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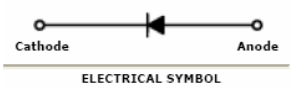
March 2008

1N4148WT / 1N4448WT / 1N914BWT
High Conductance Fast Switching Diode

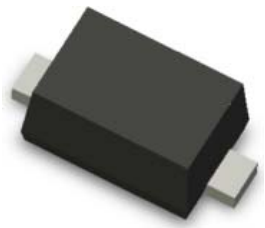
- Fast Switching Diode (Trr <4.0nsec)
- Flat Lead, Surface Mount Device under 0.70mm Height
- Extremely Small Outline Plastic Package SOD523F
- Moisture Level Sensitivity 1
- Pb-free Version and RoHS Compliant
- Matte Tin (Sn) Lead Finish
- Green Mold Compound

Device Marking Code

Device Type	Device Marking
1N4148WT	E1
1N4448WT	E2
1N914BWT	E3



ELECTRICAL SYMBOL


SOD-523F
Band Indicates Cathode*

Absolute Maximum Ratings* T_a=25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{RSM}	Non-Repetitive Peak Reverse Voltage	75	V
V_{RRM}	Repetitive Peak Reverse Voltage	75	V
I_{FRM}	Repetitive Peak Forward Current	300	mA
T_J	Operating Junction Temperature Range	-55 to +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.

NOTES:
1) These ratings are based on a maximum junction temperature of 150 degrees C.
2) These are steady state limits. 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

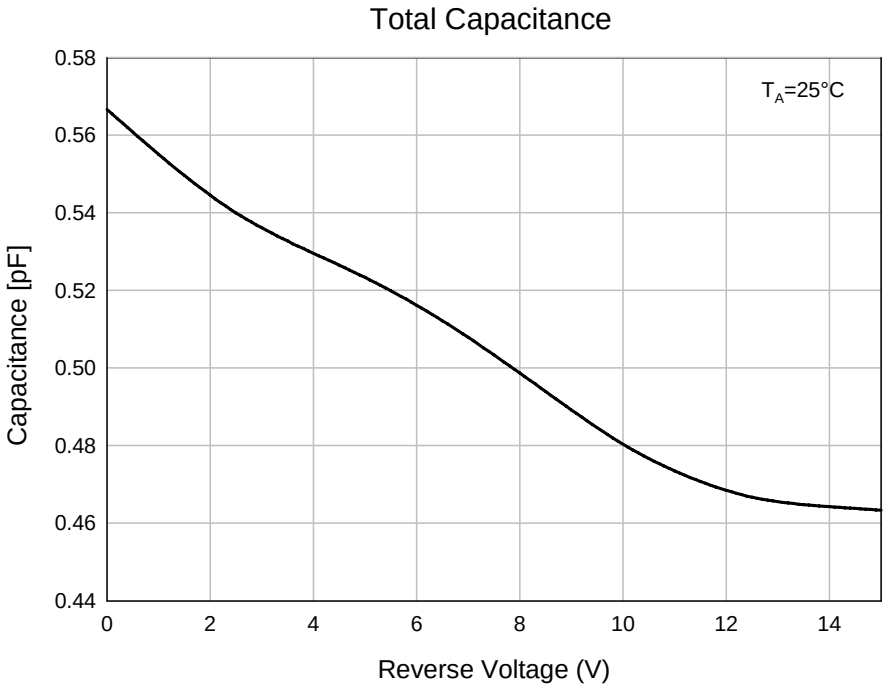
*Device mounted on FR-4 PCB minimum land pad.

