FAIRCHILD SEMICONDUCTOR®

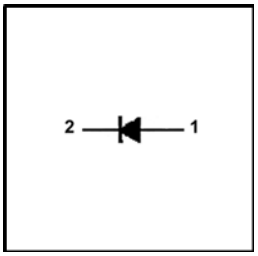
March 2008

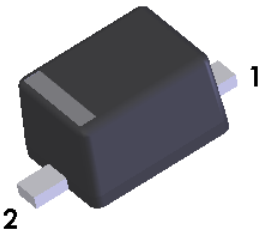
1N4148WS / 1N4448WS / 1N914BWS

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°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	°C
T_{STG}	Storage Temperature Range	-55 to +150	°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

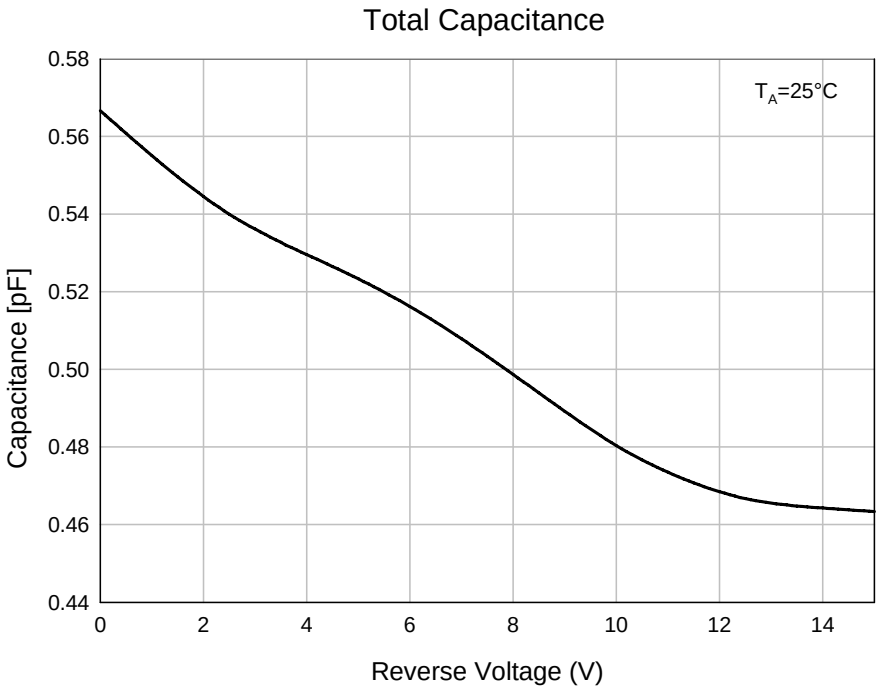
Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	500	°C/W
P_D	Power Dissipation(T_C=25°C)	200	mW

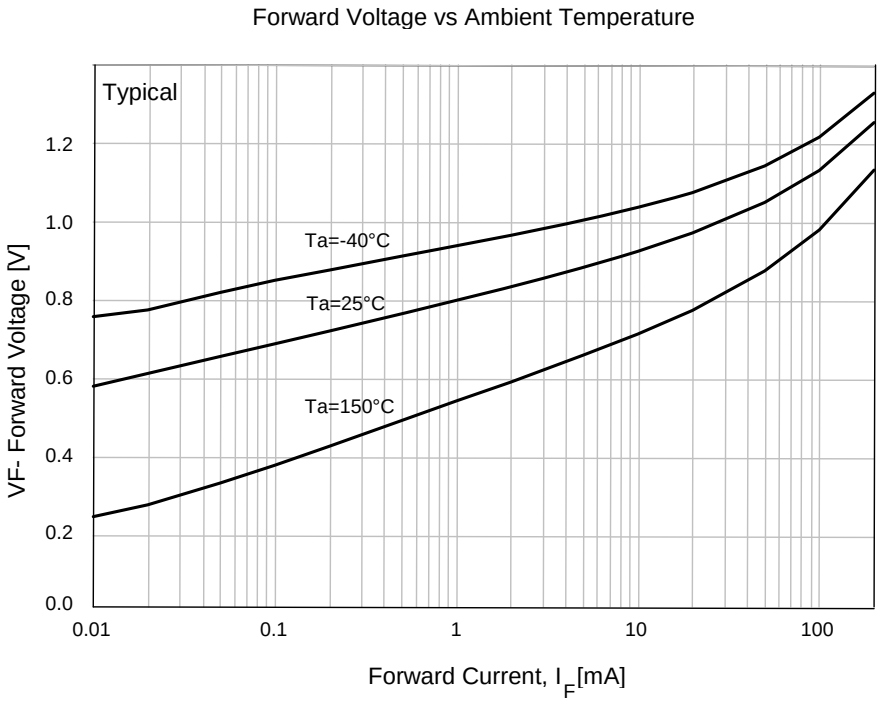
* Device mounted on FR-4 PCB minimum land pad.

