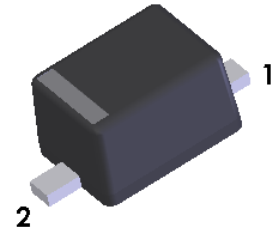
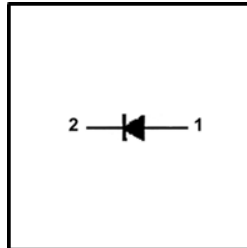


# 1N4148WS / 1N4448WS / 1N914BWS

## Small Signal Diodes

- General Purpose Diodes
- Fast switching Device(  $T_{RR} < 4.0$  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             |



\*Band Denotes Cathode SOD-323F

### 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 Range | +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

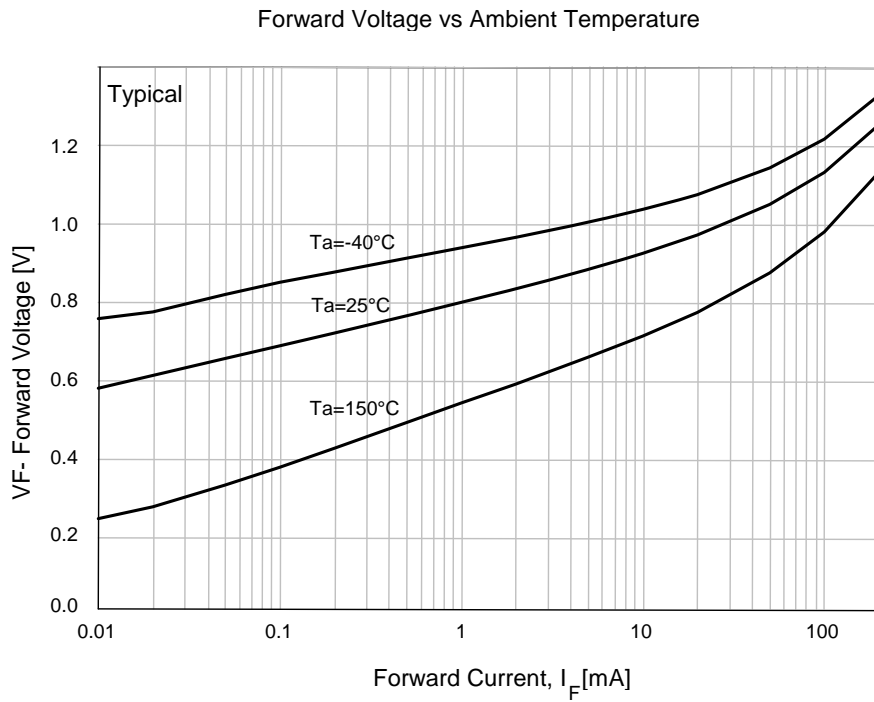
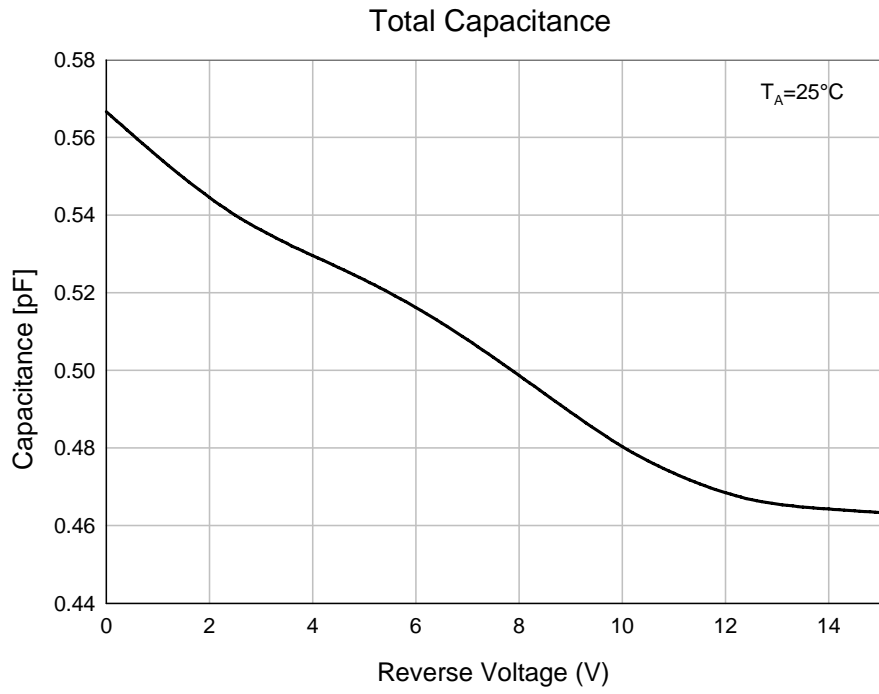
| Symbol          | Parameter                                   | Value | Unit                      |
|-----------------|---|-------|---------------------------|
| $R_{\theta JA}$ | Thermal Resistance, Junction to Ambient     | 500   | $^\circ\text{C}/\text{W}$ |
| $P_D$           | Power Dissipation(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

