

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
- AEC-Q101 qualified



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 |
| $T_j \text{ max.}$ | 125 °C |

Maximum Ratings & Thermal Characteristics

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

| Items | Symbol | DSK 12 | DSK 13 | DSK 14 | DSK 15 | DSK 16 | DSK 18 | DSK 110 | DSK 115 | DSK 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 +125 | | | | | | | | | °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 | DSK 12 | DSK 13~14 | DSK 15~16 | DSK 18~110 | DSK 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 | $V_R=V_{DC}$ | I_R | $T_j=25\text{ °C}$ | | | | 0.5 | | mA |
| | | | $T_j=100\text{ °C}$ | | | | 5.0 | | |

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

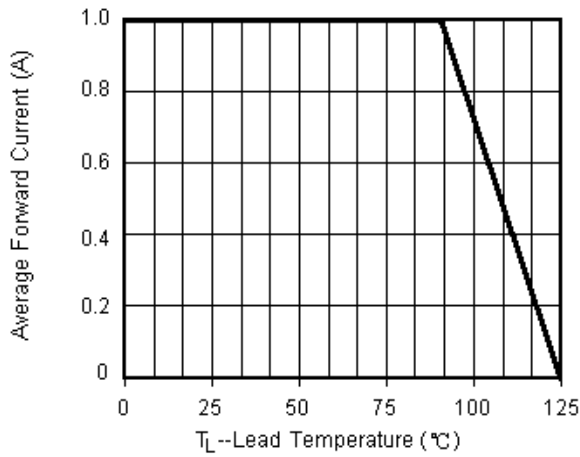


Fig.2 Maximum Non-Repetitive Peak Forward Surge Current

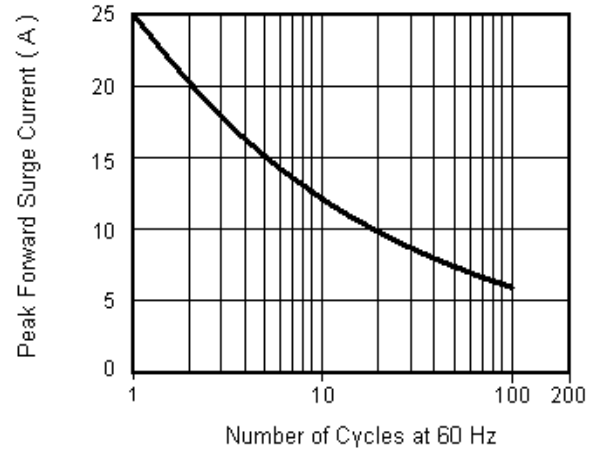


Fig.3 Typical Instantaneous Forward Characteristics

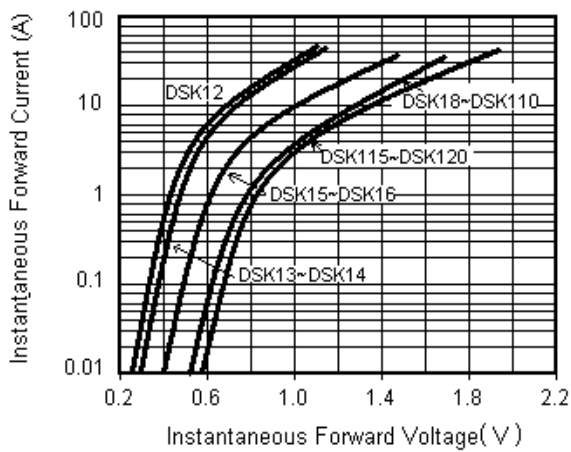
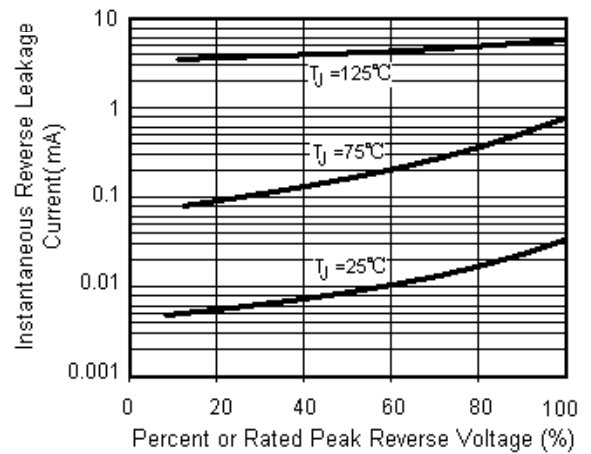
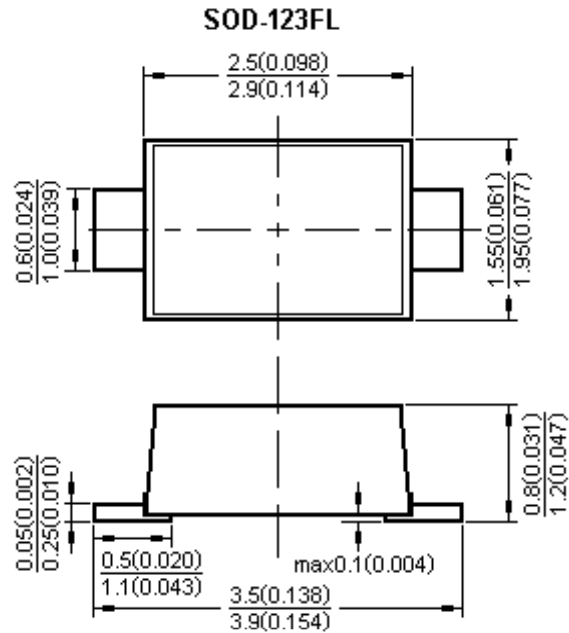


Fig.4 Typical Reverse Leakage Characteristics



Package Outline



Dimensions in millimeters and (inches)