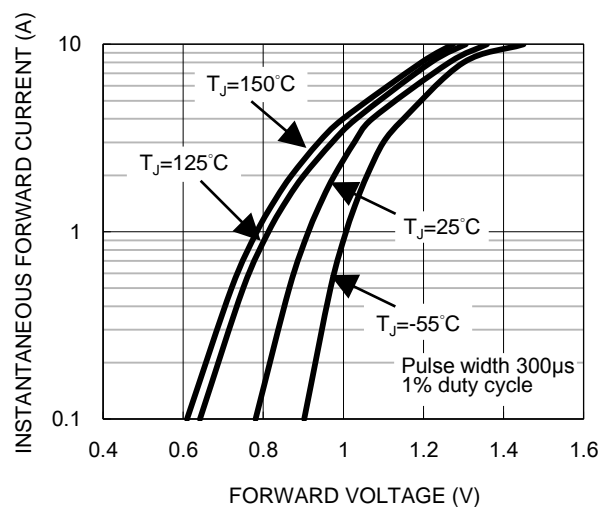


Fig.5 Typical Transient Thermal Impedance

