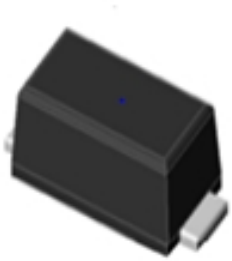
## SOD-123FL(eSGA)



## Features

- ROHS compliant
- Glass passivated chip
- High forward surge capability
- Meet MSL level 1, per J-STD-020 LF maximum peak of 250 °C
- Solder dip 260 °C / 40S
- Component in accordance to ROHS 2002/95/EC and WEEE 2002/96/WC
- UL recognition, file number E342874

## Primary characteristics

| | |
|---|---|
| $I_{F(AV)}$ | 1A |
| $V_{RRM}$ | 50V to 1000V |
| $I_{FSM}$ | 25A |
| $I_{RM}$ | 5uA |
| $V_{FM}$ at $I_F$=1 A | 1.3V |
| $T_J$ max. | 150 °C |

## Applications

Ideal for ac-to-dc bridge full wave rectification suck as SMPS, home applianes, office equipment, indusrial automation applicatios

## Mechanical data

- SOD-123FL(eSGA)
- Epoxy meets UL 94 V-0 flammability rating
- Terminals: Tin plated leads.
- Polarity: As marked.
- Mounting Torque:10cm-kg(8.8 inches-lbs)max.
- Recommended Torque:5.7 cm-kg(5 inches-lbs)

## Maximum rating (Ta=25°C unless otherwise noted)

| Parameter | | Sym | SOD-123FL(eSGA) | | | | | | | Unit |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | FF1S | FF2S | FF3S | FF4S | FF5S | FF6S | FF7S | |
| Max. repetitive peak reverse voltage | | $V_{RRM}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Max. RMS reverse voltage | | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Max. DC blocking voltage | | $V_{DC}$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| Max. average forward current | | $I_{F(AV)}$ | 1 | | | | | | | A |
| Non-repetitive peak forward surge current 8.3ms single half-sine-wave | | $I_{FSM}$ | 25 | | | | | | | A |
| Max. instantaneous forward voltage drop per diode | | $V_{FM}$ | 1.3 (1A) | | | | | | | V |
| Max. instantaneous reverse current at rated DC blocking voltage | Ta=25 °C | $I_{RM}$ | 5 | | | | | | | μA |
| | Ta=125 °C | | 50 | | | | | | | |
| Operating junction temperature | | $T_J$ | -55 ~ +150 | | | | | | | °C |
| Storage temperature | | $T_{STG}$ | -55 ~ +150 | | | | | | | °C |
| Maximum reverse recovery time (Note 2) | | trr | 150 | | | | 250 | 500 | | nS |
| Typical thermal resistance (Note 1) | | $R_{\theta JA}$ | 70 | | | | | | | oC/W |
| | | $R_{\theta JC}$ | 32 | | | | | | | |
| | | $R_{\theta JM}$ | 1 | | | | | | | |

**Notes**:

1 The thermal resistance from junction to ambient,case or mount,mounted on P.C.B with 5×5mm copperpads,2OZ,FR4 PCB

2. Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C

| Ordering information (Example) | | | | |
|---|---|---|---|---|
| PREFERRED | UNIT WEIGHT (g) | PREFERRED PACKAGE CODE | BASE QUANTITY | DELIVERY MODE |
| FF7S | | | | |

