

### Features

- T Low Forward Voltage Drop
- Guard Ring Construction for Transient Protection
- Negligible Reverse Recovery Time
- Low Capacitance
- Lead free in comply with EU RoHS 2011/65/EU directives

### Mechanical Data

- Case: SOD-323
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 5.48mg / 0.00019oz

### Maximum Ratings and Electrical Characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load.

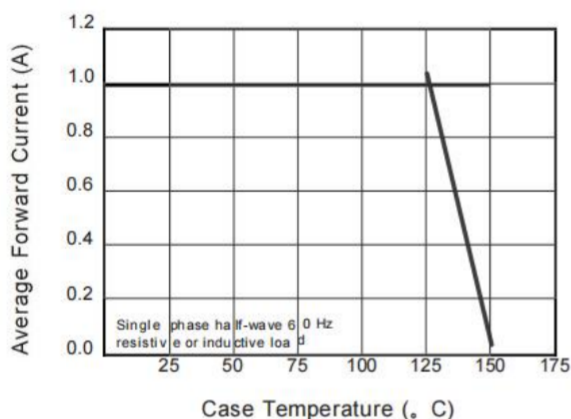
| Characteristics                                                                                    |         | Symbol             | 1N4001<br>WS | 1N4002<br>WS | 1N4003<br>WS | 1N4004<br>WS | 1N4005<br>WS | 1N4006<br>WS | 1N4007<br>WS | Unit |
|----------------------------------------------------------------------------------------------------|---------|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|------|
| Marking Code                                                                                       |         |                    | T1           | T2           | T3           | T4           | T5           | T6           | T7           |      |
| 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 TA=100℃                                               |         | I <sub>F(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>   | 25           |              |              |              |              |              |              | A    |
| Peak Forward Voltage per bridge element at 1.0A                                                    |         | V <sub>F</sub>     | 1.1          |              |              |              |              |              |              | V    |
| Maximum DC Reverse Current at Rated DC Blocking Voltage per Diode                                  | TA=25℃  | I <sub>R</sub>     | 5            |              |              |              |              |              |              | μA   |
|                                                                                                    | TA=125℃ |                    | 50           |              |              |              |              |              |              |      |
| Typical Junction capacitance (Note 2)                                                              |         | C <sub>J</sub>     | 5            |              |              |              |              |              |              | pF   |
| Typical Junction Resistance (Note 3)                                                               |         | R <sub>θJA</sub>   | 55           |              |              |              |              |              |              | ℃/W  |
| Operating Junction Temperature Range                                                               |         | T <sub>J</sub>     | -55 to +150  |              |              |              |              |              |              | ℃    |
| Storage Temperature Range                                                                          |         | T <sub>STG</sub>   | -55 to +150  |              |              |              |              |              |              | ℃    |

#### NOTES:

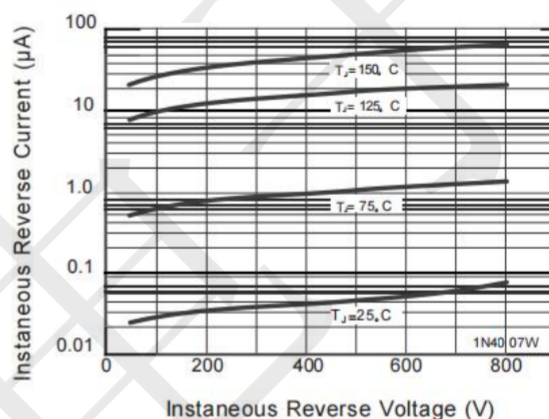
- (1) The typical data above is for reference only.
- (2) Measured at 1 MHz and applied reverse voltage of 4 V D.C
- (3) P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.

## Typical Characteristic

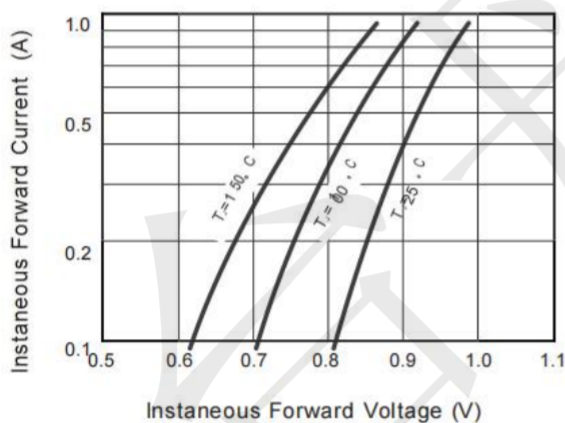
**Fig.1 Forward Current Derating Curve**



