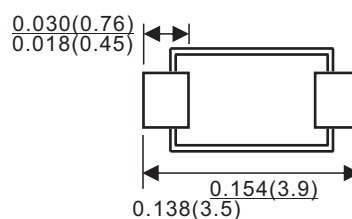
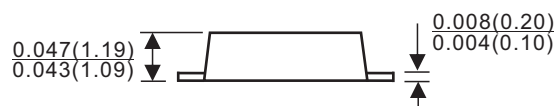
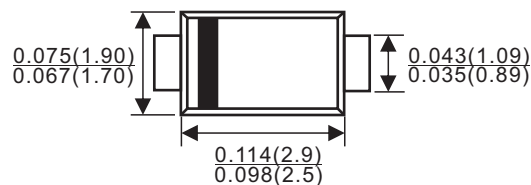




SOD-123FL

### Features

- ✧ Batch process design, excellent power dissipation offers better reverse leakage current and thermal resistance.
- ✧ Low profile surface mounted application in order to optimize board space.
- ✧ Tiny plastic SMD package.
- ✧ High current capability.
- ✧ Fast switching for high efficiency.
- ✧ High surge current capability.
- ✧ Glass passivated chip junction.
- ✧ Lead-free parts meet RoHS requirements.



Dimensions in inches and (millimeters)

### Mechanical data

- ✧ Case : Molded plastic, SOD-123FL
- ✧ Polarity : Indicated by cathode band
- ✧ Mounting Position : Any
- ✧ Weight : Approximated 0.01gram

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

#### Maximum ratings

| PARAMETER                  | CONDITIONS                                                           | Symbol          | MIN. | TYP. | MAX. | UNIT |
|----------------------------|----------------------------------------------------------------------|-----------------|------|------|------|------|
| Forward rectified current  | See Fig.2                                                            | $I_o$           |      |      | 1.2  | A    |
| Forward surge current      | 8.3ms single halfsine-wave superimposed on rate load (JEDEC methode) | $I_{FSM}$       |      |      | 30   | A    |
| Reverse current            | $V_R = V_{RRM} \quad T_A = 25^\circ C$                               | $I_R$           |      |      | 5.0  | uA   |
|                            | $V_R = V_{RRM} \quad T_A = 100^\circ C$                              |                 |      |      | 100  |      |
| Thermal resistance         | Junction to ambient                                                  | $R_{\theta JA}$ |      | 42   |      | °C/W |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage                             | $C_J$           |      | 15   |      | pF   |
| Storage temperature        |                                                                      | $T_{STG}$       | -65  |      | +175 | °C   |

| SYMBOLS | V <sub>RRM</sub> <sup>*1</sup><br>(V) | V <sub>RMS</sub> <sup>*2</sup><br>(V) | V <sub>R</sub> <sup>*3</sup><br>(V) | V <sub>F</sub> <sup>*4</sup><br>(V) | T <sub>RR</sub> <sup>*5</sup><br>(nS) | Operating temperature<br>T <sub>J</sub> , (°C) |
|---------|---------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|---------------------------------------|------------------------------------------------|
| FM101   | 50                                    | 35                                    | 50                                  | 1.30                                | 150                                   | -55 to +150                                    |
| FM102   | 100                                   | 70                                    | 100                                 |                                     |                                       |                                                |
| FM103   | 200                                   | 140                                   | 200                                 |                                     |                                       |                                                |
| FM104   | 400                                   | 280                                   | 400                                 |                                     | 250                                   |                                                |
| FM105   | 600                                   | 420                                   | 600                                 |                                     |                                       |                                                |
| FM106   | 800                                   | 560                                   | 800                                 |                                     | 500                                   |                                                |
| FM107   | 1000                                  | 700                                   | 1000                                |                                     |                                       |                                                |