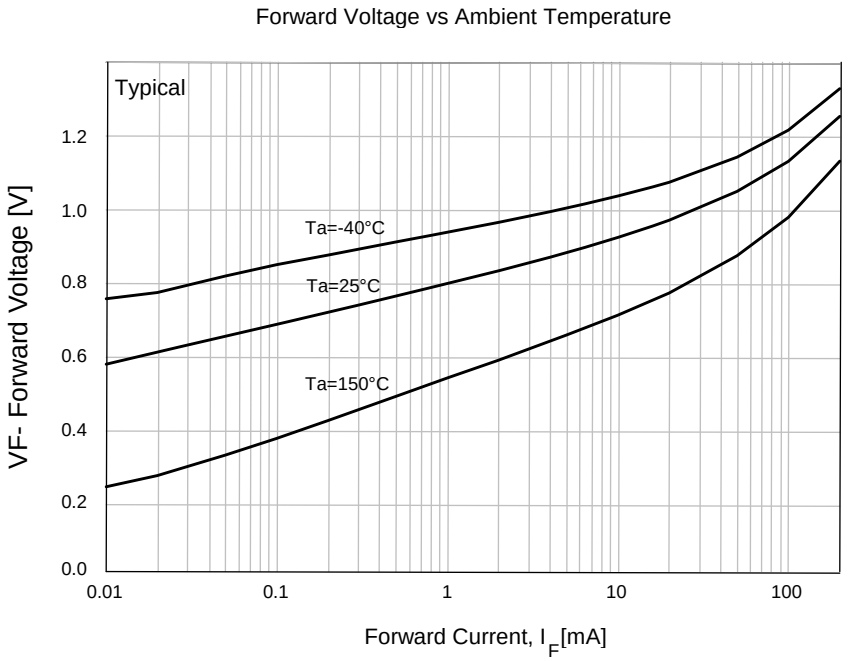
Electrical Characteristics* T_a=25°C unless otherwise noted

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	1N4448WT/ 914WT 1N4448WT 1N4448WT/ 914WT	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, V_R = 6.0 V I_{RR} = 1 mA, R_L = 100 Ω			4	nS

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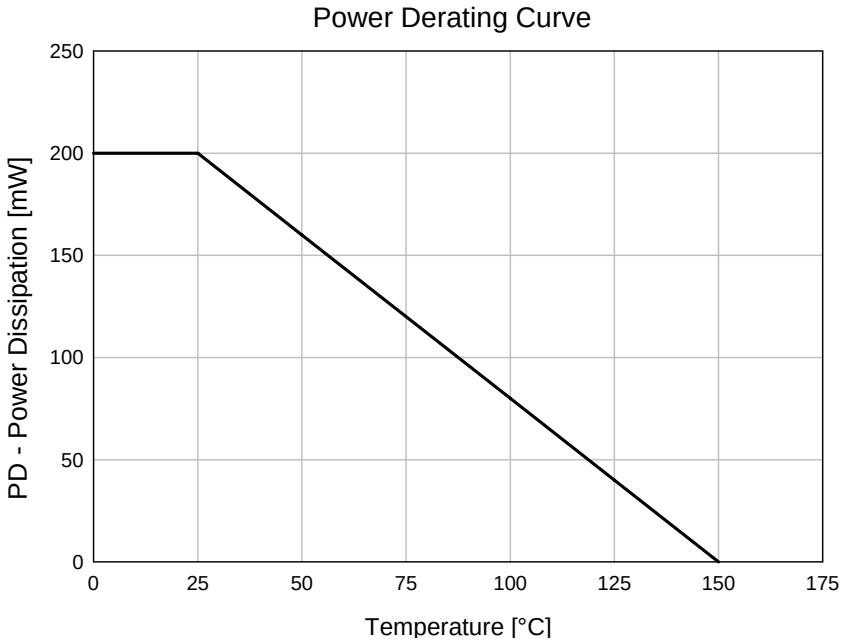
Typical Performance Characteristics

