

June 2007

LL4148

Small Signal Diode



SOD80

COLOR BAND MARKING

1ST BAND	2ND BAND
Black	Green

Absolute Maximum Ratings * $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Value	Unit
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	A
		2.0	A
T_{STG}	Storage Temperature Range	-65 to +200	$^\circ\text{C}$
T_J	Operating Junction Temperature	175	$^\circ\text{C}$

* 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	Unit
P_D	Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	$^\circ\text{C}/\text{W}$

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

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

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

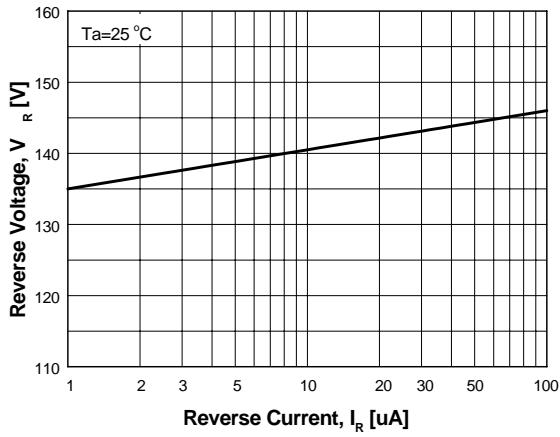


Figure 2. Reverse Voltage vs Reverse Current
 I_R - 10 to 100A

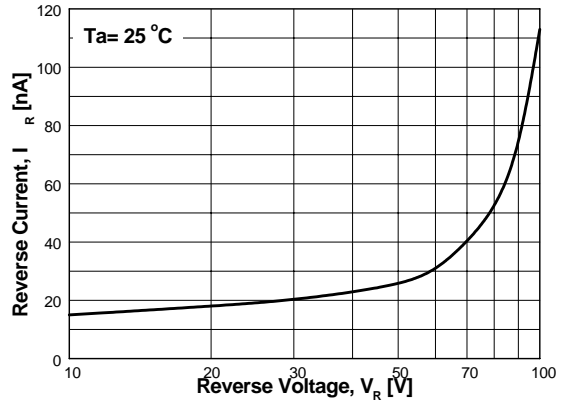


Figure 3. Forward Voltage vs Forward Current
 V_F - 1 to 100V

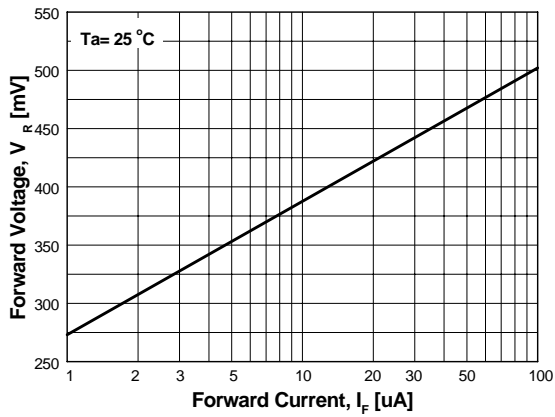


Figure 4. Forward Voltage vs Forward Current
 V_F - 0.1 to 100A

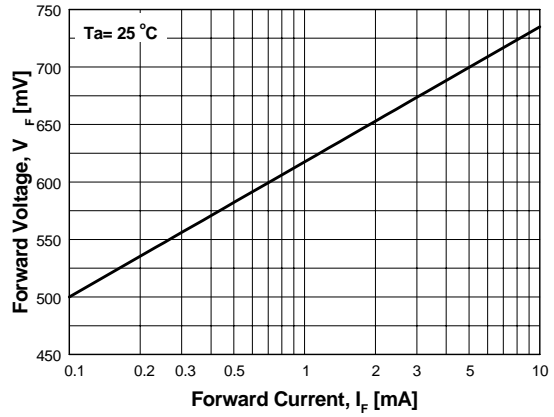


Figure 5. Forward Voltage vs Forward Current
 V_F - 10 to 800mA

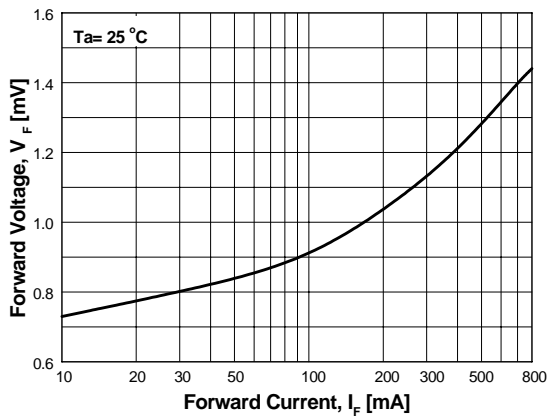
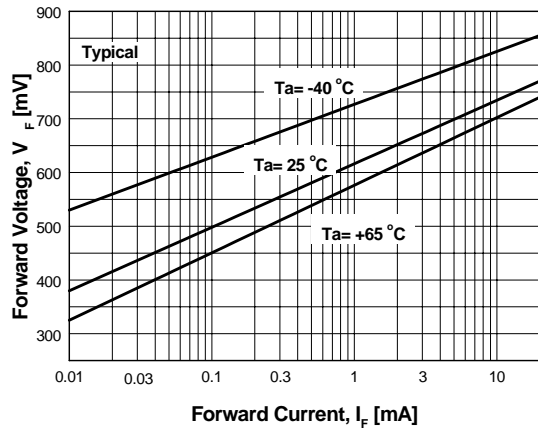


