FAIRCHILD SEMICONDUCTOR®

August 2010

LL4148
Small Signal Diode

SOD80

COLOR BAND MARKING

1ST BAND	2ND BAND
Black	Green

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

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	100	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
i_f	Recurrent Peak Forward Current	500	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second Pulse Width = 1.0 microsecond	 1.0 2.0	 A A
T_{STG}	Storage Temperature Range	-65 to +200	°C
T_J	Operating Junction Temperature	175	°C

* These ratings are limiting values above which the serviceability of the diode may be impaired.

Notes:
1) These ratings are based on a maximum junction temperature of 200degrees 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	Units
P_D	Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	°C/W

Note: Jedec Standard 51-3 method (PCB Board size 76*114*0.6Tmm3)

Electrical Characteristics T_a = 25°C unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Units
V_R	Breakdown Voltage	I_R = 100μA I_R = 5.0μA	100 75		V V
V_F	Forward Voltage	I_F = 10mA		1.0	V
I_R	Reverse Leakage	V_R = 20V V_R = 20V, T_A = 150°C		25 50	nA μA
C_T	Total Capacitance	V_R = 0, f = 1.0MHz		4.0	pF
t_{rr}	Reverse Recovery Time	I_F = 10mA, V_R = 6.0V (60mA), I_{rr} = 1.0mA, R_L = 100Ω		4.0	ns

Package Marking and Ordering Information

Device Marking	Device	Package	Reel Size	Tape Width	Quantity
Color Band Marking	LL4148	SOD80	7”	8mm	2,500