Electrical Characteristics T_a=25°C unless otherwise noted

Symbol	Parameter		Test Conditions	Min	Typ	Max	Units
BV_R	Breakdown Voltage		I_R = 100 μA I_R = 5 μA	100 75			V
I_R	Reverse Current		V_R = 20 V V_R = 75 V			25 5	nA μA
V_F	Forward Voltage	1N4448WS/ 914BWS 1N4148WS 1N4448WS/ 914BWS	I_F = 5 mA I_F = 10 mA I_F = 100 mA	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 = 60mA I_{RR} = 1 mA, R_L = 100 Ω			4	nS

Typical Performance Characteristics





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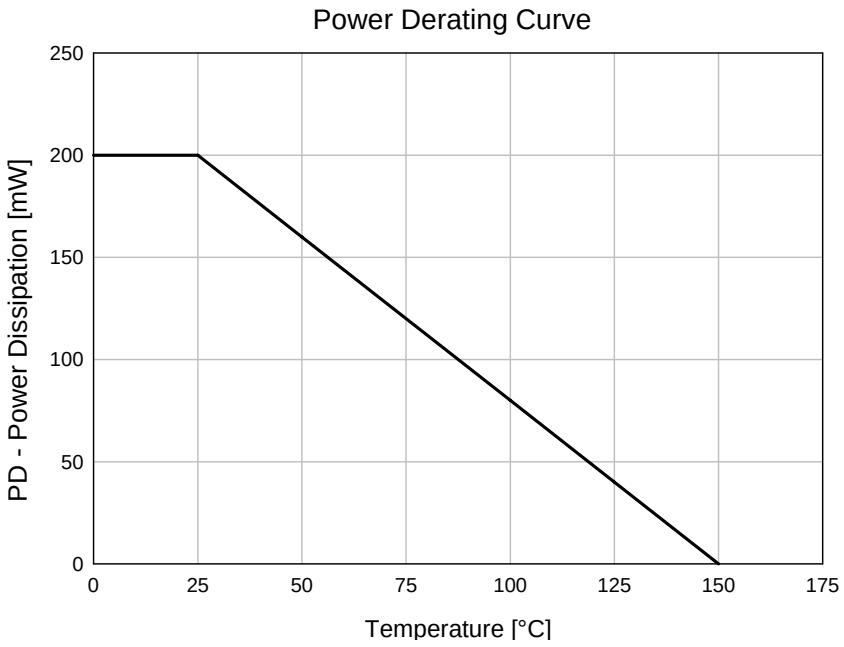

