



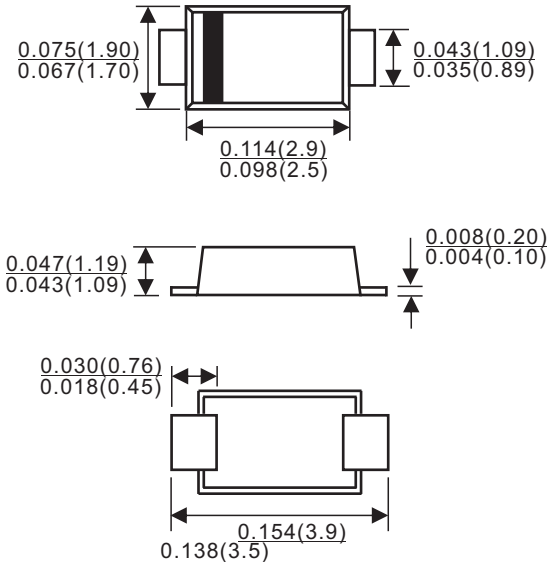
## Features

- ✧ Low profile package
- ✧ Ideal for automated placement
- ✧ Ultrafast reverse recovery time
- ✧ 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

## Mechanical Data

- ✧ **Case:** JEDEC SOD-123FL molded plastic body over passivated chip
- ✧ **Terminals:** Solder plated, solderable per J-STD-002B and JESD22-B102D
- ✧ **Polarity:** Laser band denotes cathode end

## SOD-123FL



## Maximum Ratings & Thermal Characteristics & Electrical Characteristics

(TA = 25 °C unless otherwise noted)

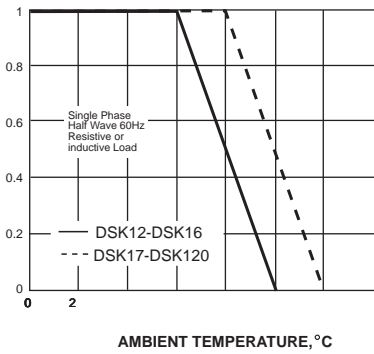
| MDD Catalog Number   | SYMBOLS    | DSK12       | DSK13 | DSK14 | DSK15 | DSK16 | DSK17       | DSK18 | DSK19 | DSK110 | DSK115 | DSK120 | UNITS |
|--|------------|-------------|-------|-------|-------|-------|-------------|-------|-------|--------|--------|--------|-------|
| Maximum repetitive peak reverse voltage  | $V_{RRM}$  | 20          | 30    | 40    | 50    | 60    | 70          | 80    | 90    | 100    | 150    | 200    | VOLTS |
| Maximum RMS voltage  | $V_{RMS}$  | 14          | 21    | 28    | 35    | 42    | 49          | 56    | 63    | 70     | 105    | 140    | VOLTS |
| Maximum DC blocking voltage  | $V_{DC}$   | 20          | 30    | 40    | 50    | 60    | 70          | 80    | 90    | 100    | 150    | 200    | VOLTS |
| Maximum average forward rectified current  | $I_{(AV)}$ | 1.0         |       |       |       |       |             |       |       |        |        |        | Amp   |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method) | $I_{FSM}$  | 25.0        |       |       |       |       |             |       |       |        |        |        | Amps  |
| Maximum instantaneous forward voltage at 1.0A  | $V_F$      | 0.55        |       | 0.70  |       | 0.85  |             |       | 0.95  |        |        | Volts  |       |
| Maximum DC reverse current TA=25°C<br>at rated DC blocking voltage TA=100°C                            | $I_R$      | 0.5         |       |       |       |       | 0.2         |       |       | 2.0    |        |        | mA    |
| Typical junction capacitance (NOTE 1)  | $C_J$      | 110         |       |       |       | 80    |             |       |       |        |        |        | pF    |
| Operating junction temperature range   | $T_J$      | -65 to +125 |       |       |       |       | -65 to +150 |       |       |        |        |        | °C    |
| Storage temperature range  | $T_{STG}$  | -65 to +150 |       |       |       |       |             |       |       |        |        |        | °C    |

**Note:** 1. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

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

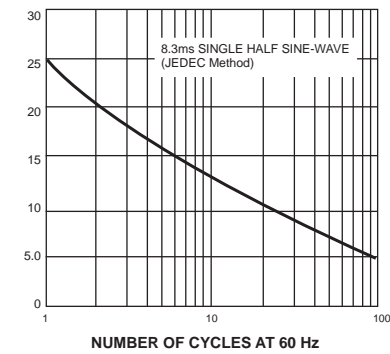
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



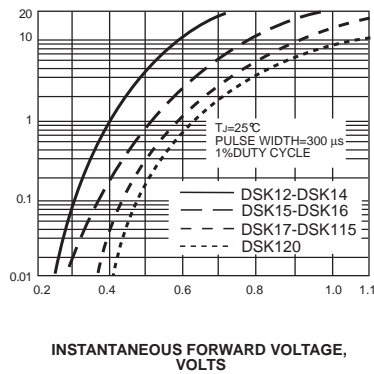
PEAK FORWARD SURGE CURRENT, AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



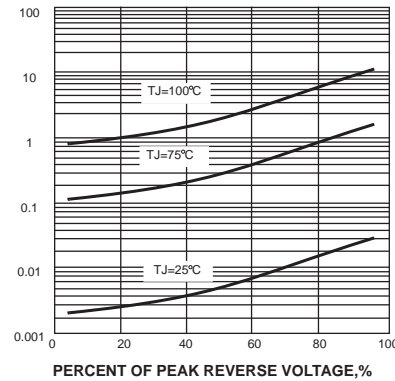
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



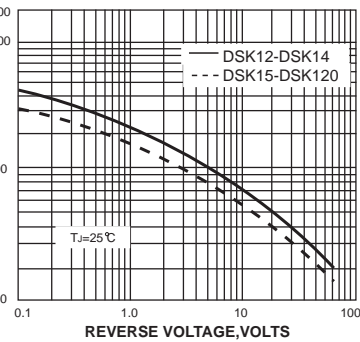
INSTANTANEOUS REVERSE CURRENT, MILLIAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



| PACKAGE   | SPQ/PCS   | CARTON SPQ/PCS | CARTON SIZE/CM | CARTON GW/KG | CARTON NW/KG |
|-----------|-----------|----------------|----------------|--------------|--------------|
| SOD-123FL | 3000/REEL | 90000          | 40X20X22       | 5.00         | 4.00         |