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

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

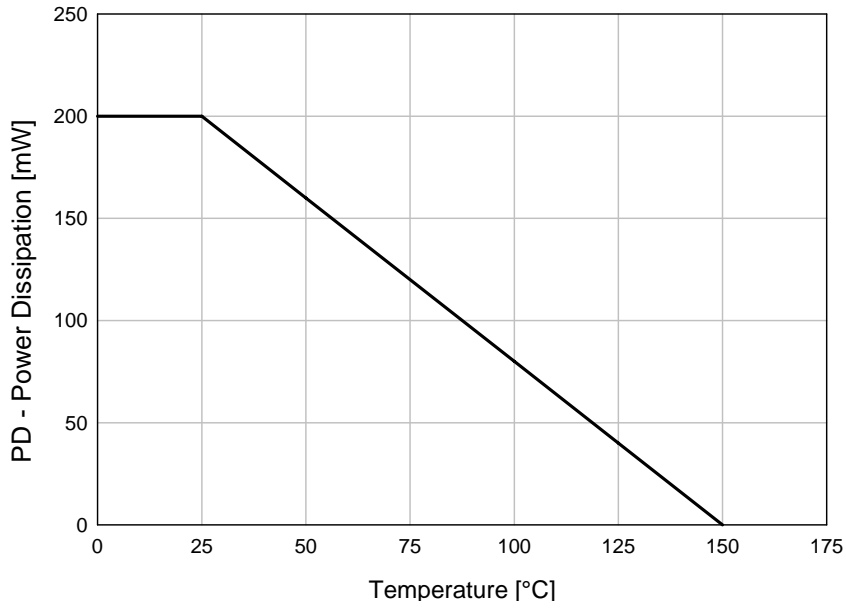
| Symbol   | Parameter             | Test Conditions   | Min       | Typ | Max            | Units               |
|----------|-----------------------|---|-----------|-----|----------------|---------------------|
| $BV_R$   | Breakdown Voltage     | $I_R = 100 \mu\text{A}$<br>$I_R = 5 \mu\text{A}$   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

