

Features

- Low profile package
- Ideal for automated placement
- Low power losses, high efficiency
- Low forward voltage drop
- High surge capability
- High temperature soldering:
260°C/10 seconds at terminals
- Component in accordance to
RoHS 2002/95/1 and WEEE 2002/96/EC



SOD-123FL

Mechanical Date

- **Case:** SOD-123FL molded plastic
- **Terminals:** Solder plated, solderable per
JESD22-B102D
- **Polarity:** Laser band denotes cathode end

Major Ratings and Characteristics

$I_{F(AV)}$	1.0A
V_{RRM}	20 V to 200 V
I_{FSM}	25A
V_F	0.50V, 0.55V, 0.70V, 0.85V, 0.95V
$T_j \text{ max.}$	150 °C

Maximum Ratings & Thermal Characteristics

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

Items	Symbol	SK 12	SK 13	SK 14	SK 15	SK 16	SK 18	SK 110	SK 115	SK 120	UNIT
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	40	50	60	80	100	150	200	V
Maximum RMS voltage	V_{RMS}	14	21	28	35	42	56	70	105	140	V
Maximum DC blocking voltage	V_{DC}	20	30	40	50	60	80	100	150	200	V
Maximum average forward rectified current	$I_{F(AV)}$	1									A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	25									A
Thermal resistance from junction to lead ⁽¹⁾	$R_{\theta JL}$	20									°C/W
Operating junction and storage temperature range	T_J, T_{STG}	-65 to +150									°C

Note 1: Mounted on P.C.B. with 0.036 x 0.06" (0.9 x 1.5mm) copper pad areas.

Electrical Characteristics

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

Items	Test conditions	Symbol	SK 12	SK 13~14	SK 15~16	SK 18~110	SK 115~120	UNIT
Instantaneous forward voltage	$I_F=1.0A^{(2)}$	V_F	0.50	0.55	0.70	0.85	0.95	V
Reverse current	$V_R=V_{DC}$	$T_J=25\text{ °C}$	I_R					mA
		$T_J=100\text{ °C}$						

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

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

Fig.1 Forward Current Derating Curve

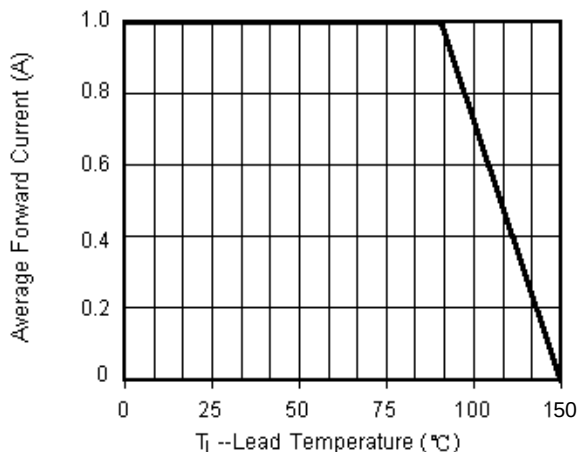


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

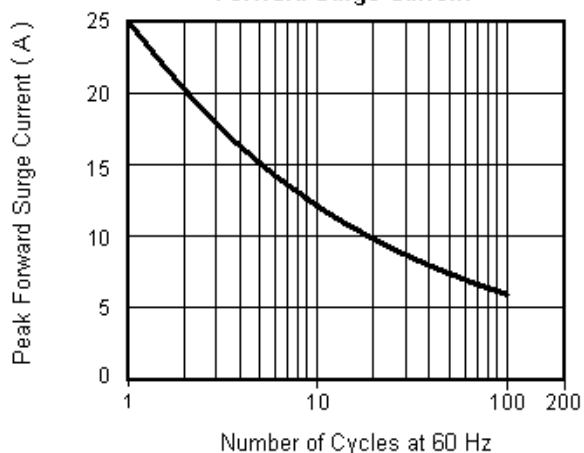


Fig.3 Typical Instantaneous Forward Characteristics

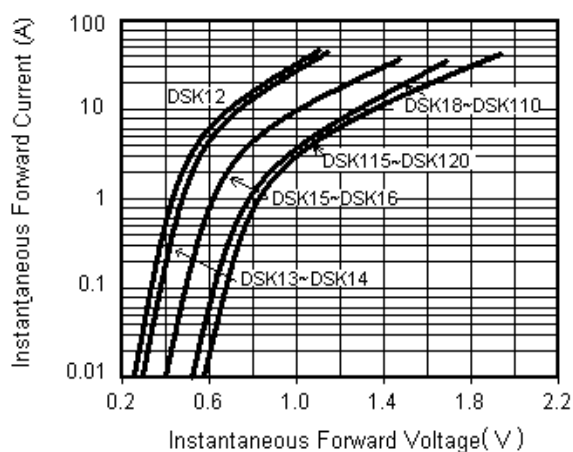
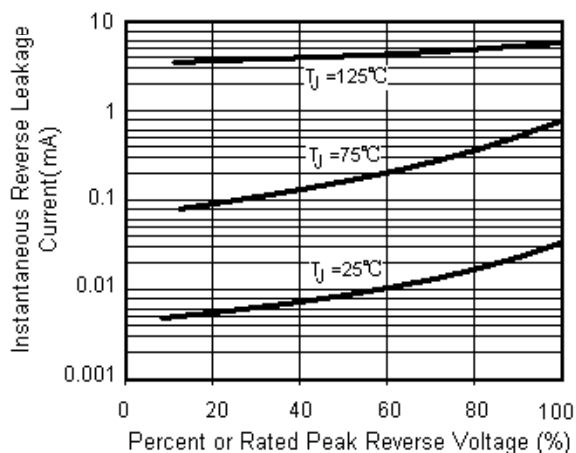
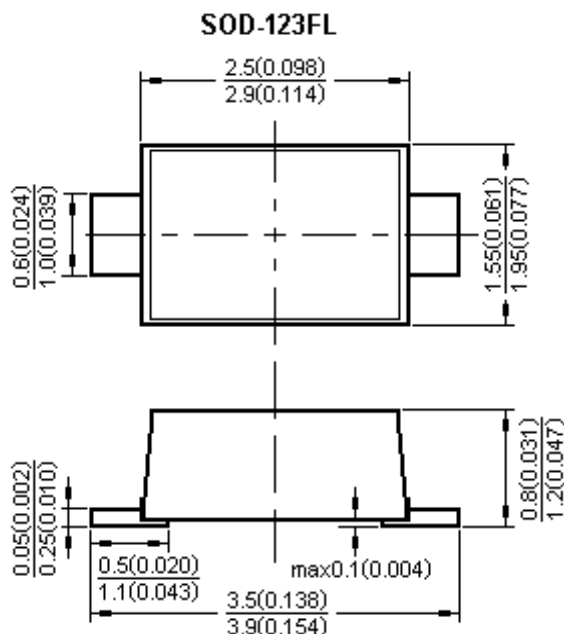


Fig.4 Typical Reverse Leakage Characteristics



Package Outline



Dimensions in millimeters and (inches)

Notice

- Product is intended for use in general electronics applications.
- Product should be worked less than the ratings; if exceeded, may cause permanent damage or introduce latent failure mechanisms.
- The absolute maximum ratings are rated values and must not be exceeded during operation. The following are the general derating methods you design a circuit with a device.

$I_{F(AV)}$: We recommend that the worst case current be no greater than 80% .

T_J : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_J of below 100°C.

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