

Features

- Low profile package
- Ideal for automated placement
- Glass passivated chip junctions
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High temperature soldering:
260°C/10 seconds at terminals
- Component in accordance to
RoHS 2011/65/EU and WEEE 2002/96/EC



SOD-123FL



RoHS
COMPLIANT

Mechanical Data

- **Case:** SOD-123FL
Molding compound meets
UL 94 V-0 flammability rating
- **Terminals:** Solder plated, solderable per
MIL-STD-750, Method 2026
- **Polarity:** Laser band denotes cathode end

Major Ratings and Characteristics

$I_{F(AV)}$	1.0A
V_{RRM}	50V to 1000V
I_{FSM}	25A
t_{rr}	150nS, 250nS, 500nS
V_F	1.3V
$T_{Jmax.}$	150°C

Maximum Ratings & Thermal Characteristics ($T_A = 25^\circ\text{C}$ unless otherwise noted)

Item	Symbol	DFR 1A	DFR 1B	DFR 1D	DFR 1G	DFR 1J	DFR 1K	DFR 1M	Unit
Marking code		F1A	F1B	F1D	F1G	F1J	F1K	F1M	
Maximum repetitive peak reverse voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC blocking voltage	V_{DC}	50	100	200	400	600	800	1000	V
Maximum average forward rectified current at $T_L=110^\circ\text{C}$	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	25							A
Operating and storage temperature range	T_J, T_{STG}	-55 to +150							°C
Thermal resistance from junction to lead ⁽¹⁾	$R_{\theta JL}$	30							°C/W

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

Item	Test conditions	Symbol	DFR1A~ DFR1G	DFR1J	DFR1K~ DFR1M	Unit
Instantaneous forward voltage	$I_F=1.0A^{(2)}$	V_F	1.3			V
Maximum reverse current	$V_R=V_{DC}$	I_R	$T_J=25^\circ\text{C}$			5.0
			$T_J=125^\circ\text{C}$			50
Reverse recovery time	$I_F=0.5A$ $I_R=1.0A, I_{rr}=0.25A$	t_{rr}	150	250	500	nS

Note: 1. Mounted on epoxy glass PCB with 3mmx3mm Cu pads ($\geq 40\ \mu\text{m}$ thick)

