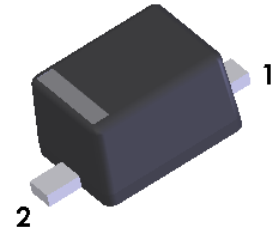
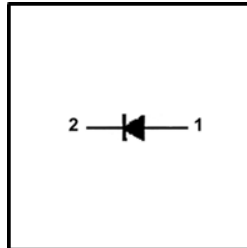


# 1N4148WS / 1N4448WS / 1N914BWS

## 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

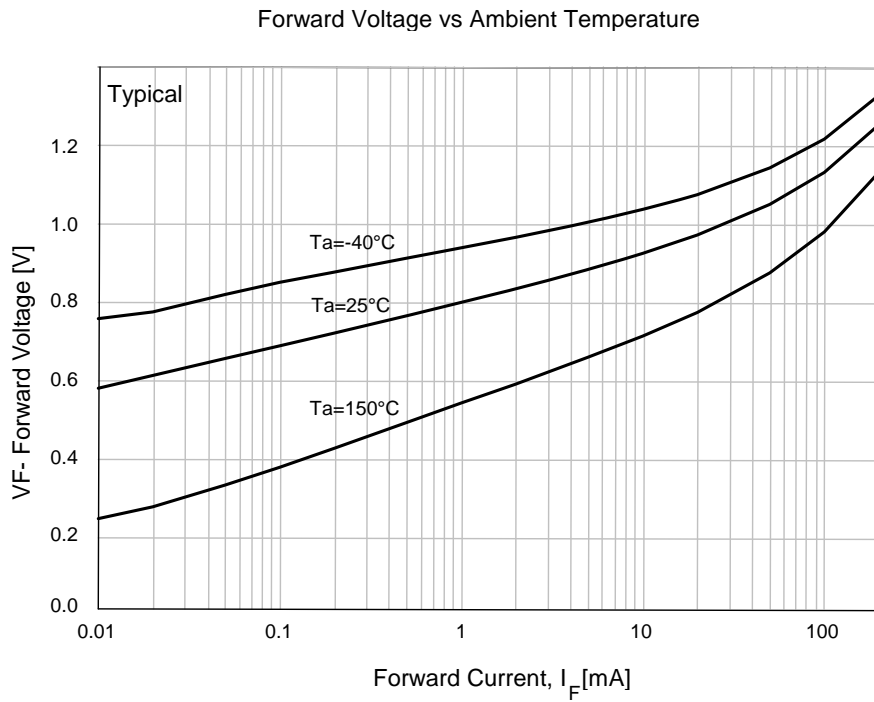
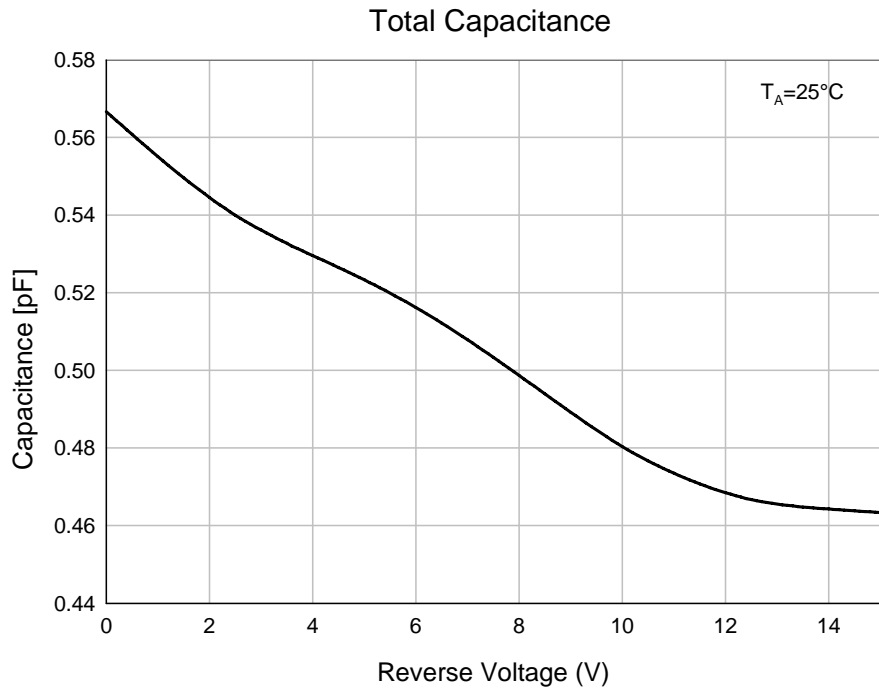
Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	500	$^\circ\text{C}/\text{W}$
$P_D$	Power Dissipation( $T_C=25^\circ\text{C}$ )	200	mW

