

# SD107WS

# Small Signal Schottky Diode

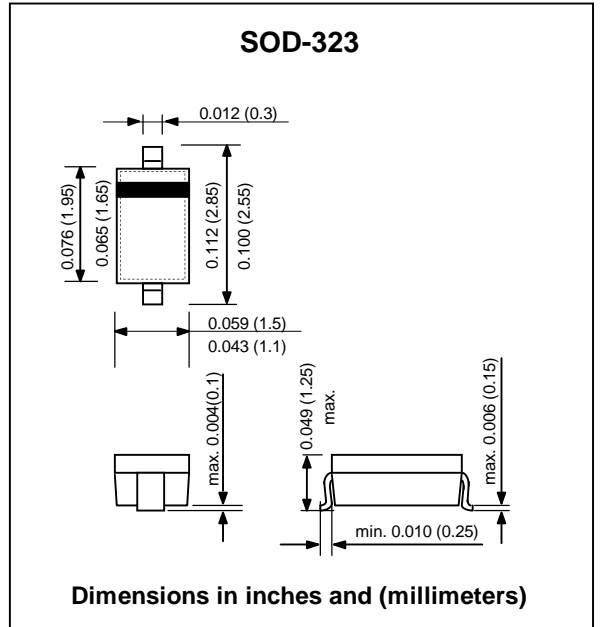
## Features

- Low turn-on voltage
- Fast switching
- This device is protected by a PN junction guard ring against excessive voltage, such as electrostatic discharge.
- Microminiature plastic package
- Ideal for protection of MOS devices, steering, biasing, and coupling diodes for fast switching and low logic level applications.

## Mechanical Data

**Case:** SOD-323 Plastic case

**Weight:** approx. 5.0 mg



## Absolute Maximum Ratings

T<sub>amb</sub> = 25 °C, unless otherwise specified

| Parameter                  | Test condition         | Symbol           | Value             | Unit |
|----------------------------|------------------------|------------------|-------------------|------|
| Continuous reverse voltage |                        | V <sub>R</sub>   | 30                | V    |
| Forward current            |                        | I <sub>F</sub>   | 100               | mA   |
| Forward surge current      | t <sub>p</sub> = 10 ms | I <sub>FSM</sub> | 0.75              | A    |
| Power dissipation          | T <sub>C</sub> = 25 °C | P <sub>tot</sub> | 250 <sup>1)</sup> | mW   |

<sup>1)</sup> Valid provided that electrodes are kept at ambient temperature

## Thermal Characteristics

T<sub>amb</sub> = 25 °C, unless otherwise specified

| Parameter                                  | Test condition | Symbol           | Value         | Unit |
|--|----------------|------------------|---------------|------|
| Thermal resistance junction to ambient air |                | T <sub>θJA</sub> | 500           | °C/W |
| Junction temperature                       |                | T <sub>J</sub>   | 150           | °C   |
| Storage temperature range                  |                | T <sub>S</sub>   | - 65 to + 150 | °C   |



### Electrical Characteristics

T<sub>amb</sub> = 25 °C, unless otherwise specified

| Parameter                 | Test condition                     | Symbol           | Min | Typ. | Max  | Unit |
|---------------------------|------------------------------------|------------------|-----|------|------|------|
| Reverse breakdown voltage | I <sub>R</sub> = 100 μA            | V <sub>R</sub>   | 30  | —    | —    | V    |
| Leakage current           | V <sub>R</sub> = 25 V              | I <sub>R</sub>   | —   | —    | 1000 | nA   |
| Forward voltage           | I <sub>F</sub> = 2.0 mA            | V <sub>F</sub>   | —   | 300  | —    | mV   |
|                           | I <sub>F</sub> = 15 mA             | V <sub>F</sub>   | —   | 360  | —    | mV   |
|                           | I <sub>F</sub> = 50 mA             | V <sub>F</sub>   | —   | 470  | 550  | mV   |
|                           | I <sub>F</sub> = 100 mA            | V <sub>F</sub>   | —   | 580  | 800  | mV   |
| Diode capacitance         | V <sub>R</sub> = 10 V, f = 1.0 MHz | C <sub>tot</sub> | —   | —    | 7.0  | pF   |

### Typical Characteristics (T<sub>amb</sub> = 25 °C unless otherwise specified)

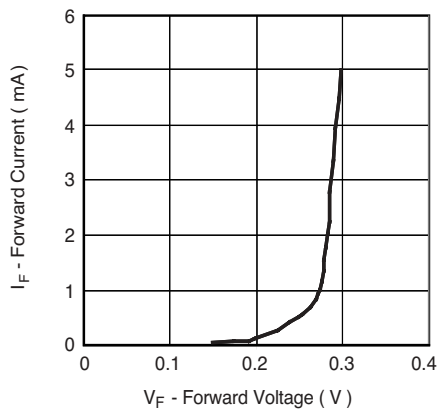


Figure 1. Typical Variation of I<sub>F</sub> for Primary Conduction

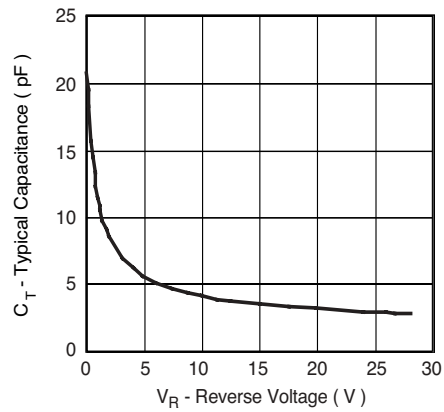


Figure 3. Typical Capacitance vs. Reverse Voltage

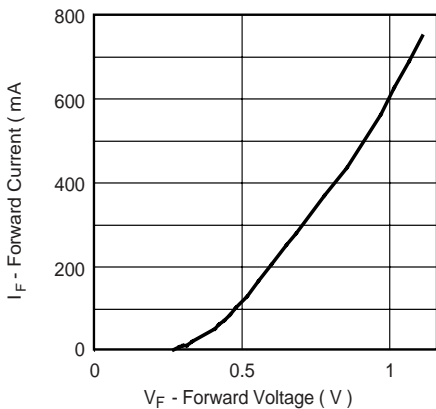


Figure 2. Typical Forward Conduction Curve

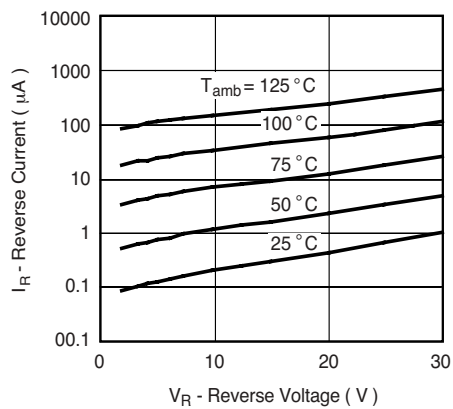


Figure 4. Typical Variation of Reverse Current at Various Temperatures