Typical Performance Characteristics

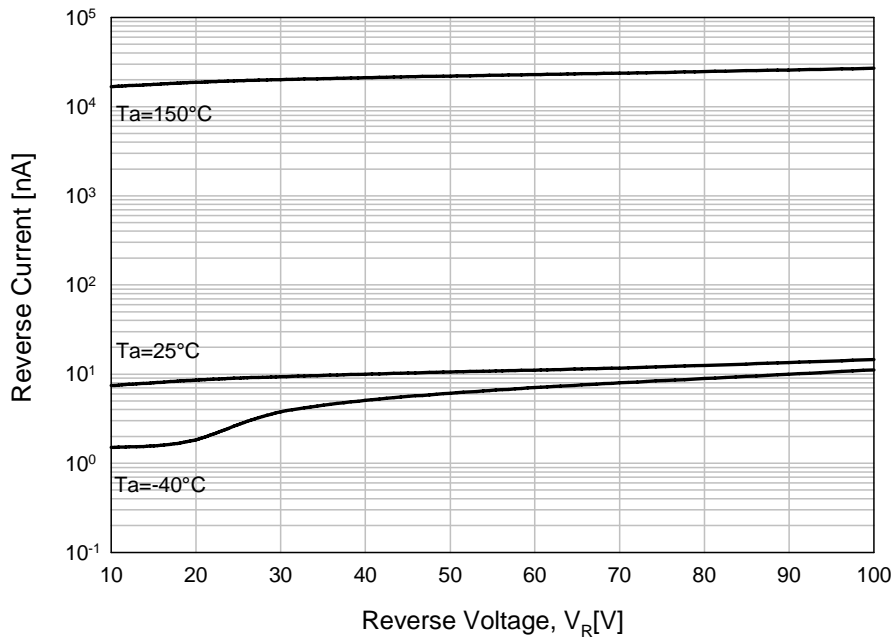


Typical Performance Characteristics

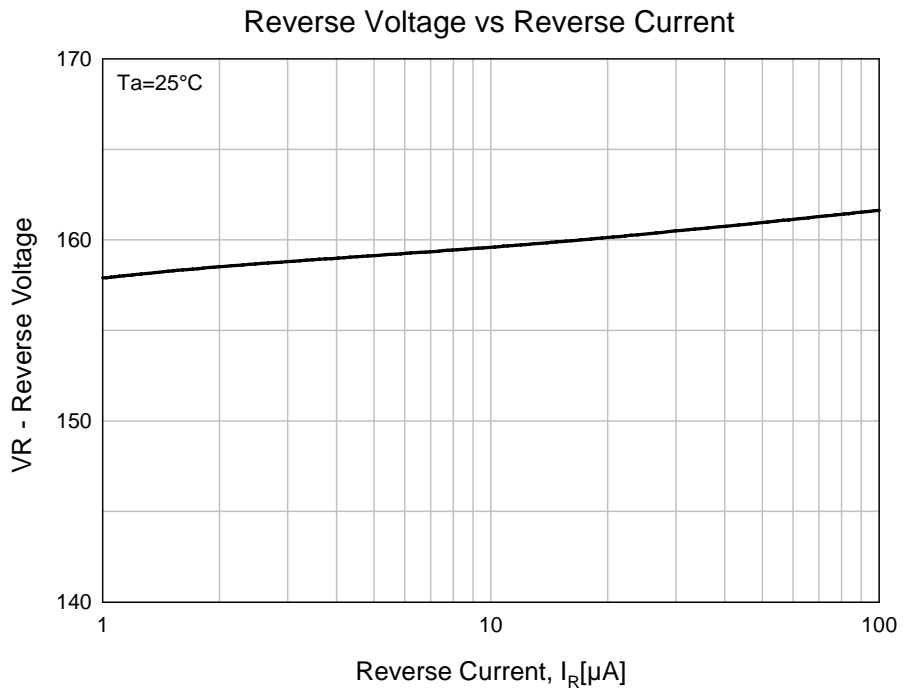
Power Derating Curve



Reverse Current vs Reverse Voltage

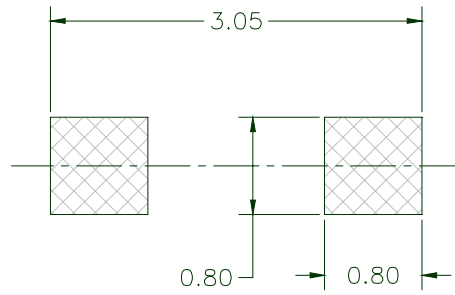
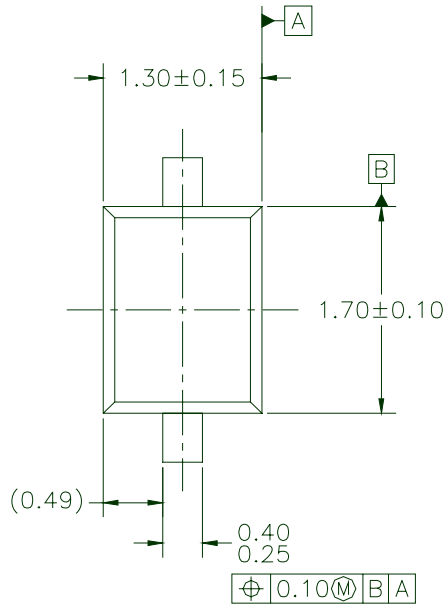


### Typical Performance Characteristics

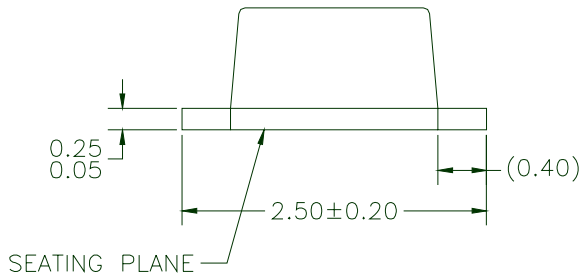


Package Dimensions

SOD-323F



LAND PATTERN RECOMMENDATION



NOTES: UNLESS OTHERWISE SPECIFIED


- A) THIS PACKAGE IS COMPLIANT TO JEITA SC90 STANDARD EXCEPT FOR THE OVERALL PACKAGE HEIGHT.
- B) ALL DIMENSIONS ARE IN MILLIMETERS.
- C) DIMENSIONS ARE EXCLUSIVE OF BURRS, MOLD FLASH AND TIE BAR EXTRUSIONS.
- D) DIMENSIONING AND TOLERANCING PER ASME Y14.5M - 1994.

MKT-SOD323F2REV1



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| FastvCore™                          | OPTOPLANAR®   | SuperSOT™-3                | UHC®                 |
| FPS™                                |  ® | SuperSOT™-6                | UniFET™              |
| FRFET®                              | PDP-SPM™  |                            | VCX™                 |
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|--------------------------|------------------------|--|
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| No Identification Needed | Full Production        | This datasheet contains final specifications. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.   |
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