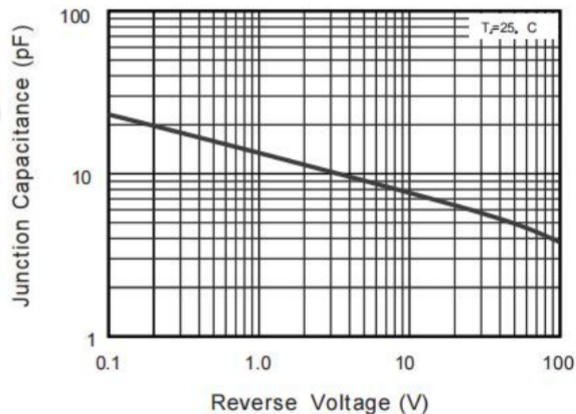
**Fig.2 Typical Instantaneous Reverse Characteristics**



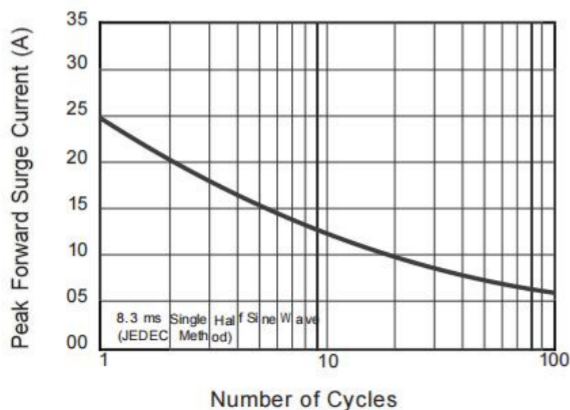
**Fig.3 Typical Forward Characteristic**



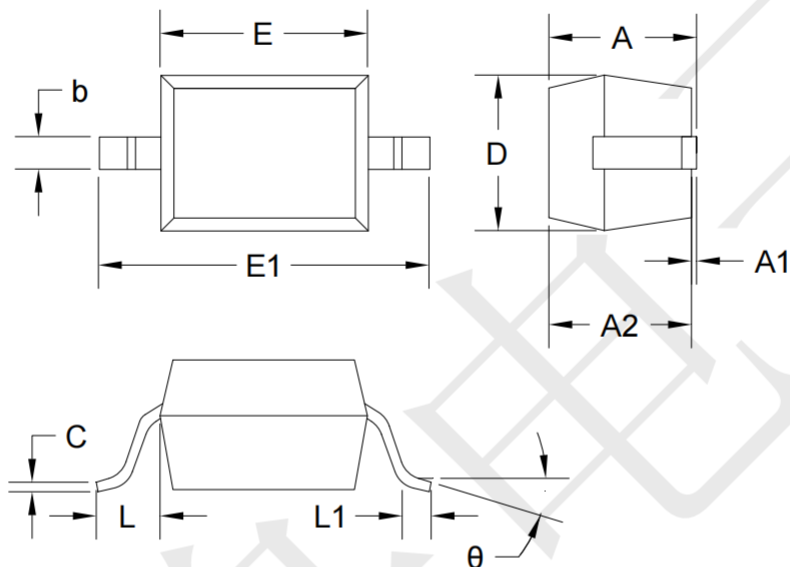
**Fig.4 Typical Junction Capacitance**



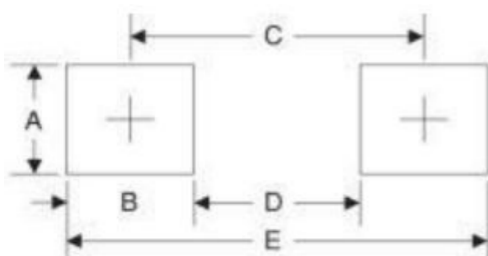
**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**



**Dimension (SOD-323)**



| Symbol | Dimensions in Millimeters |       | Dimensions in Inches |       |
|--------|---------------------------|-------|----------------------|-------|
|        | Min.                      | Max.  | Min.                 | Max.  |
| A      |                           | 1.000 |                      | 0.039 |
| A1     | 0.000                     | 0.100 | 0.000                | 0.004 |
| A2     | 0.800                     | 0.900 | 0.031                | 0.035 |
| b      | 0.250                     | 0.350 | 0.010                | 0.014 |
| C      | 0.080                     | 0.150 | 0.003                | 0.006 |
| D      | 1.200                     | 1.400 | 0.047                | 0.055 |
| E      | 1.600                     | 1.800 | 0.063                | 0.071 |
| E1     | 2.550                     | 2.750 | 0.100                | 0.108 |
| L      | 0.475REF                  |       | 0.019REF             |       |
| L1     | 0.250                     | 0.400 | 0.010                | 0.016 |
| θ      | 0°                        | 8°    | 0°                   | 8°    |



| Symbol | Unit (mm) | Unit (inch) |
|--------|-----------|-------------|
| A      | 1.2       | 0.047       |
| B      | 1.2       | 0.047       |
| C      | 2.6       | 0.102       |
| D      | 1.4       | 0.055       |
| E      | 3.8       | 0.149       |