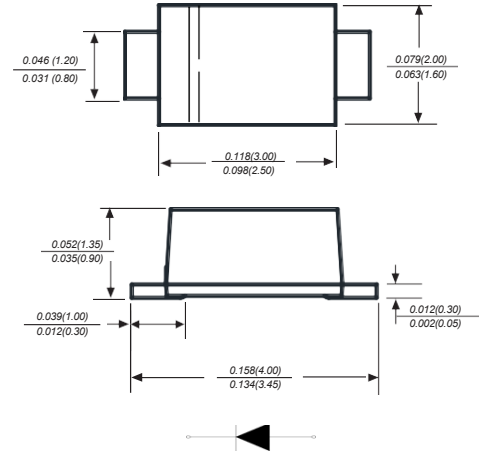


## SURFACE MOUNT SUPER FAST RECTIFIER

### 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%.

| Parameter                                                                                        | SYMBOLS         | DSF1A       | DSF1B | DSF1C | DSF1D | DSF1E | DSF1G | DSF1J | UNITS         |
|--------------------------------------------------------------------------------------------------|-----------------|-------------|-------|-------|-------|-------|-------|-------|---------------|
| Marking Code                                                                                     |                 | E1A         | E1B   | E1C   | E1D   | E1E   | E1G   | E1J   |               |
| Maximum repetitive peak reverse voltage                                                          | $V_{RRM}$       | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V             |
| Maximum RMS voltage                                                                              | $V_{RMS}$       | 35          | 70    | 105   | 140   | 210   | 280   | 420   | V             |
| Maximum DC blocking voltage                                                                      | $V_{DC}$        | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V             |
| Maximum average forward rectified current at TL(see fig.1)                                       | $I_{(AV)}$      | 1.0         |       |       |       |       |       |       | A             |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 30          |       |       |       |       |       |       | A             |
| Maximum instantaneous forward voltage at 1.0A                                                    | $V_F$           | 1           |       |       |       | 1.25  | 1.68  |       | V             |
| Maximum DC reverse current $T_A=25^{\circ}C$ at rated DC blocking voltage $T_A=125^{\circ}C$     | $I_R$           | 5<br>100    |       |       |       |       |       |       | $\mu A$       |
| Typical junction capacitance (NOTE 1)                                                            | $C_J$           | 15          |       |       |       |       |       |       | pF            |
| Maximum Reverse Recovery Time (NOTE 2)                                                           | $t_{rr}$        | 35          |       |       |       |       |       |       | ns            |
| Typical thermal resistance (NOTE 3)                                                              | $R_{\theta JA}$ | 85          |       |       |       |       |       |       | $^{\circ}C/W$ |
| Operating junction temperature range                                                             | $T_J$           | -55 to +150 |       |       |       |       |       |       | $^{\circ}C$   |
| Storage temperature range                                                                        | $T_{STG}$       | -55 to +150 |       |       |       |       |       |       | $^{\circ}C$   |

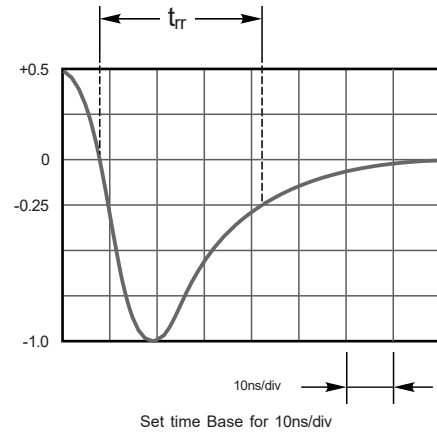
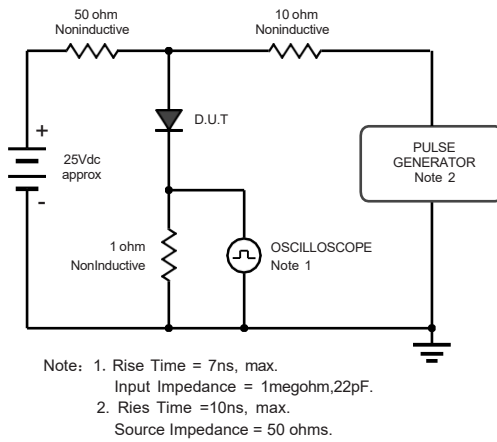
**Note:** 1. Measured with  $I_F=0.5A$ ,  $I_R=1A$ ,  $I_{rr}=0.25A$ .