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

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

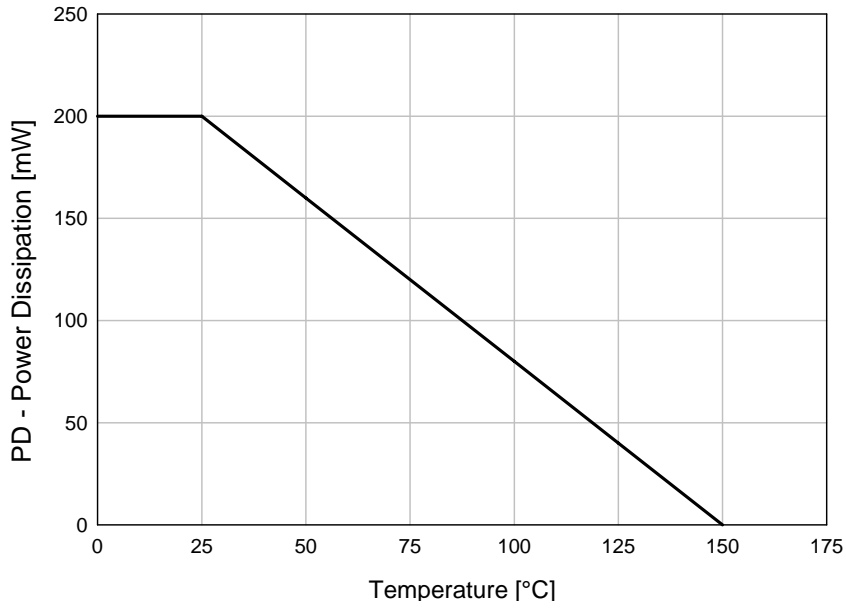
Symbol	Parameter	Test Conditions	Min	Typ	Max	Units
$BV_R$	Breakdown Voltage	$I_R = 100 \mu\text{A}$ $I_R = 5 \mu\text{A}$	100 75			V
$I_R$	Reverse Current	$V_R = 20$ V $V_R = 75$ V			25 5	nA $\mu\text{A}$
$V_F$	Forward Voltage	1N4448WS/ 914BWS 1N4148WS 1N4448WS/ 914BWS	0.62		0.72 1 1	V
$C_O$	Diode Capacitance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