## Typical characteristics

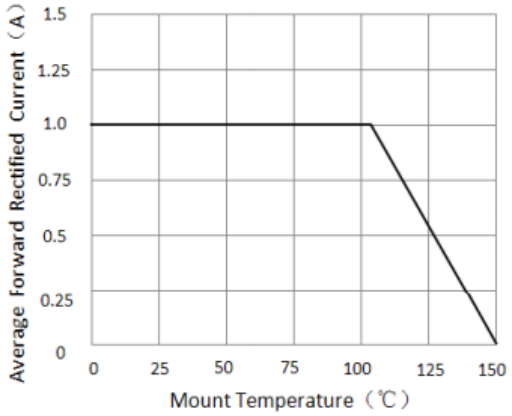



Figure 1.Forward Current Derating Curve

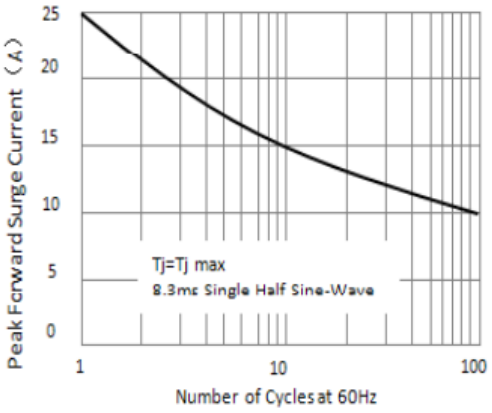



Figure 2.Maximum Non-Repetitive Peak Forward Surge Current

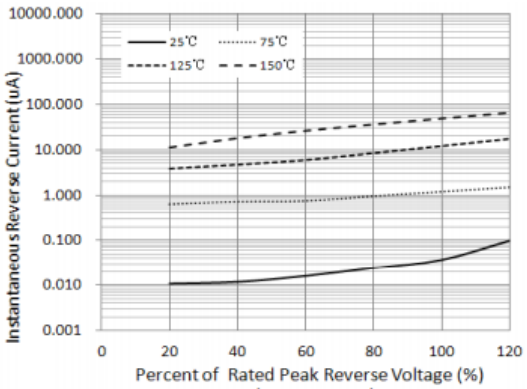



Figure 3. Typical Reverse Characteristics

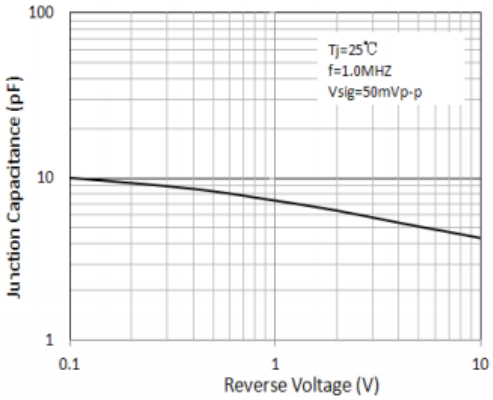
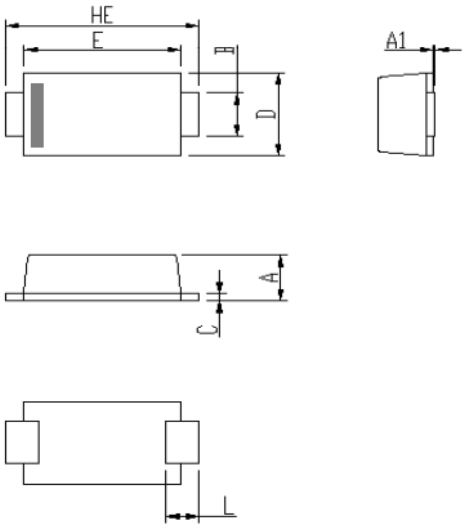



Figure 4. Typical Junction Capacitance

## Package outline dimensions

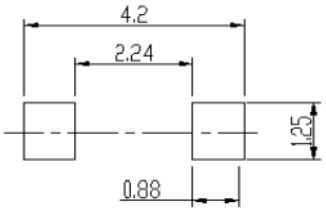
### Package Outline Dimensions

in inches (millimeters)




| DIM | Unit: mm | | Unit: inch | |
|---|---|---|---|---|
| | MIN | MAX | MIN | MAX |
| A | 0.9 | 1.08 | 0.035 | 0.043 |
| A1 | 0 | 0.1 | 0.000 | 0.004 |
| B | 0.85 | 1.05 | 0.033 | 0.041 |
| C | 0.1 | 0.25 | 0.004 | 0.010 |
| D | 1.7 | 2 | 0.067 | 0.079 |
| E | 2.9 | 3.1 | 0.114 | 0.122 |
| L | 0.43 | 0.83 | 0.017 | 0.033 |
| HE | 3.5 | 3.9 | 0.138 | 0.154 |

Soldering footprint

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