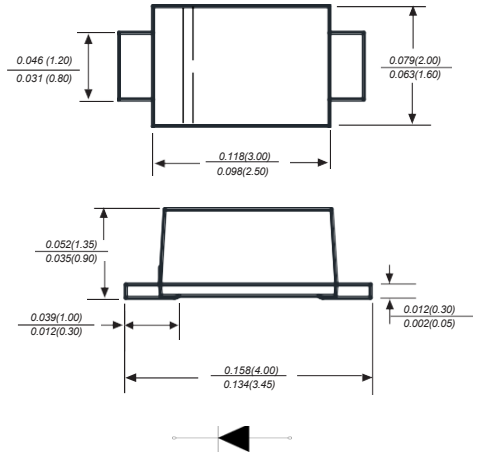


## SURFACE MOUNT SUPER FAST RECTIFIER

### 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           | ES2AW       | ES2BW | ES2CW | ES2DW | ES2EW | ES2GW | ES2JW | UNITS |
|--------------------------------------------------------------------------------------------------|-------------------|-------------|-------|-------|-------|-------|-------|-------|-------|
| Marking Code                                                                                     |                   | 2E1         | 2E2   | 2E3   | 2E4   | 2E5   | 2E6   | 2E8   |       |
| Maximum repetitive peak reverse voltage                                                          | V <sub>RRM</sub>  | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V     |
| Maximum RMS voltage                                                                              | V <sub>RMS</sub>  | 35          | 70    | 105   | 140   | 210   | 280   | 420   | V     |
| Maximum DC blocking voltage                                                                      | V <sub>DC</sub>   | 50          | 100   | 150   | 200   | 300   | 400   | 600   | V     |
| Maximum average forward rectified current at Ta=65°C                                             | I <sub>(AV)</sub> | 2.0         |       |       |       |       |       |       | A     |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>  | 50          |       |       |       |       |       |       | A     |
| Maximum instantaneous forward voltage at 2.0A                                                    | V <sub>F</sub>    | 0.95        |       |       |       | 1.25  |       | 1.7   | V     |
| Maximum DC reverse current TA=25°C at rated DC blocking voltage TA=125°C                         | I <sub>R</sub>    | 5<br>100    |       |       |       |       |       |       | μA    |
| Typical junction capacitance (NOTE 1)                                                            | C <sub>J</sub>    | 25          |       |       |       |       |       |       | pF    |
| Maximum Reverse Recovery Time (NOTE 2)                                                           | t <sub>rr</sub>   | 35          |       |       |       |       |       |       | ns    |
| Typical thermal resistance (NOTE 3)                                                              | R <sub>θJA</sub>  | 90          |       |       |       |       |       |       | °C/W  |
| Operating junction temperature range                                                             | T <sub>J</sub>    | -55 to +125 |       |       |       |       |       |       | °C    |
| Storage temperature range                                                                        | T <sub>STG</sub>  | -55 to +150 |       |       |       |       |       |       | °C    |

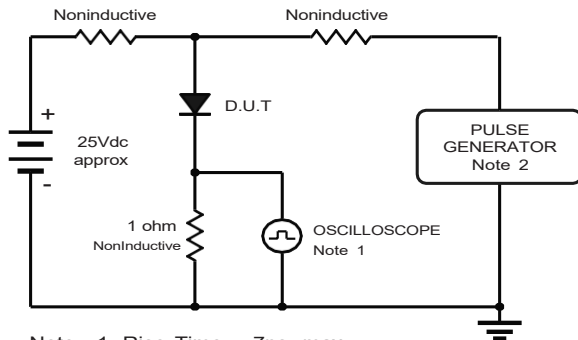
**Note:** 1. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .

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

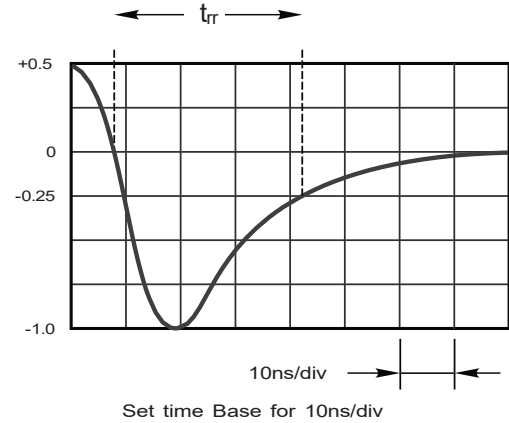
3. PCB mounted on 0.2\*0.2" (5.0\*5.0mm) copper pad area.

