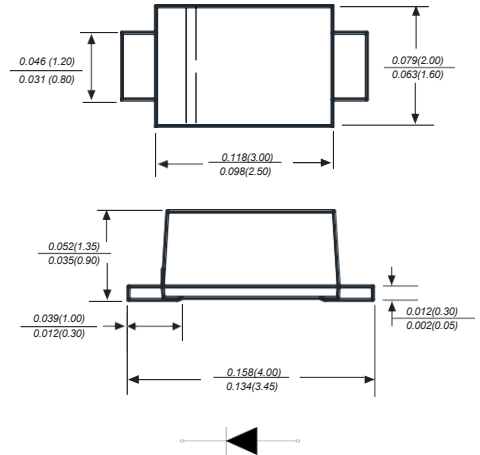


## SURFACE MOUNT FAST RECTIFIER

### Features

- ◆ Glass passivated device
- ◆ Ideal for surface mouted applications
- ◆ Low reverse leakage
- ◆ Metallurgically bonded construction
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds,0.375"(9.5mm) lead length,  
5 lbs. (2.3kg) tension

### SOD-123FL



Dimensions in inches and (millimeters)

### Maximum Ratings And Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

| Catalog Number                                                                                              | SYMBOLS                          | SOD1E1<br>E1 | SOD1E2<br>E2 | SOD1E3<br>E3 | SOD1E4<br>E4 | SOD1E5<br>E5 | SOD1E6<br>E6 | SOD1E8<br>E8 | UNITS |
|-------------------------------------------------------------------------------------------------------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------|
| Maximum repetitive peak reverse voltage                                                                     | V <sub>RRM</sub>                 | 50           | 100          | 150          | 200          | 300          | 400          | 600          | VOLTS |
| Maximum RMS voltage                                                                                         | V <sub>RMS</sub>                 | 35           | 70           | 105          | 140          | 210          | 280          | 420          | VOLTS |
| Maximum DC blocking voltage                                                                                 | V <sub>DC</sub>                  | 50           | 100          | 150          | 200          | 300          | 400          | 600          | VOLTS |
| Maximum average forward rectified current                                                                   | I <sub>(AV)</sub>                | 1            |              |              |              |              |              |              | Amp   |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed on<br>rated load (JEDEC Method)      | I <sub>FSM</sub>                 | 30           |              |              |              |              |              |              | Amps  |
| Maximum instantaneous forward voltage at1.0A                                                                | V <sub>F</sub>                   | 1            |              |              |              | 1.25         |              | 1.68         | Volts |
| Maximum DC reverse current    T <sub>A</sub> =25°C<br>at rated DC blocking voltage    T <sub>A</sub> =125°C | I <sub>R</sub>                   | 5<br>100     |              |              |              |              |              |              | μA    |
| Maximum reverse recovery time (NOTE 1)                                                                      | t <sub>rr</sub>                  | 35           |              |              |              |              |              |              | ns    |
| Typical junction capacitance (NOTE 2)                                                                       | C <sub>J</sub>                   | 22           |              |              |              | 14           |              | 12           | pF    |
| Typical thermal resistance (NOTE 3)                                                                         | R <sub>θJA</sub>                 | 105          |              |              |              |              |              |              | °C/W  |
| Operating junction and storage temperature range                                                            | T <sub>J</sub> ,T <sub>STG</sub> | -55 to +150  |              |              |              |              |              |              | °C    |

**Note:** 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .  
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
3. PCB mounted on 0.2\*0.2" (5.0\*5.0mm) copper pad area.

