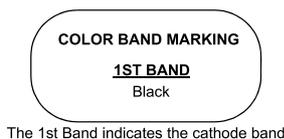
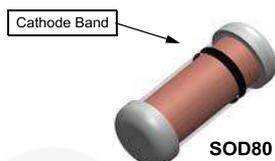


## LL4148 Small Signal Diode



### Package Marking and Ordering Information

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

### Absolute Maximum Ratings <sup>(1)</sup>

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at  $T_A = 25^\circ\text{C}$  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 s	1.0
		Pulse Width = 1.0 $\mu\text{s}$	2.0
$T_{STG}$	Storage Temperature Range	-65 to +200	$^\circ\text{C}$
$T_J$	Operating Junction Temperature Range	-55 to +175	$^\circ\text{C}$

**Note:**

- These ratings are limiting values above which the serviceability of the diode may be impaired. These ratings are based on a maximum junction temperature of  $200^\circ\text{C}$ . These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics <sup>(2)</sup>

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

**Note:**

- Jedec Standard 51-3 method (PCB Board size  $76 \times 114 \times 0.6\text{Tmm}3$ )

## Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  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	$\mu\text{A}$
$C_T$	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 mA), $I_{rr} = 1.0 \text{ mA}, R_L = 100 \Omega$		4.0	ns

