

# 1N4148WS / 1N4448WS / 1N914BWS

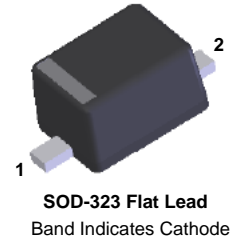
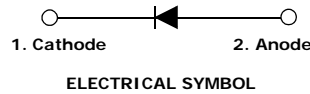
## Small Signal Diodes

### Features

- General Purpose Diodes
- Fast Switching Device ( $T_{RR} < 4.0\text{ns}$ )
- Very Small and Thin SMD Package
- Moisture Level Sensitivity 1
- Pb-free Version and RoHS Compliant
- Matte Tin (Sn) Lead Finish
- Green Mold Compound

Device Marking Code

| Device Type | Device Marking |
|-------------|----------------|
| 1N4148WS    | S1             |
| 1N4448WS    | S2             |
| 1N914BWS    | S3             |



### Absolute Maximum Ratings\* $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol    | Parameter                           | Value       | Units            |
|-----------|-------------------------------------|-------------|------------------|
| $V_{RSM}$ | Non-Repetitive Peak Reverse Voltage | 100         | V                |
| $V_{RRM}$ | Repetitive Peak Reverse Voltage     | 75          | V                |
| $I_{FRM}$ | Repetitive Peak Forward Current     | 300         | mA               |
| $I_O$     | Continuous Forward Current          | 150         | mA               |
| $T_J$     | Operating Junction Temperature      | +150        | $^\circ\text{C}$ |
| $T_{STG}$ | Storage Temperature Range           | -55 to +150 | $^\circ\text{C}$ |

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics

| Symbol          | Parameter                                      | Value | Units                     |
|-----------------|--|-------|---------------------------|
| $P_D$           | Power Dissipation ( $T_C = 25^\circ\text{C}$ ) | 200   | mW                        |
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient *      | 500   | $^\circ\text{C}/\text{W}$ |

\* Device mounted on FR-4 PCB minimum land pad.

### Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise noted

| Symbol   | Parameter             | Test Conditions   | Min. | Typ. | Max. | Units         |
|----------|-----------------------|---|------|------|------|---------------|
| $BV_R$   | Breakdown Voltage     | $I_R = 100 \mu\text{A}$   | 100  |      |      | V             |
|          |                       | $I_R = 5 \mu\text{A}$   | 75   |      |      | V             |
| $I_R$    | Reverse Current       | $V_R = 20 \text{ V}$  |      |      | 25   | nA            |
|          |                       | $V_R = 75 \text{ V}$  |      |      | 5    | $\mu\text{A}$ |
| $V_F$    | Forward Voltage       | 1N4448WS/914BWS<br>$I_F = 5 \text{ mA}$   | 0.62 |      | 0.72 | V             |
|          |                       | 1N4148WS<br>$I_F = 10 \text{ mA}$   |      |      | 1    | V             |
|          |                       | 1N4448WS/914BWS<br>$I_F = 100 \text{ mA}$   |      |      | 1    | V             |
| $C_O$    | Diode Capacitance     | $V_R = 0, f = 1 \text{ MHz}$  |      |      | 4    | pF            |
| $T_{RR}$ | Reverse Recovery Time | $I_F = 10 \text{ mA}, I_R = 60 \text{ mA}, I_{RR} = 1 \text{ mA}, R_L = 100 \Omega$ |      |      | 4    | ns            |