## Ratings And Characteristic Curves

FIG. 1- FORWARD CURRENT DERATING CURVE

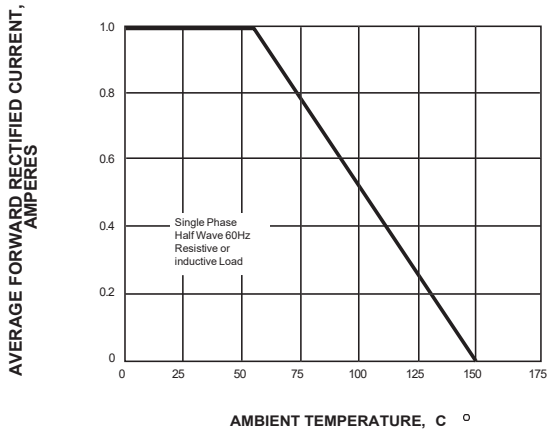


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

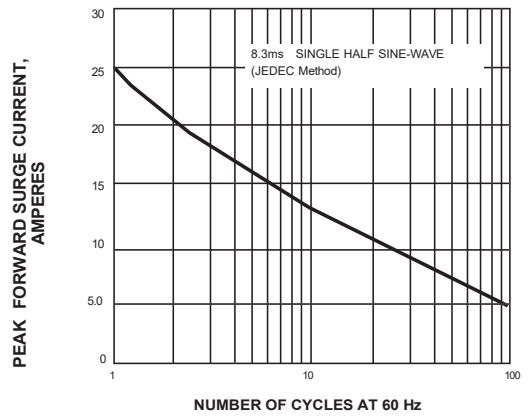


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

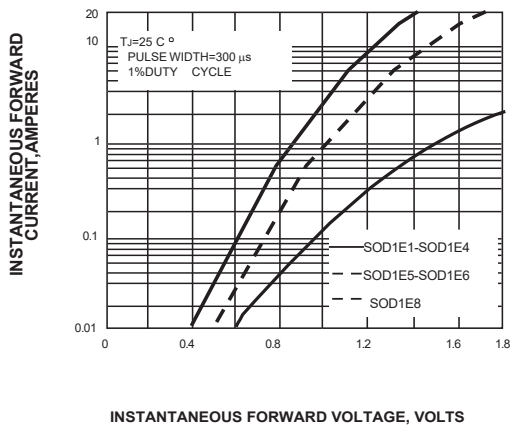


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

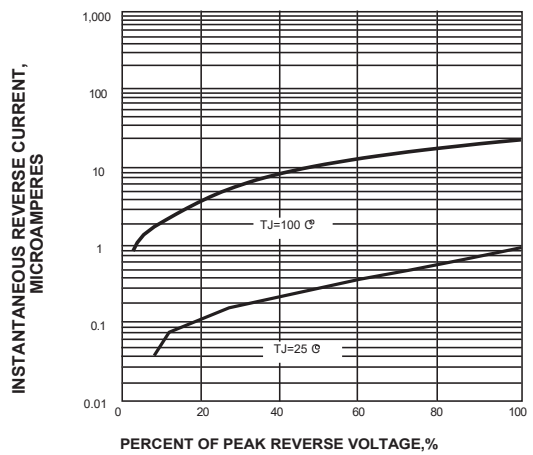


FIG. 5-TYPICAL JUNCTION CAPACITANCE

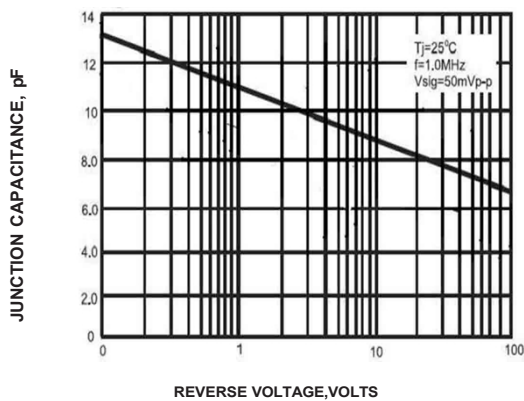
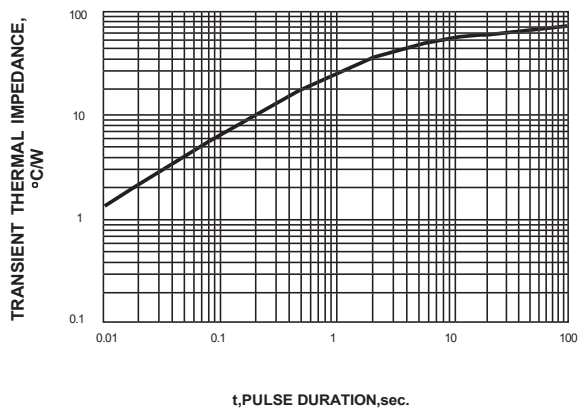


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



The curve above is for reference only.