2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

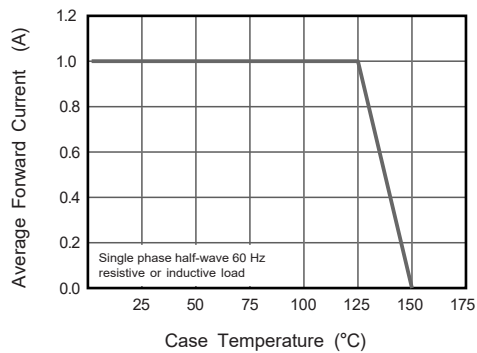
3. PCB mounted on 2.0\*2.0" (5.0\*5.0cm) copper pad area.

## Typical Characteristics

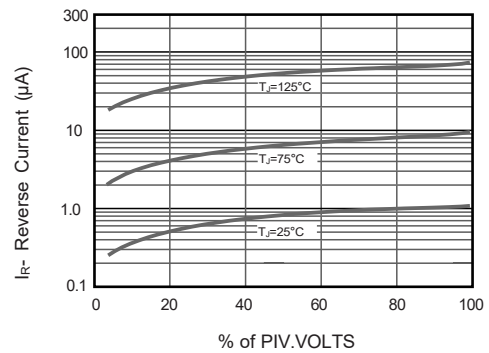
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



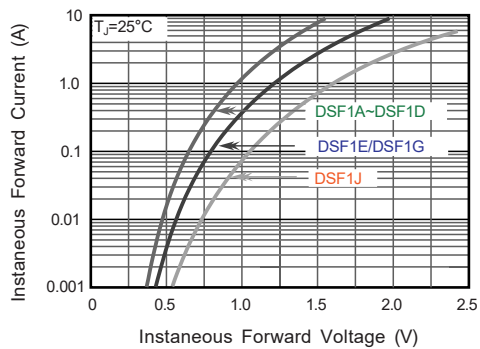
**Fig.2 Maximum Average Forward Current Rating**



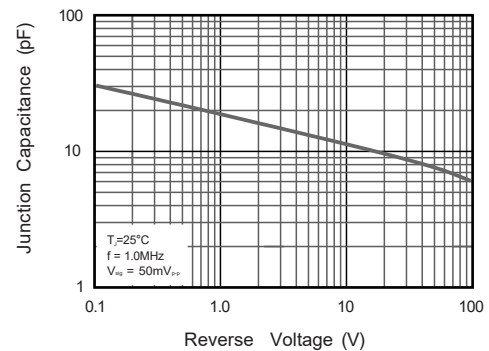
**Fig.3 Typical Reverse Characteristics**



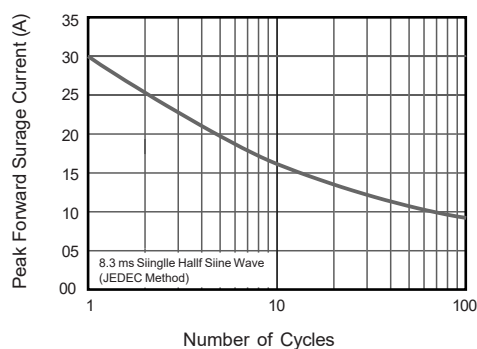
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**



**Fig.6 Maximum Non-Repetitive Peak Forward Surge Current**



The curve above is for reference only.