## Typical Performance Characteristics

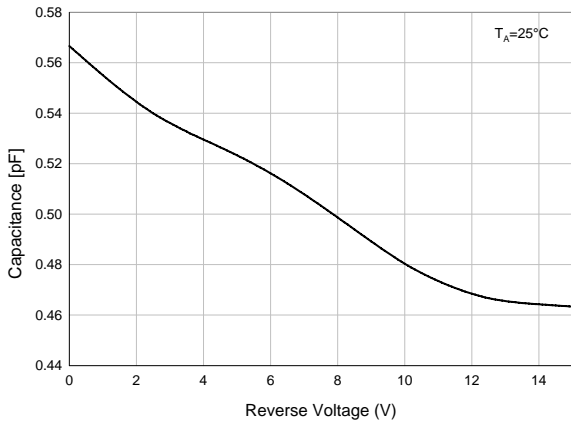


Figure 1. Total Capacitance

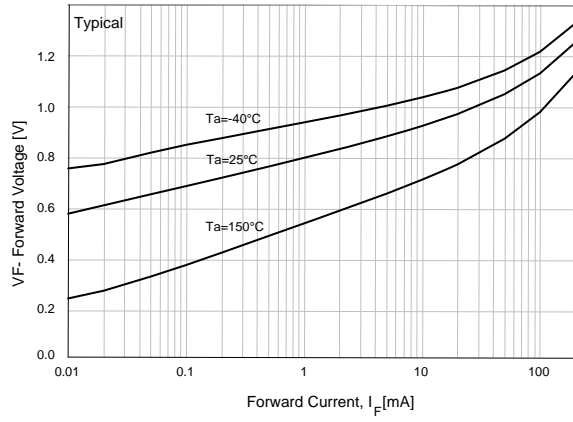


Figure 2. Forward Voltage vs. Ambient Temperature

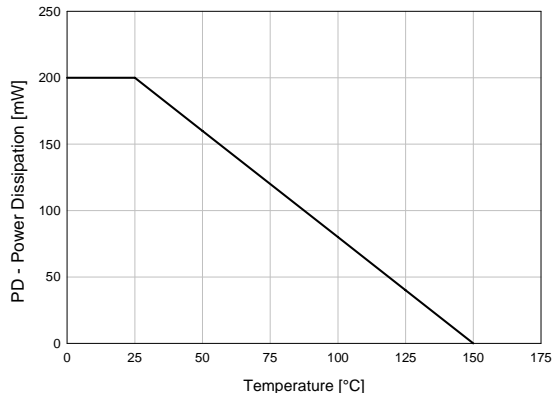


Figure 3. Power Derating Curve

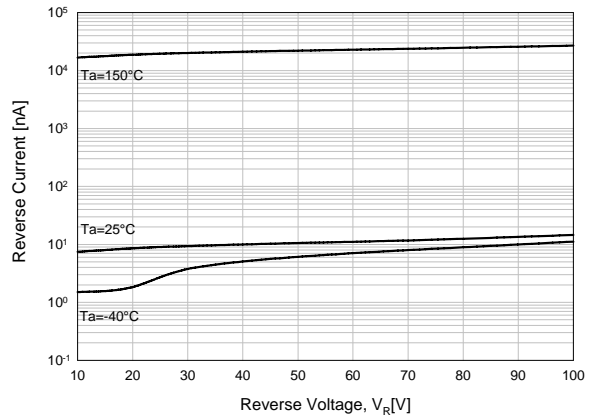


Figure 4. Reverse Current vs. Reverse Voltage

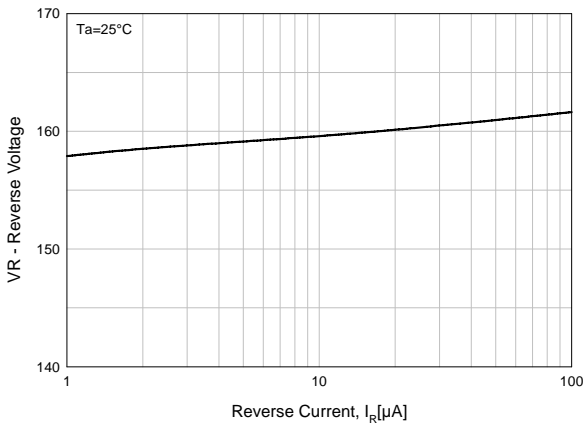
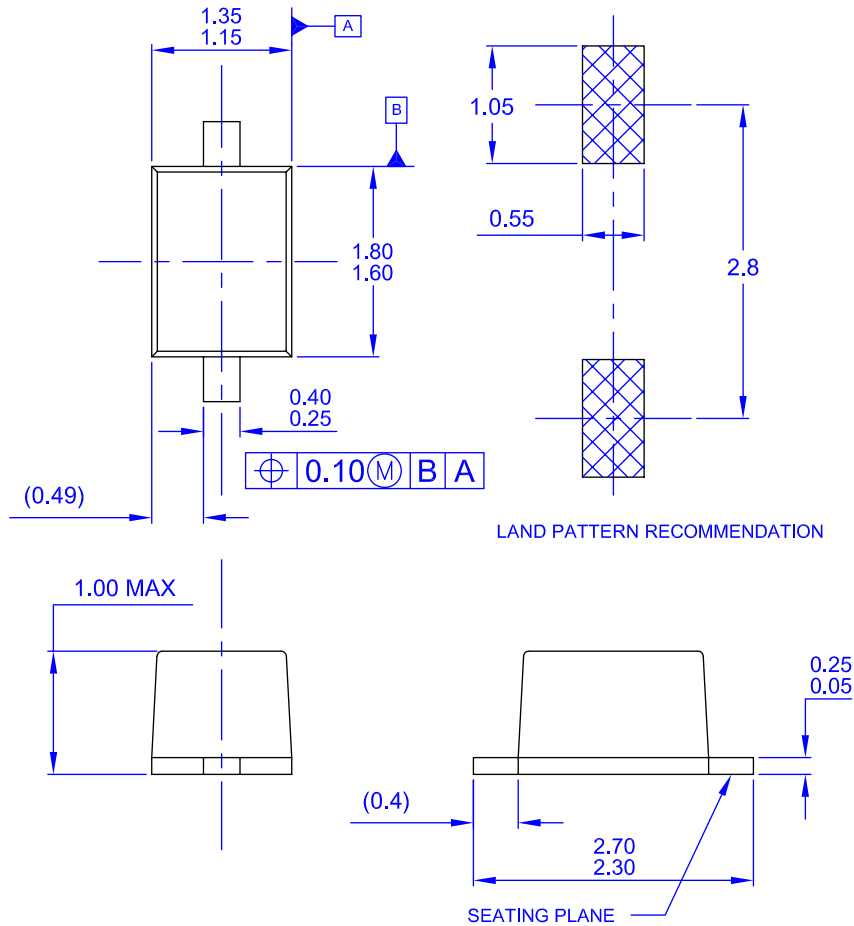


Figure 5. Reverse Voltage vs. Reverse Current

Physical Dimensions

SOD-323F



NOTES: UNLESS OTHERWISE SPECIFIED





- A) PACKAGE REFERENCE: THIS PACKAGE OUTLINE CONFORMS TO JEITA SC90, STANDARD EXCEPT FOR THE OVERALL PACKAGE HEIGHT.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DRAWING CONFORMS TO ASME Y14.5M - 1994 .
- D) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH, AND TIE BAR EXTRUSIONS.
- E) LANDPATTERN RECOMMENDATION IS BASED ON IPC7351A STANDARD SOD2514X110M.
- F) DRAWING NUMBER AND REVISION:MKT-SOD 323F2rev2

Dimensions in Millimeters



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| BitSiC™  | GreenBridge™                                   | QFET®  | TinyBuck™   |
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