Typical Performance Characteristics

Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100μA

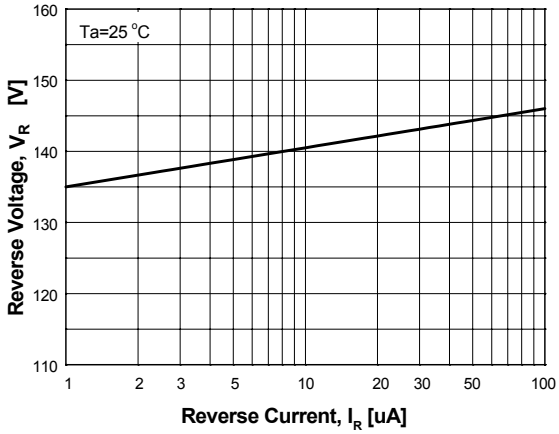


Figure 2. Reverse Voltage vs Reverse Current
I_R - 10 to 100V

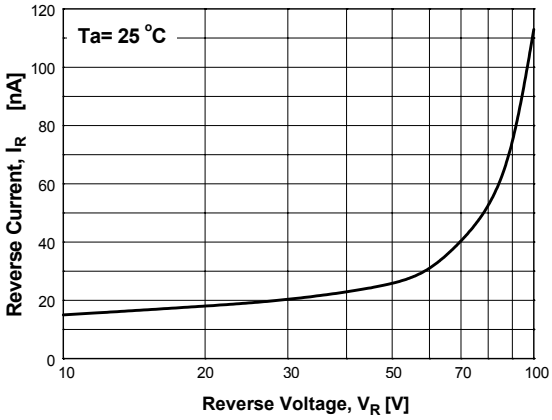


Figure 3. Forward Voltage vs Forward Current
V_F - 1 to 100μA

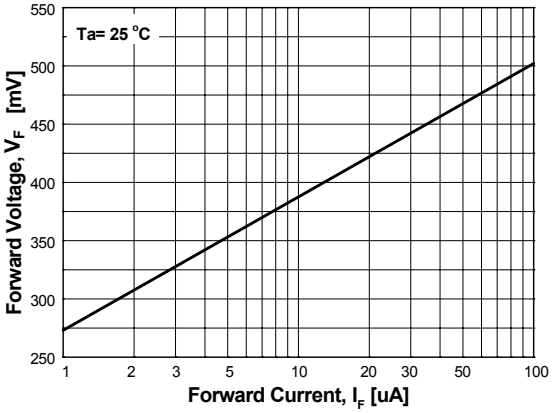


Figure 4. Forward Voltage vs Forward Current
V_F - 0.1 to 10mA

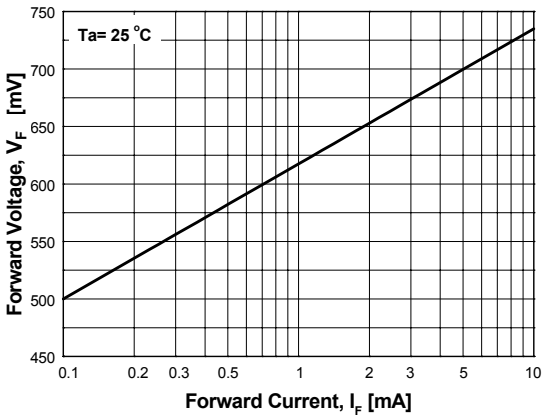


Figure 5. Forward Voltage vs Forward Current
V_F - 10 to 800mA

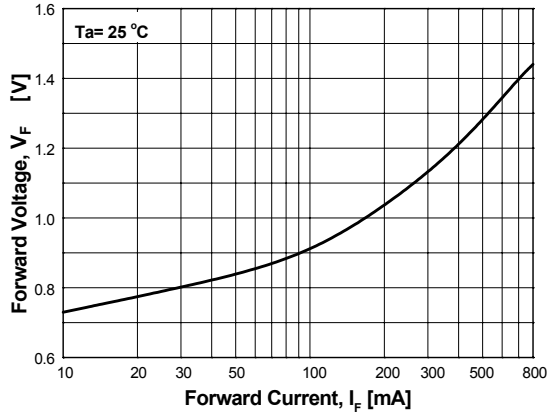
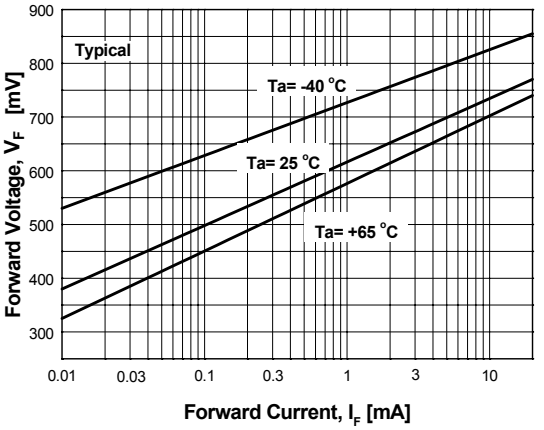


Figure 6. Forward Voltage vs
Ambient Temperature
V_F - 0.01 - 20mA (-40 to +65 Deg C)



Typical Performance Characteristics (Continued)

Figure 7. Total Capacitance

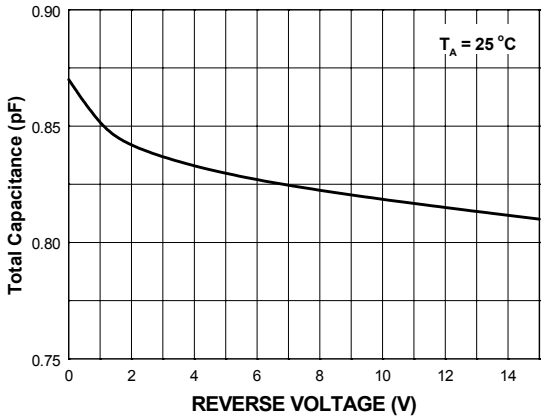


Figure 8. Reverse Recovery Time vs Reverse Recovery Current

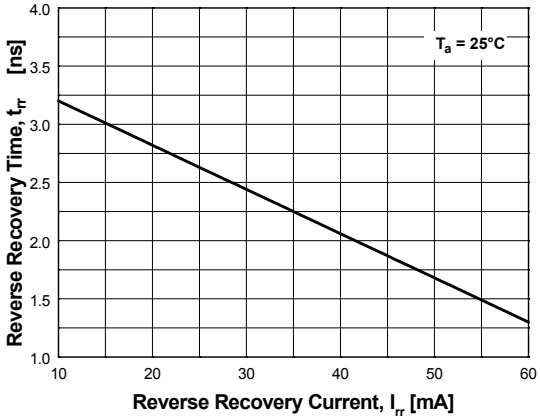


Figure 9. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

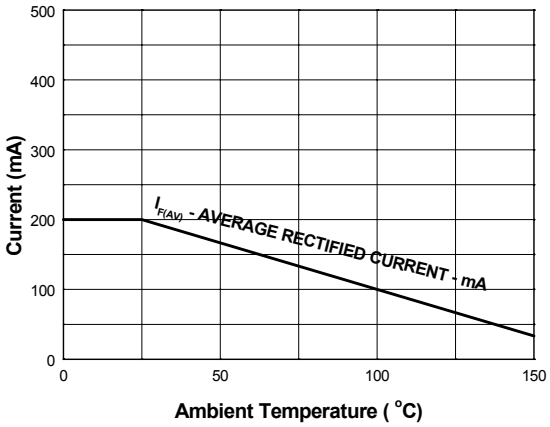
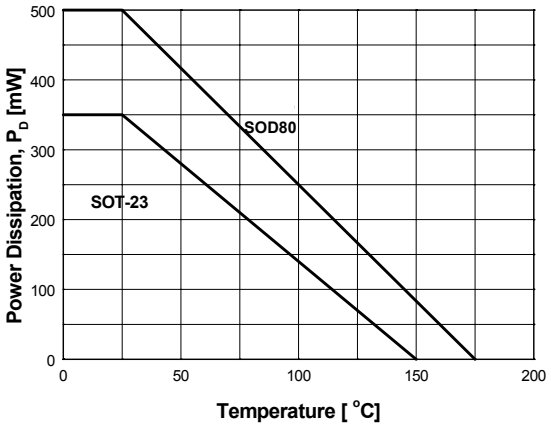
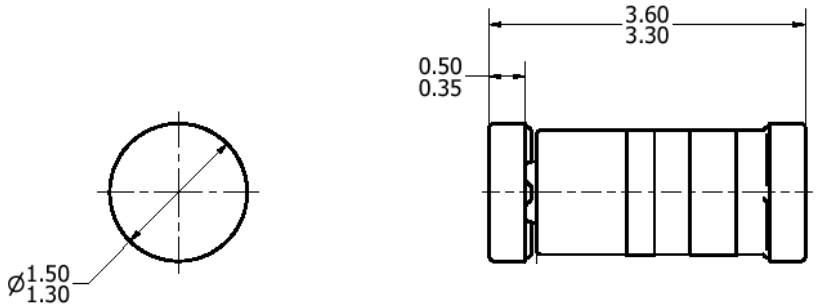


Figure 10. Power Derating Curve



Physical Dimensions

SOD80



NOTE/s:

1) THIS PACKAGE CONFORMS TO JEDEC DO-213D, VARIATION AC, DATED 9/1988.
2) ALL DIMENSIONS ARE IN MILLIMETERS.

Dimensions in Millimeters

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