2. Pulse test: 300 μs pulse width, 1% duty

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

Fig.1 Forward Current Derating Curve

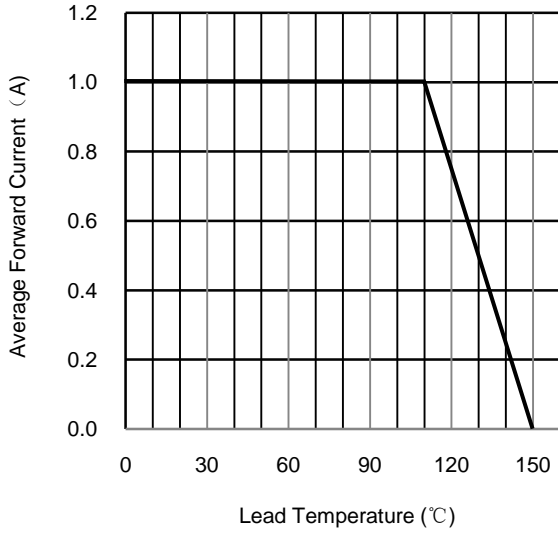


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

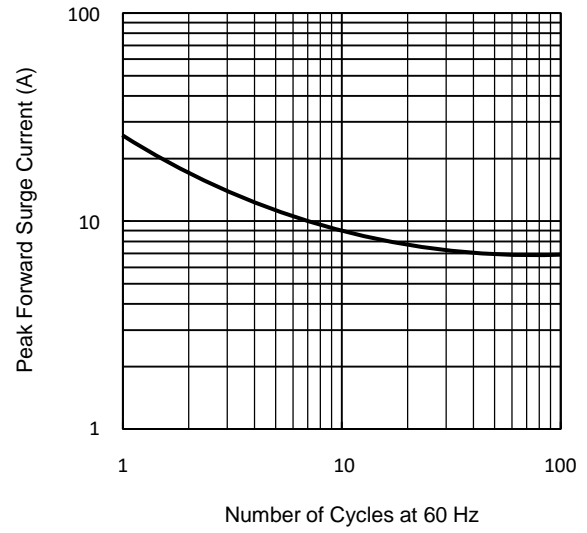


Fig.3 Typical Instantaneous Forward Characteristics

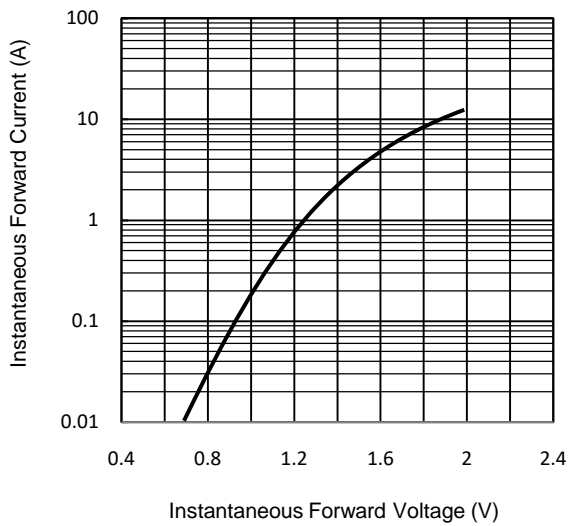
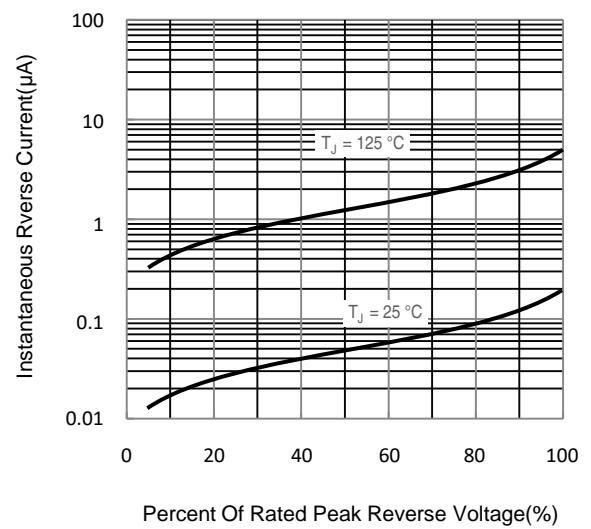
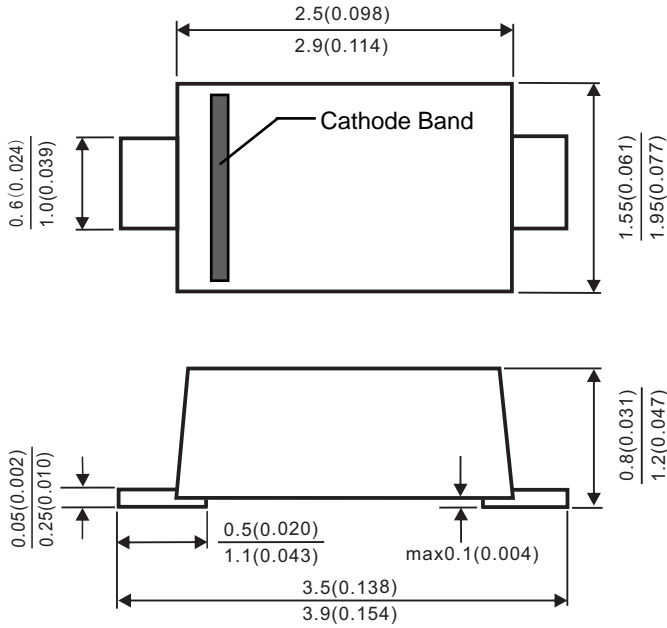


Fig.4 Typical Reverse Characteristics

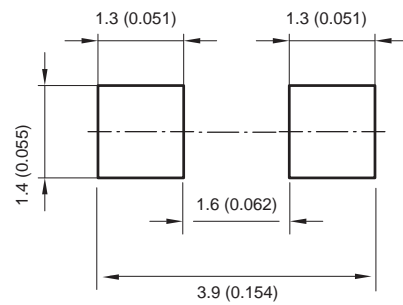


Package Outline

SOD-123FL



Mounting Pad Layout



Dimensions in millimeters and(inches)

Ordering Information

Outline	Reel (PCS)	Per Carton (PCS)	Reel Diameters (mm)
Taping	3,000	-	178/7"

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