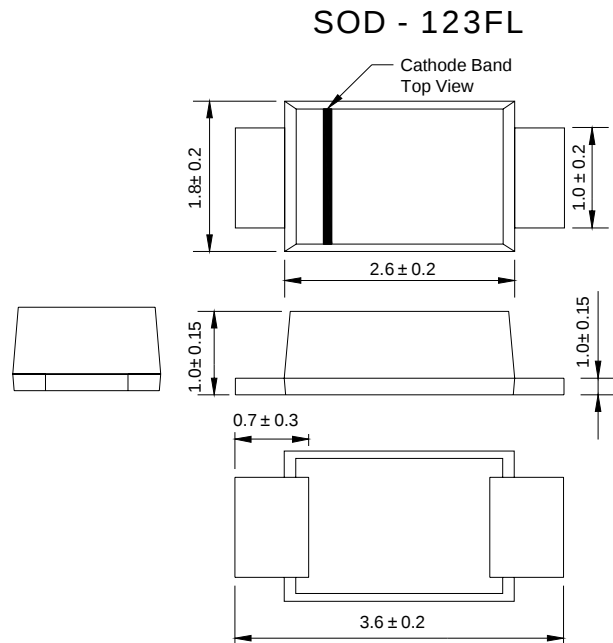


#### Features

- Glass passivated device
- Ideally Suited for Automatic Assembly
- Low Forward Voltage Drop, High Efficiency
- Surge Overload Rating to 25 A Peak
- Low Power Loss
- Ultra-Fast Recovery Time
- Plastic Case Material has UL Flammability
- Classification Rating 94V-O

#### Mechanical Data

- Case: SOD-123FL, Molded Plastic
- Terminals: Solder Plated, Solderable per MIL-STD-750, Method 2026
- Polarity: Cathode Band or Cathode Notch
- Marking: Type Number
- Weight: 0.01 grams (approx.)
- **Lead Free: For RoHS / Lead Free Version**



#### Maximum Ratings and Electrical Characteristics @T<sub>A</sub>=25°C unless otherwise specified

| Characteristic                                                                                                     | Symbol                                                 | 1N4001W     | 1N4002W | 1N4003W | 1N4004W | 1N4005W | 1N4006W | 1N4007W | UNITS |
|--------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-------------|---------|---------|---------|---------|---------|---------|-------|
| Device marking code                                                                                                |                                                        | A1          | A2      | A3      | A4      | A5      | A6      | A7      |       |
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage                             | V <sub>RRM</sub><br>V <sub>RWM</sub><br>V <sub>R</sub> | 50          | 100     | 200     | 400     | 600     | 800     | 1000    | V     |
| RMS Reverse Voltage                                                                                                | V <sub>R(RMS)</sub>                                    | 35          | 70      | 140     | 280     | 420     | 560     | 800     | V     |
| Average Rectified Output Current @T <sub>L</sub> = 100°C                                                           | I <sub>O</sub>                                         | 1.0         |         |         |         |         |         |         | A     |
| Non-Repetitive Peak Forward Surge Current<br>8.3ms Single half sine-wave superimposed on rated load (JEDEC Method) | I <sub>FSM</sub>                                       | 25          |         |         |         |         |         |         | A     |
| Forward Voltage @I <sub>F</sub> = 1.0A                                                                             | V <sub>FM</sub>                                        | 1.0         |         |         |         |         |         |         | V     |
| Peak Reverse Current @T <sub>A</sub> = 25°C<br>At Rated DC Blocking Voltage @T <sub>A</sub> = 100°C                | I <sub>RM</sub>                                        | 5<br>50     |         |         |         |         |         |         | μA    |
| Typical Junction Capacitance (Note 2)                                                                              | C <sub>j</sub>                                         | 15          |         |         |         |         |         |         | pF    |
| Typical Thermal Resistance (Note 3)                                                                                | R <sub>θJL</sub>                                       | 30          |         |         |         |         |         |         | °C/W  |
| Operating and Storage Temperature Range                                                                            | T <sub>j</sub> , T <sub>STG</sub>                      | -55 to +150 |         |         |         |         |         |         | °C    |

Note: 1. Measured with I<sub>F</sub> = 0.5A, I<sub>R</sub> = 1.0A, I<sub>rr</sub> = 0.25A. See figure 5.  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0 V DC.  
 3. Mounted on P.C. Board with 8.0mm<sup>2</sup> land area.