Typical Performance Characteristics

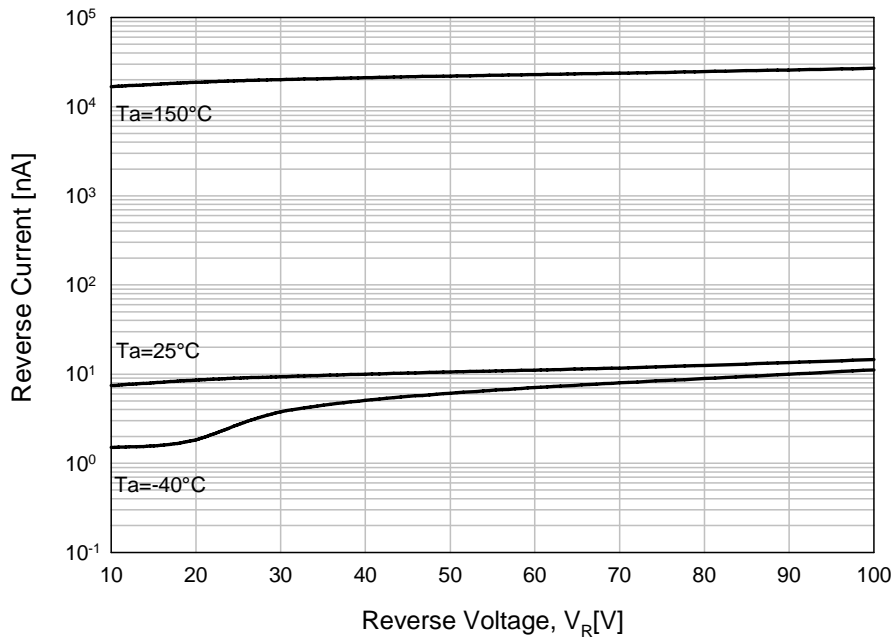


Typical Performance Characteristics

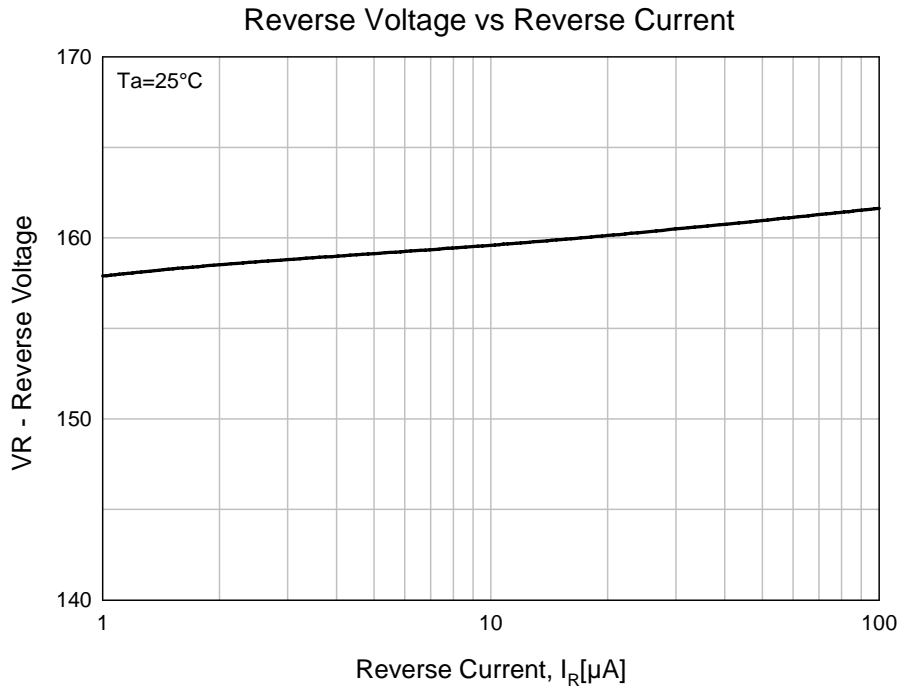
Power Derating Curve



Reverse Current vs Reverse Voltage

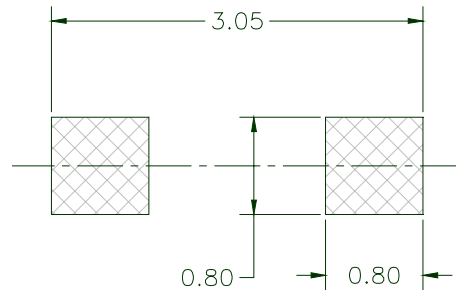
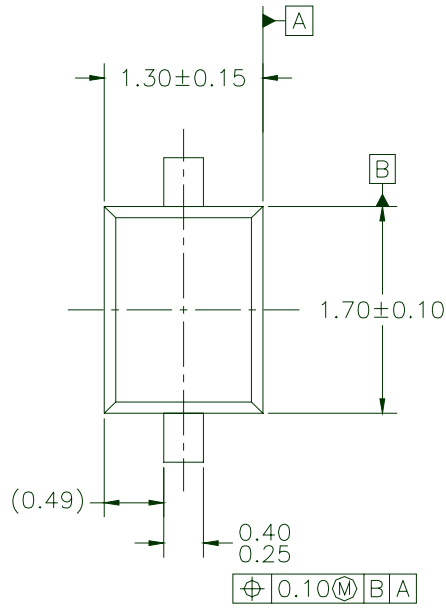


