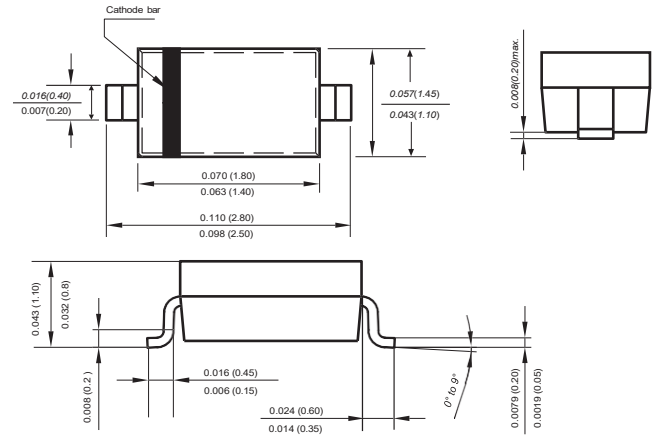


## SURFACE MOUNT GENERAL PURPOSE SILICON RECTIFIER

### Features

- ◆ Glass passivated device
- ◆ Ideal for surface mounted 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-323



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         | 1N4001WS    | 1N4002WS | 1N4003WS | 1N4004WS | 1N4005WS | 1N4006WS | 1N4007WS | UNITS         |
|--------------------------------------------------------------------------------------------------------|-----------------|-------------|----------|----------|----------|----------|----------|----------|---------------|
| Marking Code                                                                                           |                 | D1          | D2       | D3       | D4       | D5       | D6       | D7       |               |
| Maximum repetitive peak reverse voltage                                                                | $V_{RRM}$       | 50          | 100      | 200      | 400      | 600      | 800      | 1000     | V             |
| Maximum RMS voltage                                                                                    | $V_{RMS}$       | 35          | 70       | 140      | 280      | 420      | 560      | 700      | V             |
| Maximum DC blocking voltage                                                                            | $V_{DC}$        | 50          | 100      | 200      | 400      | 600      | 800      | 1000     | V             |
| Maximum average forward rectified current at TL (see fig.1)                                            | $I_{AV}$        | 1.0         |          |          |          |          |          |          | A             |
| Peak forward surge current<br>8.3ms single half sine-wave<br>superimposed on rated load (JEDEC Method) | $I_{FSM}$       | 25          |          |          |          |          |          |          | A             |
| Maximum instantaneous forward voltage at 1.0A                                                          | $V_F$           | 1.1         |          |          |          |          |          |          | V             |
| Maximum DC reverse current<br>$T_A=25^{\circ}C$<br>at rated DC blocking voltage<br>$T_A=125^{\circ}C$  | $I_R$           | 5<br>50     |          |          |          |          |          |          | $\mu A$       |
| Typical junction capacitance (NOTE 1)                                                                  | $C_J$           | 5           |          |          |          |          |          |          | pF            |
| Typical thermal resistance (NOTE 2)                                                                    | $R_{\theta JA}$ | 55.0        |          |          |          |          |          |          | $^{\circ}C/W$ |
| Operating junction temperature range                                                                   | $T_J$           | -55 to +150 |          |          |          |          |          |          | $^{\circ}C$   |
| Storage temperature range                                                                              | $T_{STG}$       | -55 to +150 |          |          |          |          |          |          | $^{\circ}C$   |

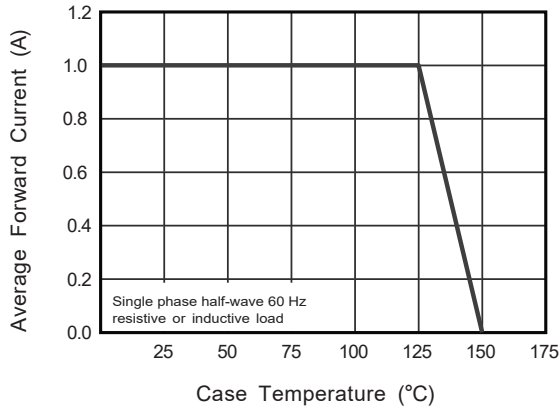
**Note:** 1. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.

2. P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

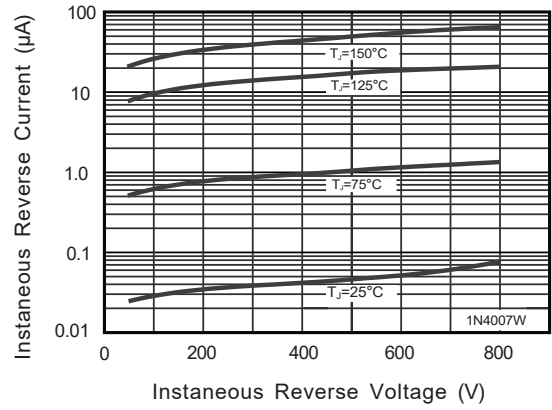
3. The typical data above is for reference only.

## Typical Characteristics

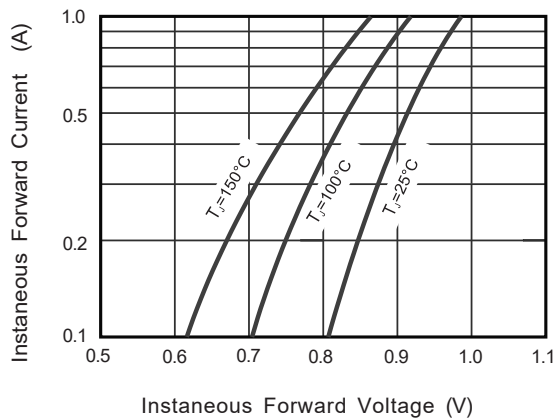
**Fig.1 Forward Current Derating Curve**



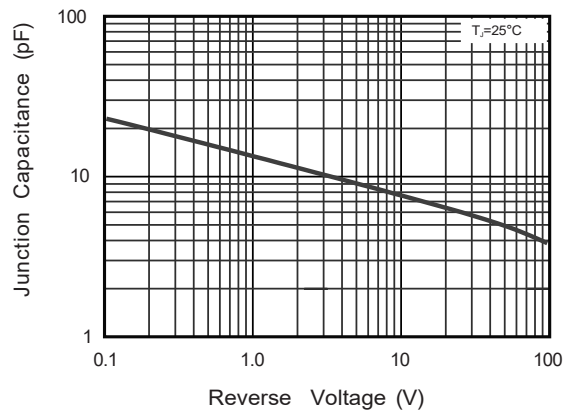
**Fig.2 Typical Instantaneous Reverse Characteristics**



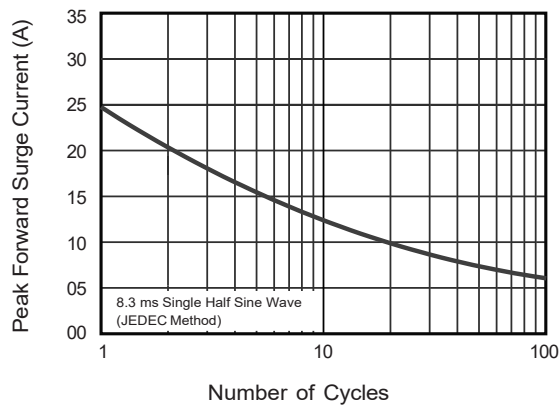
**Fig.3 Typical Forward Characteristic**



**Fig.4 Typical Junction Capacitance**



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



The curve above is for reference only.