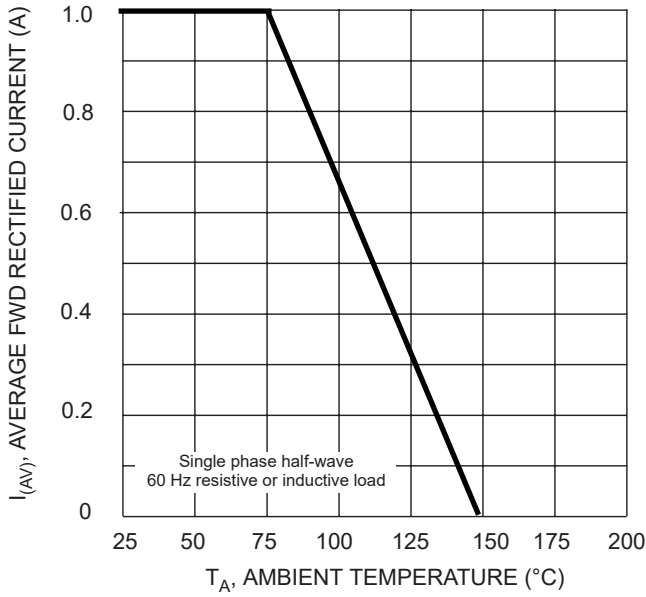


Fig. 1 Forward Derating Curve

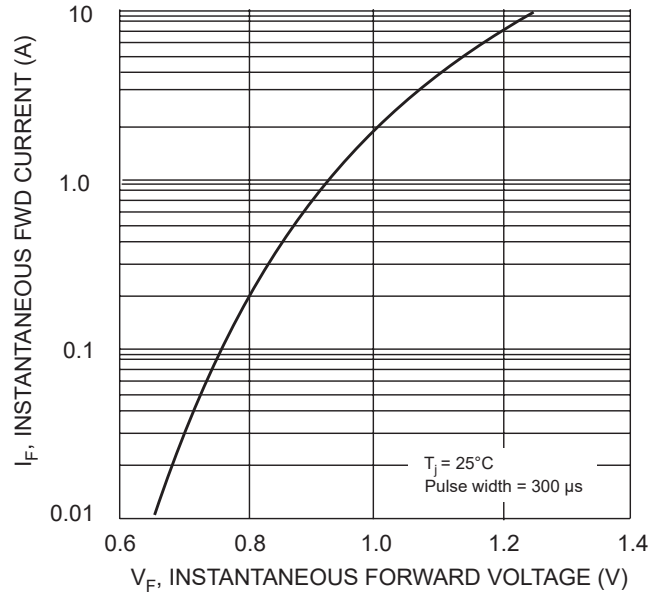


Fig. 2 Typical Forward Characteristics

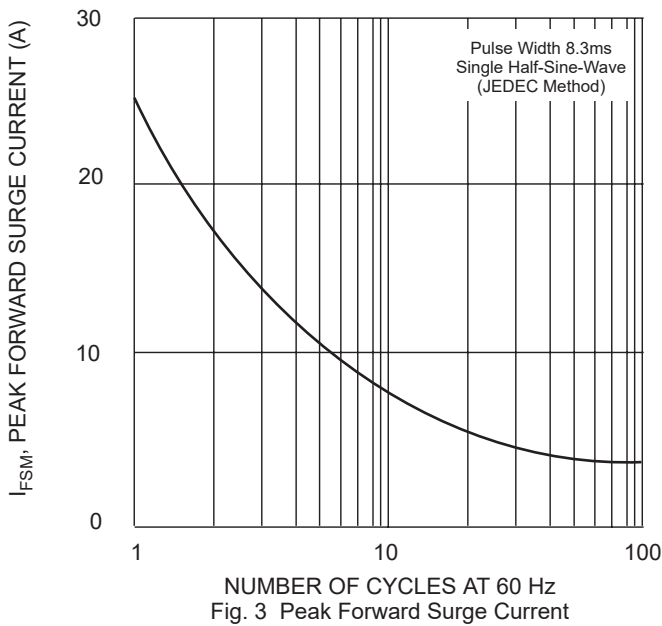


Fig. 3 Peak Forward Surge Current

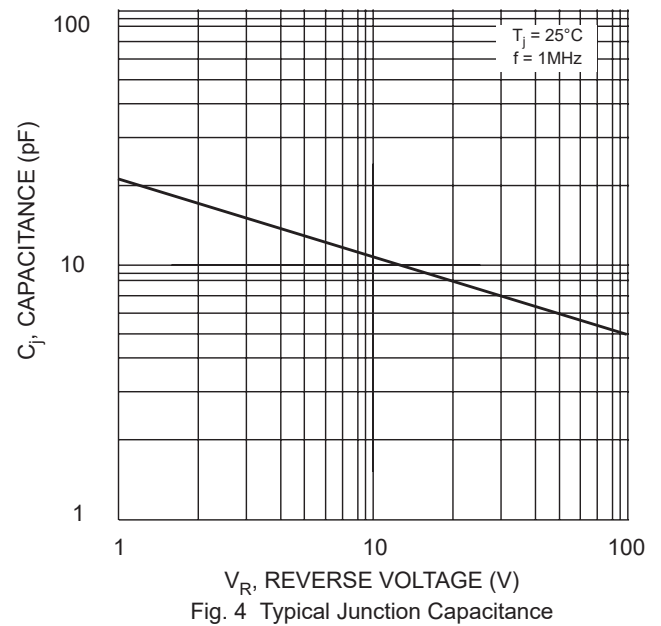
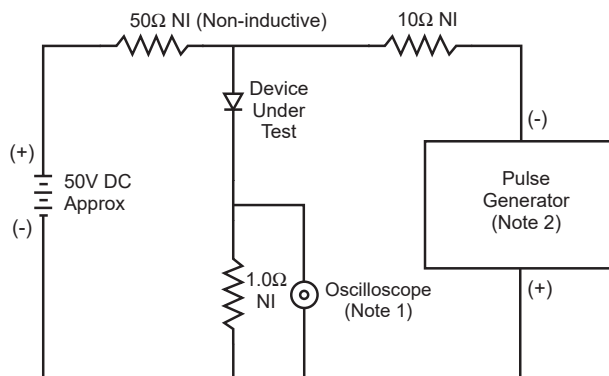
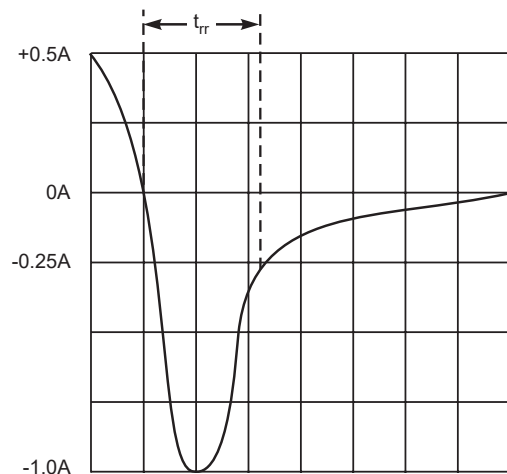


Fig. 4 Typical Junction Capacitance



- Notes:
1. Rise Time = 7.0ns max. Input Impedance = 1.0M $\Omega$ , 22pF.
  2. Rise Time = 10ns max. Input Impedance = 50 $\Omega$ .



Set time base for 5/10ns/cm

Fig. 5 Reverse Recovery Time Characteristic and Test Circuit