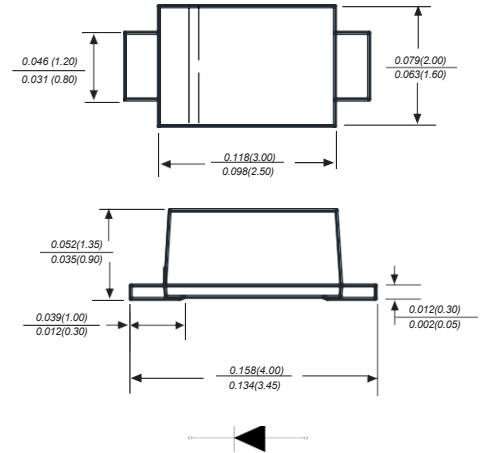


## SURFACE MOUNT FAST RECOVERY RECTIFIER

### 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.

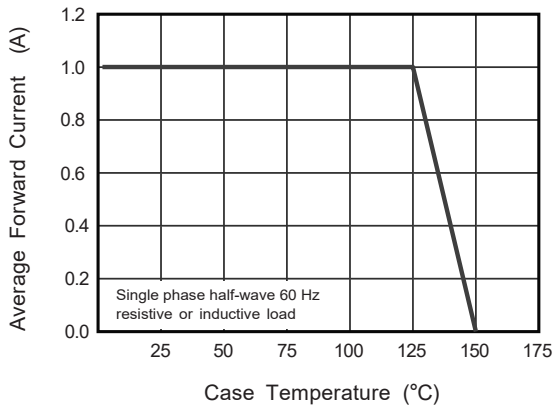
Single phase half-wave 60Hz,resistive or inductive load,for capacitive load current derate by 20%.

| Parameter                                                                                        | SYMBOLS           | SOD1F1      | SOD1F2 | SOD1F3 | SOD1F4 | SOD1F5 | SOD1F6 | SOD1F7 | UNITS |
|--------------------------------------------------------------------------------------------------|-------------------|-------------|--------|--------|--------|--------|--------|--------|-------|
| Marking Code                                                                                     |                   | F1          | F2     | F3     | F4     | F5     | F6     | F7     |       |
| Maximum repetitive peak reverse voltage                                                          | V <sub>RRM</sub>  | 50          | 100    | 200    | 400    | 600    | 800    | 1000   | V     |
| Maximum RMS voltage                                                                              | V <sub>RMS</sub>  | 35          | 70     | 140    | 280    | 420    | 560    | 700    | V     |
| Maximum DC blocking voltage                                                                      | V <sub>DC</sub>   | 50          | 100    | 200    | 400    | 600    | 800    | 1000   | V     |
| Maximum average forward rectified current at TL(see fig.1)                                       | I <sub>(AV)</sub> | 1.0         |        |        |        |        |        |        | A     |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>  | 30          |        |        |        |        |        |        | A     |
| Maximum instantaneous forward voltage at 1.0A                                                    | V <sub>F</sub>    | 1.3         |        |        |        |        |        |        | V     |
| Maximum DC reverse current<br>TA=25℃ at rated DC blocking voltage<br>TA=125℃                     | I <sub>R</sub>    | 5<br>100    |        |        |        |        |        |        | uA    |
| Typical junction capacitance (NOTE 1)                                                            | C <sub>J</sub>    | 15          |        |        |        |        |        |        | pF    |
| Maximum Reverse Recovery Time                                                                    | t <sub>rr</sub>   | 150         |        |        |        | 250    | 500    |        | ns    |
| Typical thermal resistance (NOTE 2)                                                              | RθJA              | 85          |        |        |        |        |        |        | ℃/W   |
| Operating junction temperature range                                                             | T <sub>J</sub>    | -55 to +150 |        |        |        |        |        |        | ℃     |
| Storage temperature range                                                                        | T <sub>STG</sub>  | -55 to +150 |        |        |        |        |        |        | ℃     |

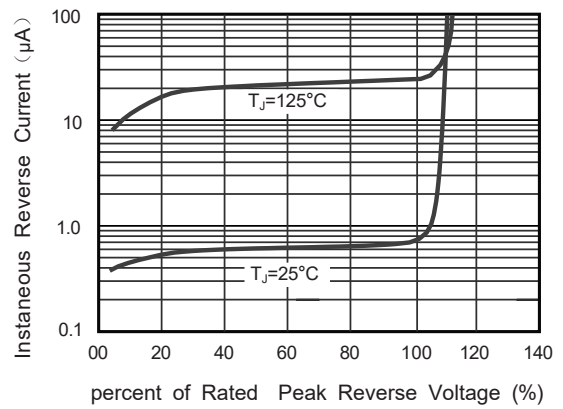
**Note:** 1.Averaged over any 20ms period.  
 2. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .  
 3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 4. Thermal resistance junction to ambient, 6.0 mm2 copper pads to each terminal.

## Typical Characterisitcs

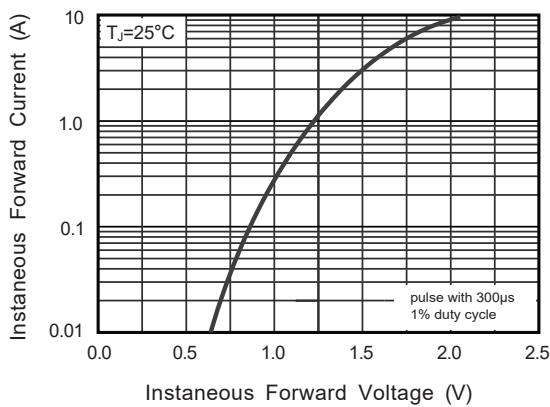
**Fig.1 Forward Current Derating Curve**



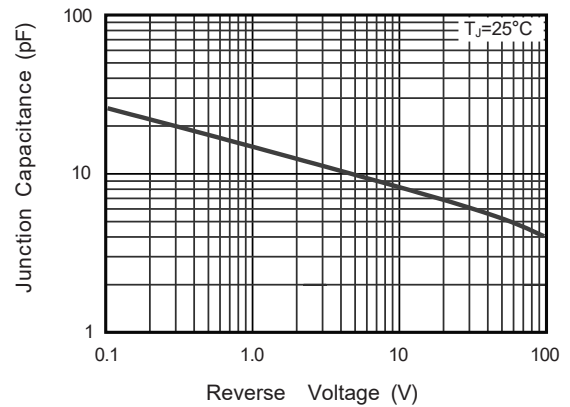
**Fig.2 Typical Reverse Characteristics**



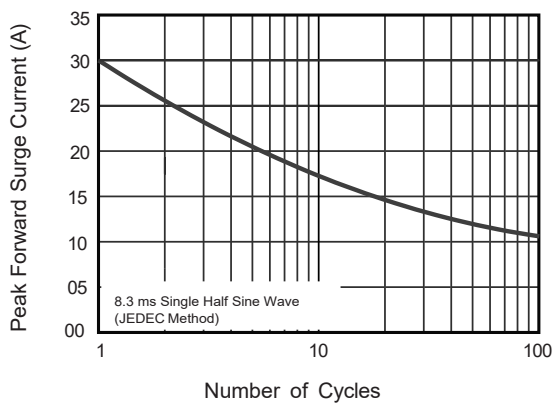
**Fig.3 Typical Instaneous Forward Characteristics**



**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



The curve above is for reference only.