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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: Jeduc 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 100 μ A

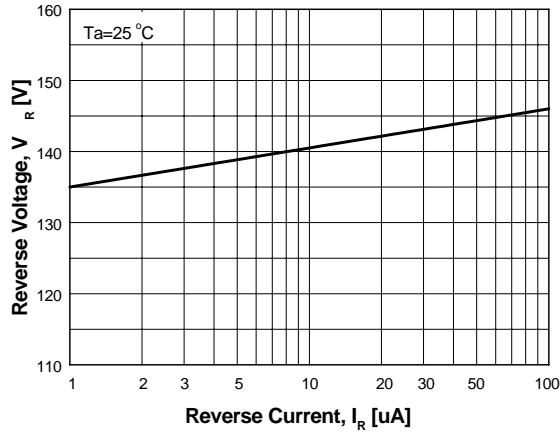


Figure 2. Reverse Voltage vs Reverse Current
 I_R - 10 to 100A

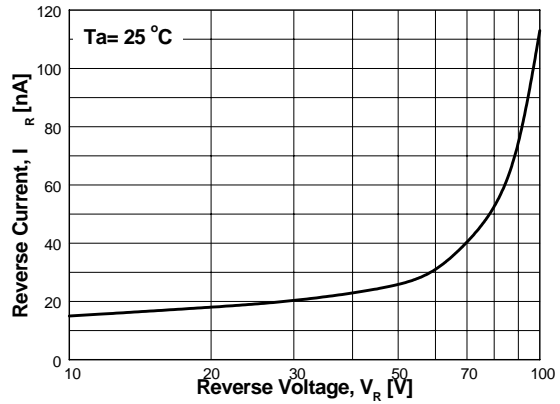


Figure 3. Forward Voltage vs Forward Current
 V_F - 1 to 100 μ A

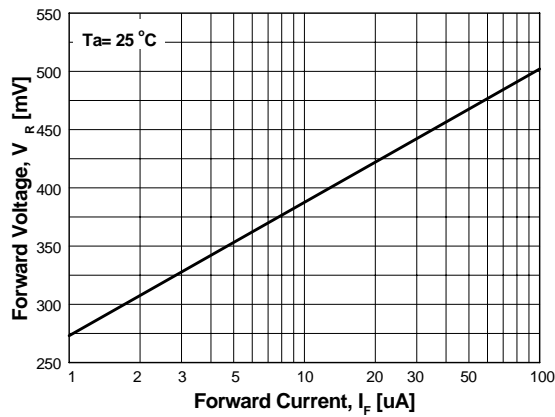


Figure 4. Forward Voltage vs Forward Current
 V_F - 0.1 to 100A

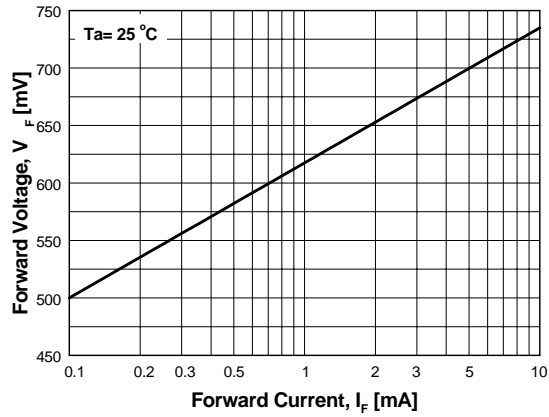


Figure 5. Forward Voltage vs Forward Current
 V_F - 10 to 800mA

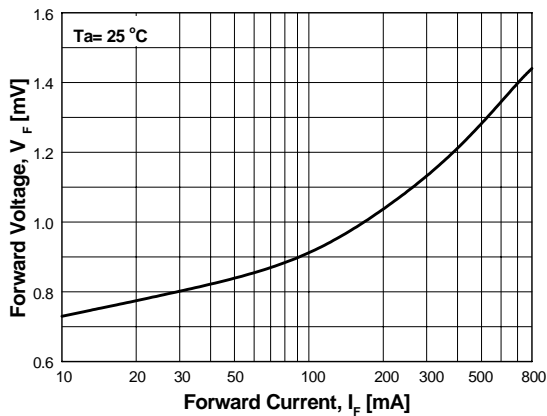
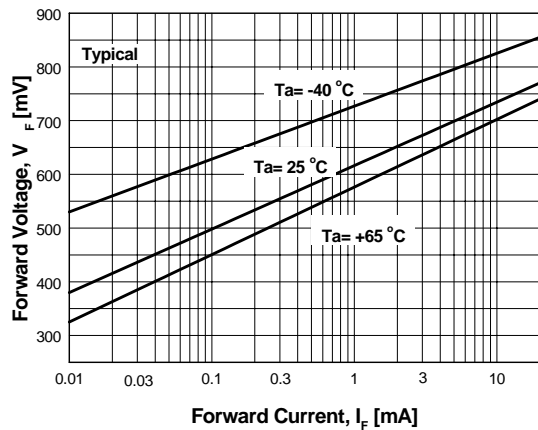