\*1 Repetitive peak reverse voltage

\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage

\*5 Reverse recovery time

**Rating and characteristic curves (FM101 THRU FM107)**

FIG.1-TYPICAL FORWARD CHARACTERISTICS

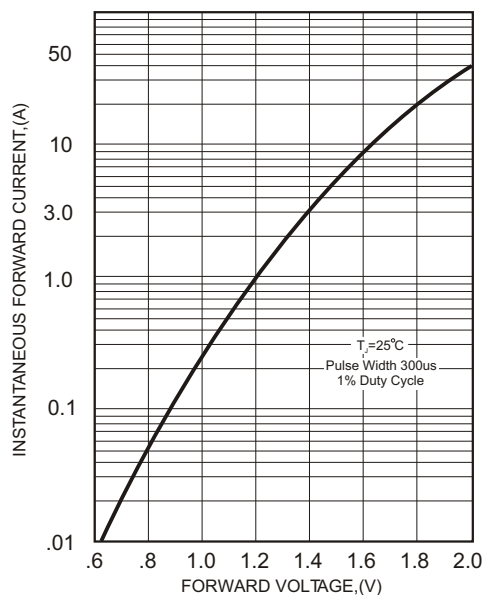


FIG.2-TYPICAL FORWARD CURRENT DERATING CURVE

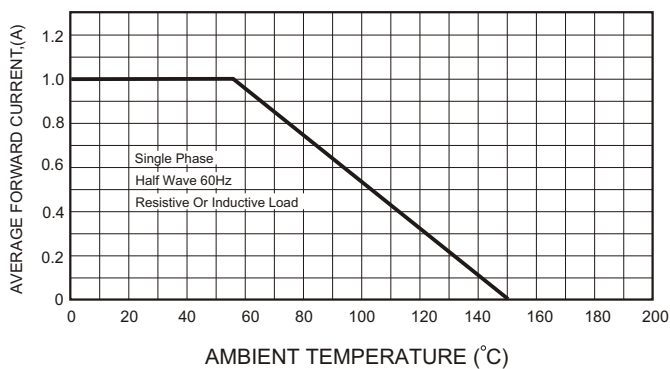


FIG.4-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

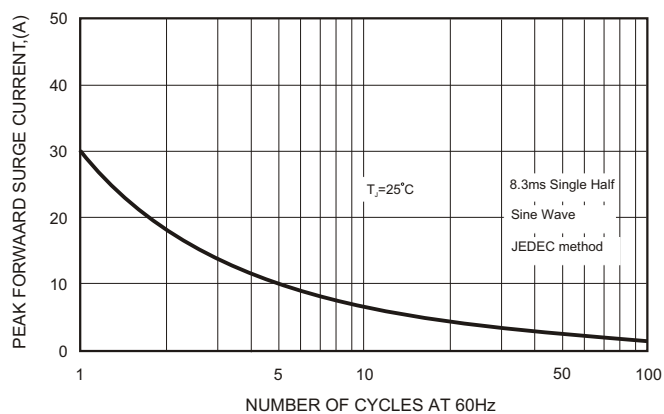
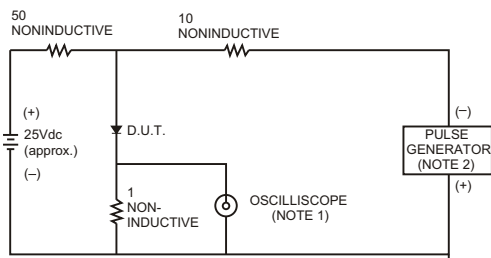


FIG.3- TEST CIRCUIT DIAGRAM AND REVERSE RECOVERY TIME CHARACTERISTICS



NOTES: 1. Rise Time= 7ns max., Input Impedance= 1 megohm, 22pF.

2. Rise Time= 10ns max., Source Impedance= 50 ohms.

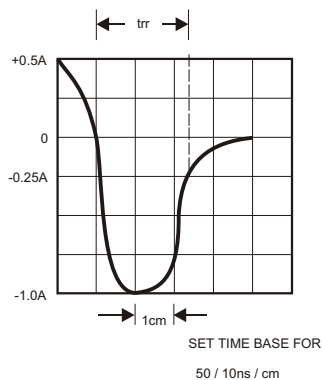


FIG.5-TYPICAL JUNCTION CAPACITANCE