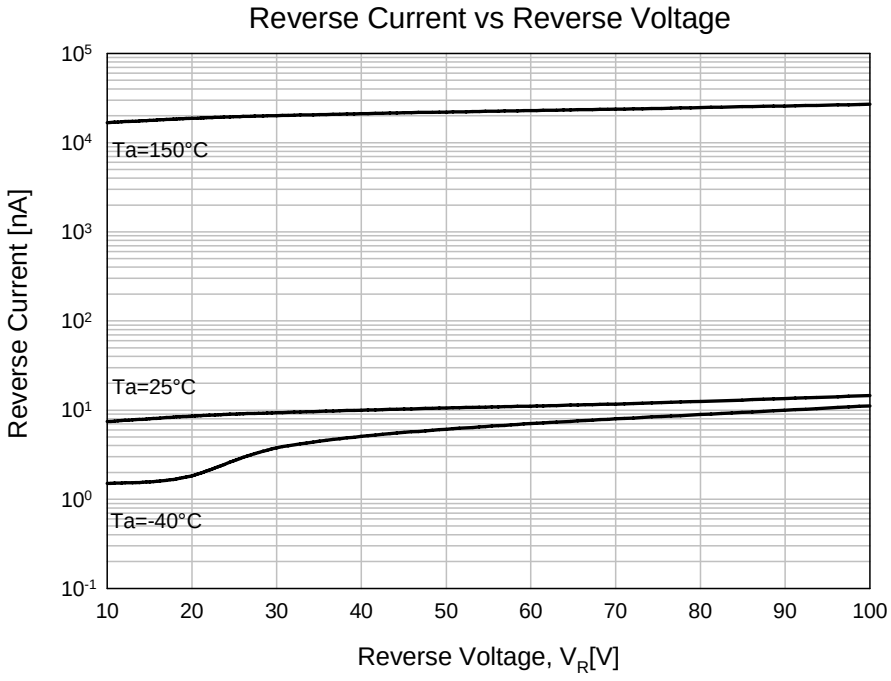




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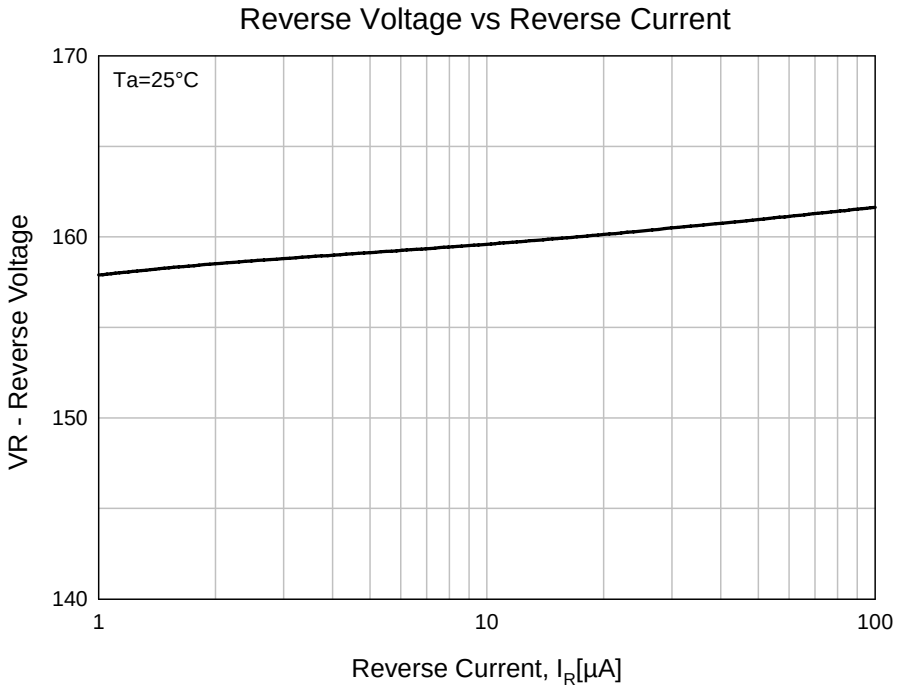
Typical Performance Characteristics