Figure 6. Forward Voltage vs Ambient Temperature
 V_F - 0.01 - 20mA (-40 to +65 Deg C)



Typical Performance Characteristics

Figure 7. Total Capacitance

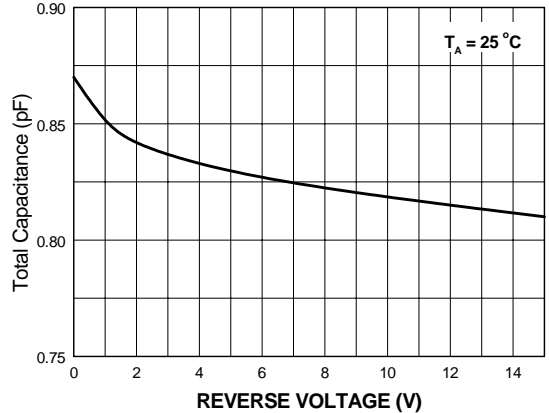


Figure 8. Reverse Recovery Time vs Reverse Recovery Current

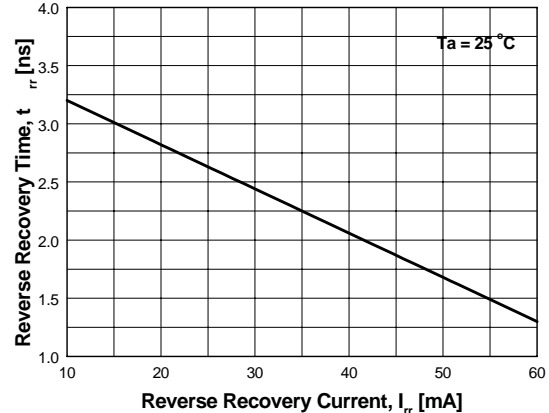


Figure 9. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

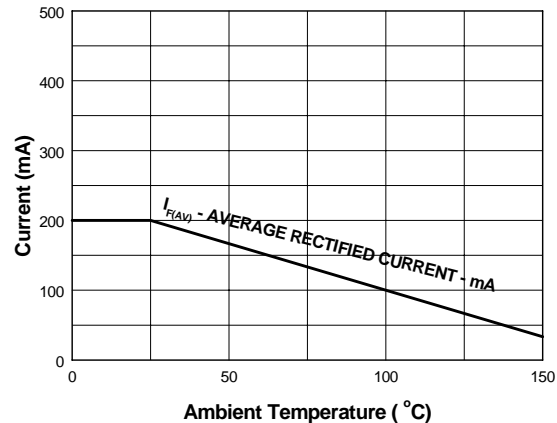
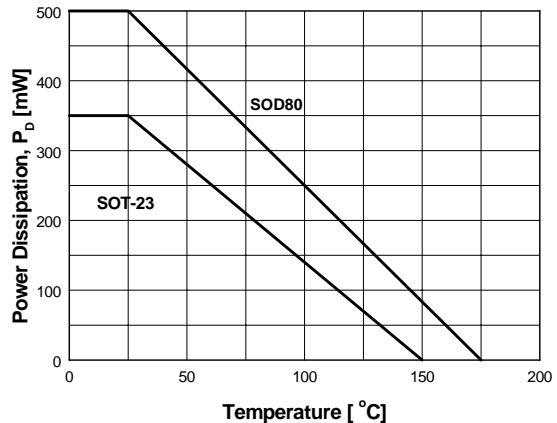
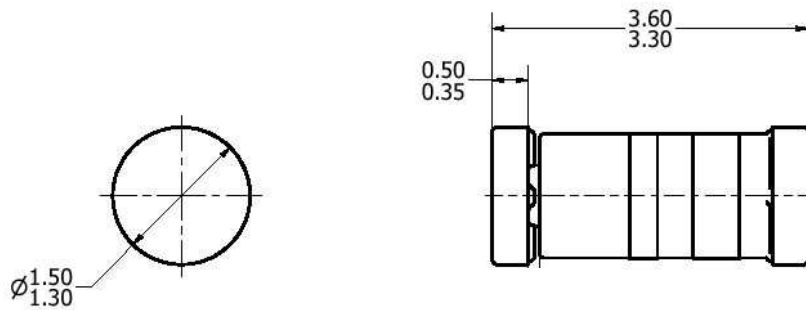


Figure 10. Power Derating Curve



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



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|--------------------------|------------------------|---|
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