Figure 6. Forward Voltage vs Ambient Temperature
 V_F - 0.01 - 20mA (-40 to +65 Deg C)



Typical Performance Characteristics

Figure 7. Total Capacitance

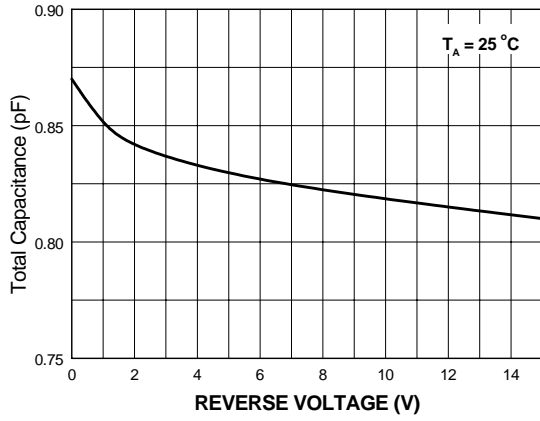


Figure 8. Reverse Recovery Time vs Reverse Recovery Current

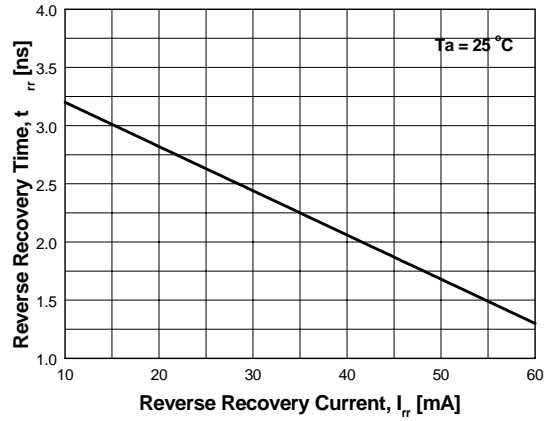


Figure 9. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

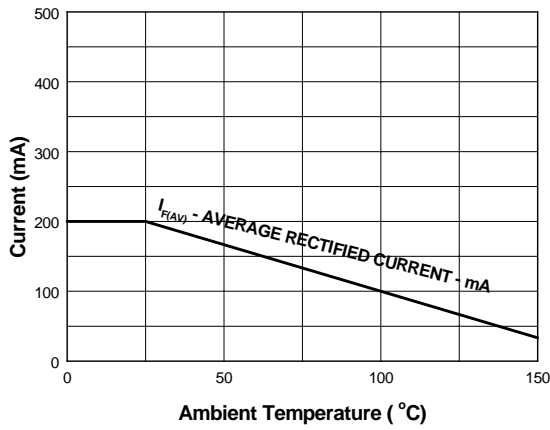
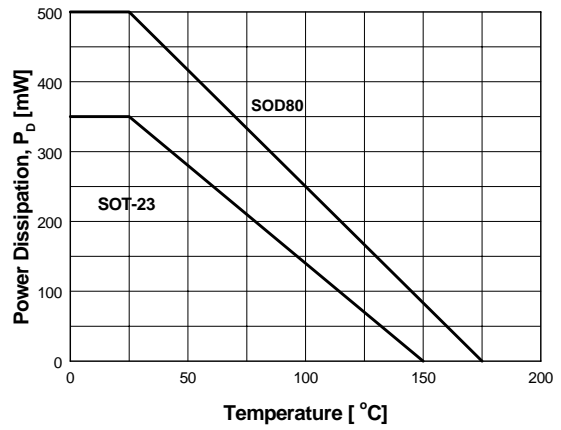
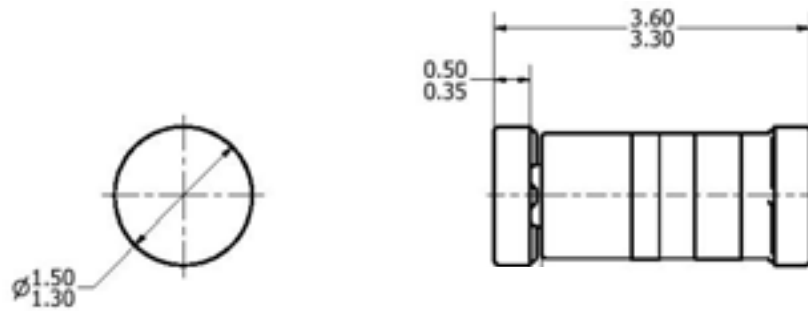


Figure 10. Power Derating Curve



Mechanical 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