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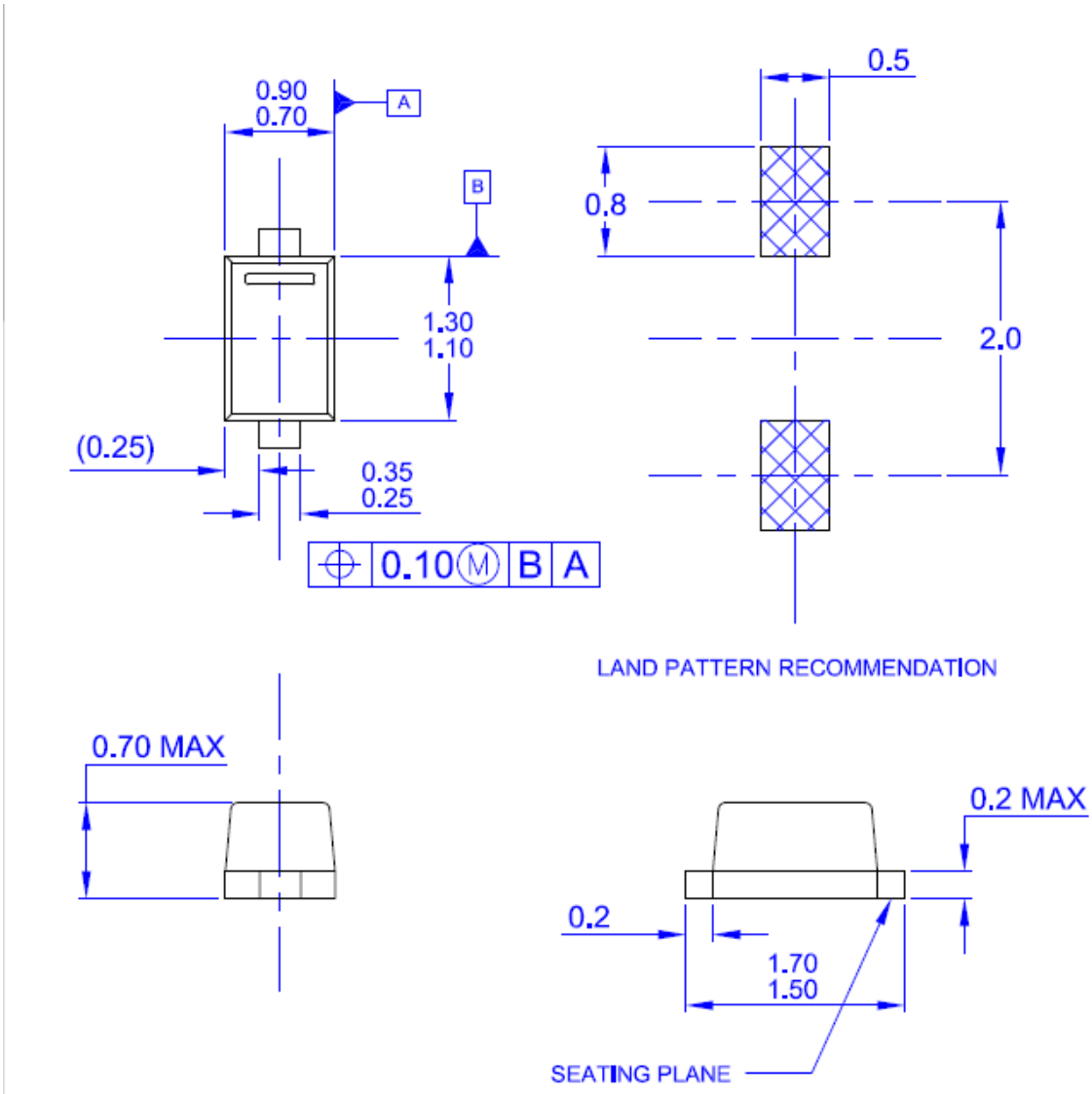
Typical Performance Characteristics



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Package Dimension

SOD-523F



NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE REFERENCE: THIS PACKAGE OUTLINE CONFORMS TO JEITA SC-79.
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 SOD1609X65M.
F) DRAWING NUMBER AND REVISION:MKT-SOD523F1rev1

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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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Definition of Terms

Datasheet Identification	Product Status	Definition
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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.

Rev. I31

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