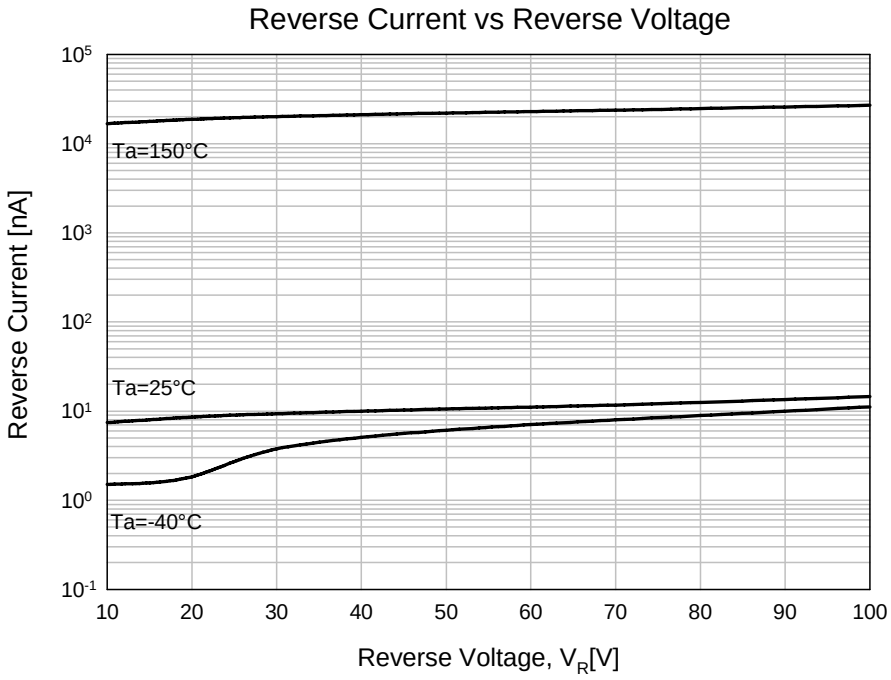

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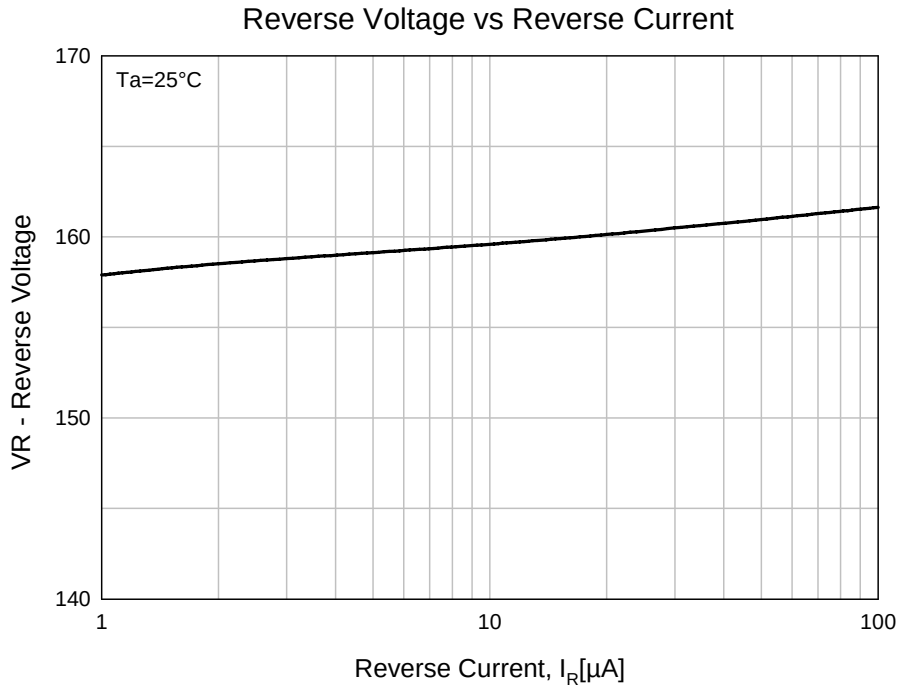
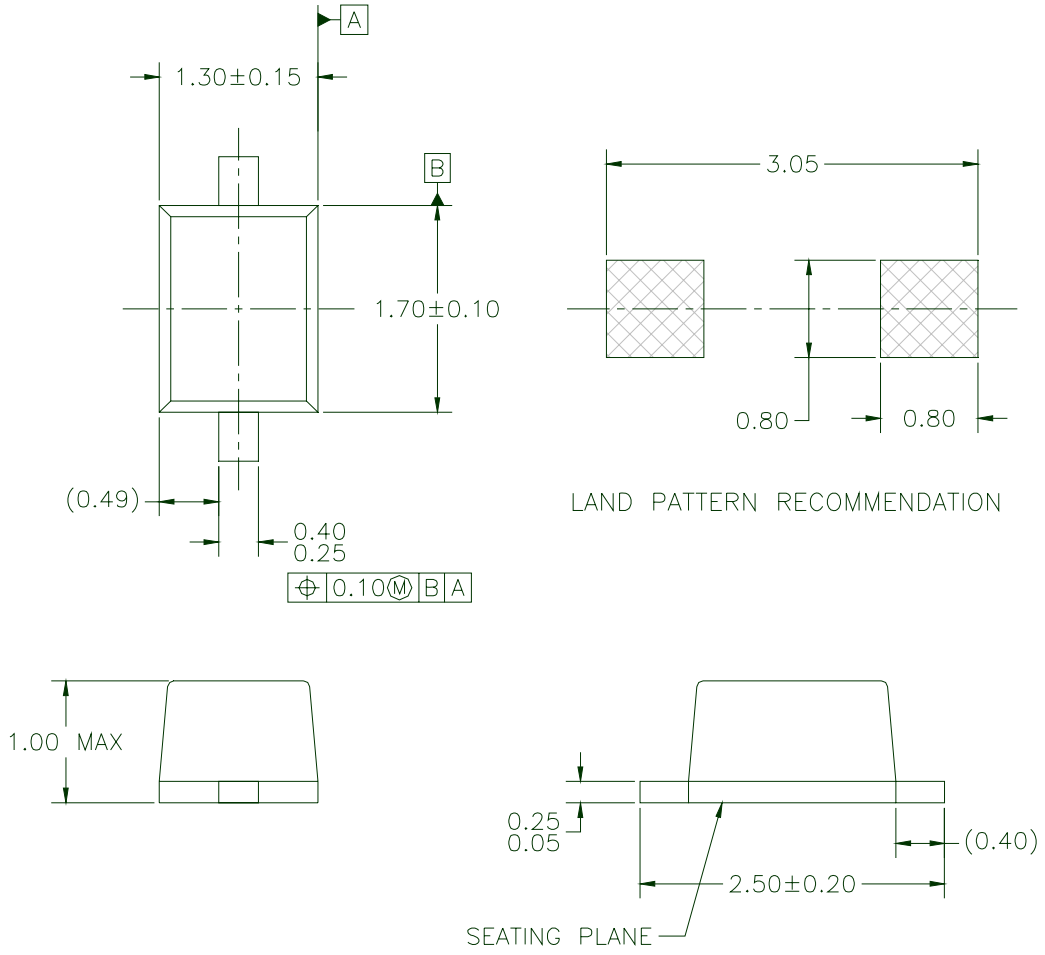


Package Dimensions

SOD-323F



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.

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2. 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.

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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.
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