### Typical Performance Characteristics

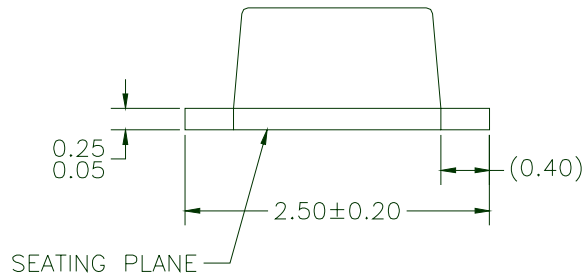


Package Dimensions

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



**TRADEMARKS**

The following are registered and unregistered trademarks and service marks Fairchild Semiconductor owns or is authorized to use and is not intended to be an exhaustive list of all such trademarks.

- |                                     |   |                            |                      |
|-------------------------------------|---|----------------------------|----------------------|
| ACEx®                               | Green FPS™  | Power247®                  | SuperSOT™-8          |
| Build it Now™                       | Green FPS™ e-Series™  | POWEREDGE®                 | SyncFET™             |
| CorePLUSTM                          | GTO™  | Power-SPM™                 | The Power Franchise® |
| CROSSVOLT™                          | i-Lo™   | PowerTrench®               | the power franchise  |
| CTL™                                | IntelliMAX™   | Programmable Active Droop™ | QFET®                |
| Current Transfer Logic™             | ISOPLANAR™  | QS™                        | TinyBoost™           |
| EcoSPARK®                           | MegaBuck™   | QT Optoelectronics™        | TinyBuck™            |
| <b>F</b> ®                          | MICROCOUPLER™   | Quiet Series™              | TinyLogic®           |
| Fairchild®                          | MicroFET™   | RapidConfigure™            | TINYOPTO™            |
| Fairchild Semiconductor®            | MicroPak™   | SMART START™               | TinyPower™           |
| FACT Quiet Series™                  | MillerDrive™  | SPM®                       | TinyPWM™             |
| FACT®                               | Motion-SPM™   | STEALTH™                   | TinyWire™            |
| FAST®                               | OPTOLOGIC®  | SuperFET™                  | µSerDes™             |
| FastvCore™                          | OPTOPLANAR®   | SuperSOT™-3                | UHC®                 |
| FPS™                                |  ® | SuperSOT™-6                | UniFET™              |
| FRFET®                              | PDP-SPM™  |                            | VCX™                 |
| Global Power Resource <sup>SM</sup> | Power220®   |                            |                      |

**DISCLAIMER**

FAIRCHILD SEMICONDUCTOR RESERVES THE RIGHT TO MAKE CHANGES WITHOUT FURTHER NOTICE TO ANY PRODUCTS HEREIN TO IMPROVE RELIABILITY, FUNCTION, OR DESIGN. FAIRCHILD DOES NOT ASSUME ANY LIABILITY ARISING OUT OF THE APPLICATION OR USE OF ANY PRODUCT OR CIRCUIT DESCRIBED HEREIN; NEITHER DOES IT CONVEY ANY LICENSE UNDER ITS PATENT RIGHTS, NOR THE RIGHTS OF OTHERS. THESE SPECIFICATIONS DO NOT EXPAND THE TERMS OF FAIRCHILD'S WORLDWIDE TERMS AND CONDITIONS, SPECIFICALLY THE WARRANTY THEREIN, WHICH COVERS THESE PRODUCTS.

**LIFE SUPPORT POLICY**

FAIRCHILD'S PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS WITHOUT THE EXPRESS WRITTEN APPROVAL OF FAIRCHILD SEMICONDUCTOR CORPORATION.

As used herein:

- Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and (c) whose failure to perform when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.
- A critical component is any component of a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system, or to affect its safety or effectiveness.

**PRODUCT STATUS DEFINITIONS**

**Definition of Terms**

Datasheet Identification	Product Status	Definition
Advance Information	Formative or In Design	This datasheet contains the design specifications for product development. Specifications may change in any manner without notice.
Preliminary	First Production	This datasheet contains preliminary data; supplementary data will be published at a later date. Fairchild Semiconductor reserves the right to make changes at any time without notice to improve design.
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.
Obsolete	Not In Production	This datasheet contains specifications on a product that has been discontinued by Fairchild semiconductor. The datasheet is printed for reference information only.