## Typical Characteristics

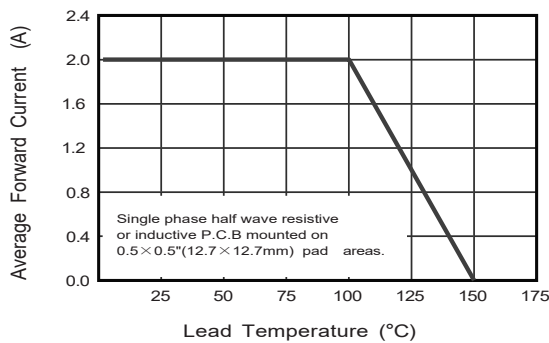
**Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram**



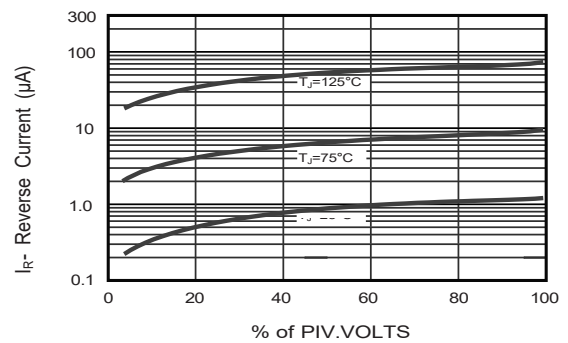
Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rises Time = 10ns, max.  
Source Impedance = 50 ohms.



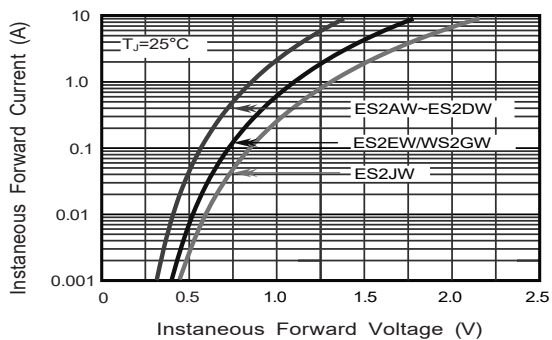
**Fig.2 Maximum Average Forward Current Rating**



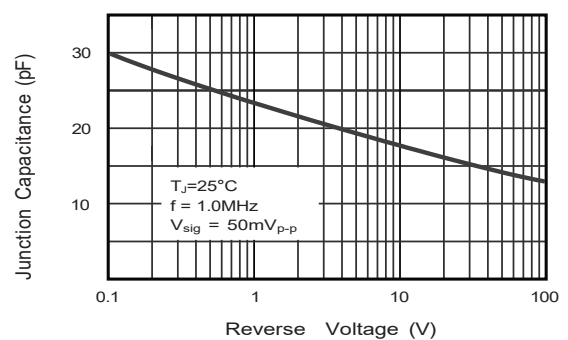
**Fig.3 Typical Reverse Characteristics**



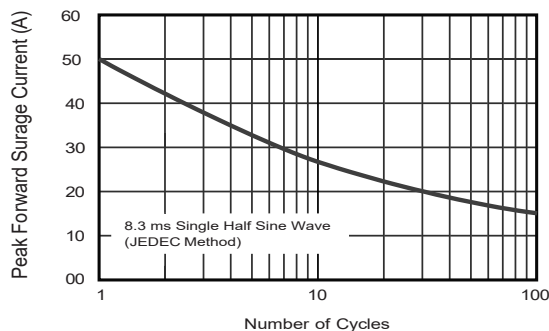
**Fig.4 Typical Forward Characteristics**



**Fig.5 Typical Junction Capacitance**



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



The curve above is for reference only.