Typical Performance Characteristics

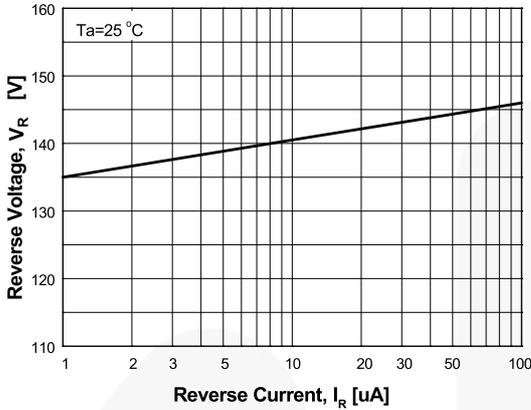


Figure 1. Reverse Voltage vs Reverse Current  
BV - 1.0 to 100  $\mu$ A

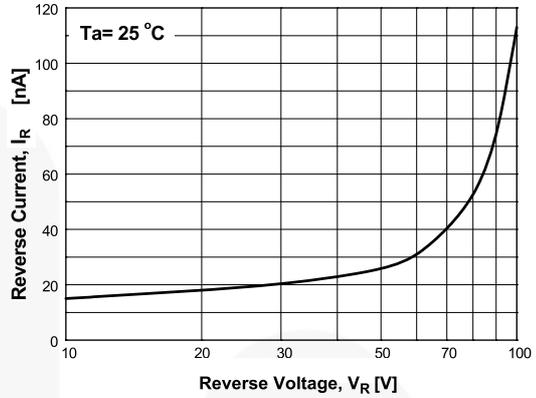


Figure 2. Reverse Voltage vs Reverse Current  
 $I_R$  - 10 to 100 V

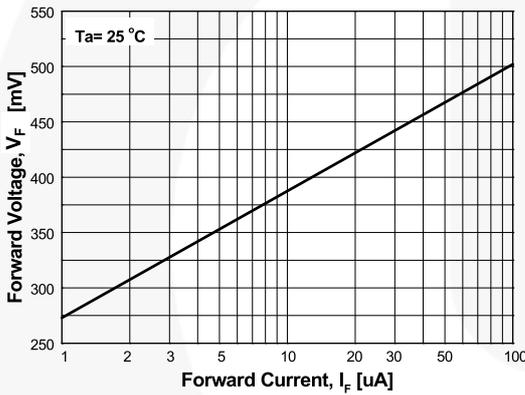


Figure 3. Forward Voltage vs Forward Current  
 $V_F$  - 1 to 100  $\mu$ A

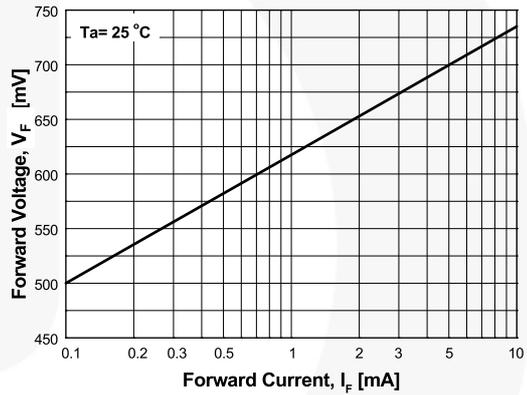


Figure 4. Forward Voltage vs Forward Current  
 $V_F$  - 0.1 to 10 mA

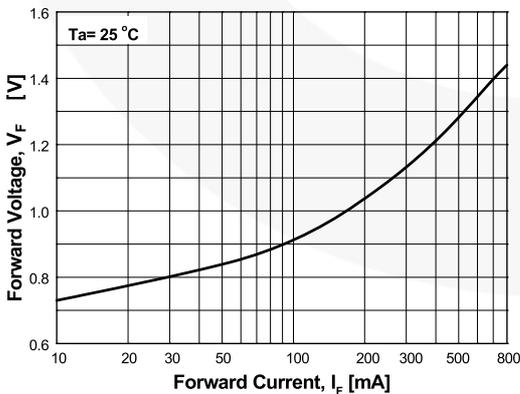


Figure 5. Forward Voltage vs Forward Current  
 $V_F$  - 10 to 800 mA

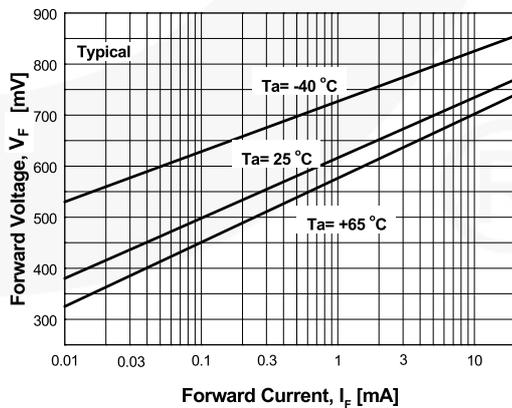


Figure 6. Forward Voltage vs Ambient Temperature  
 $V_F$  - 0.01 - 20 mA (-40 to +65 Deg C)

Typical Performance Characteristics (Continued)

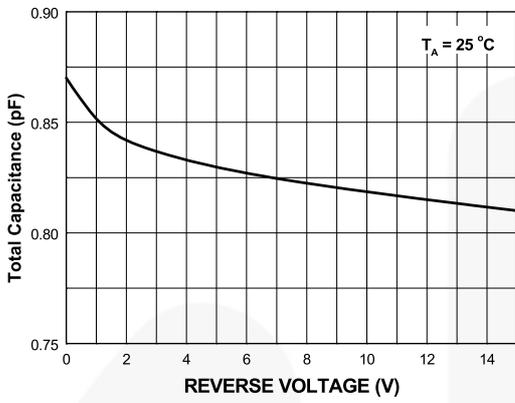


Figure 7. Total Capacitance

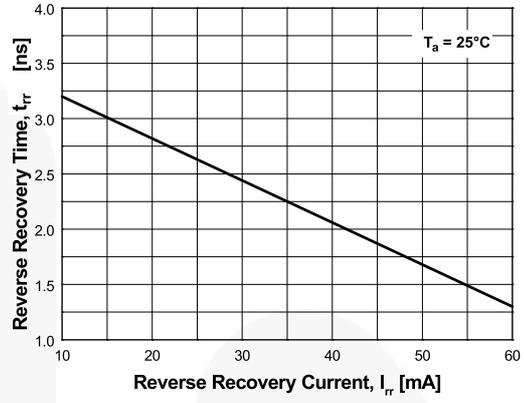


Figure 8. Reverse Recovery Time vs Reverse Recovery Current

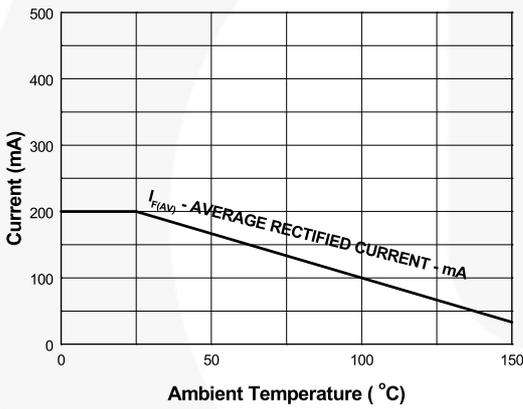


Figure 9. Average Rectified Current ( $I_{F(AV)}$ ) vs Ambient Temperature ( $T_A$ )

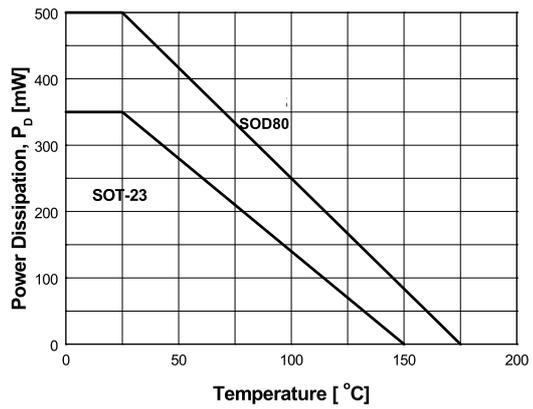
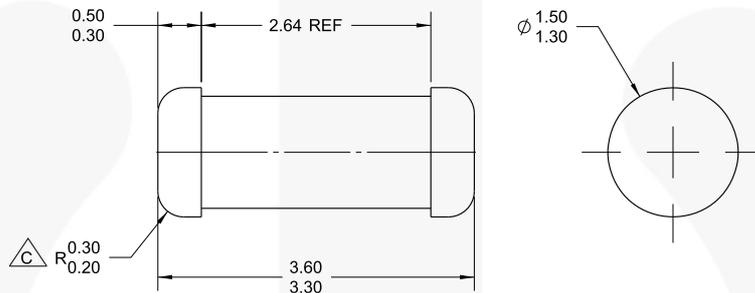


Figure 10. Power Derating Curve

## Physical Dimensions

### SOD-80



NOTES: UNLESS OTHERWISE SPECIFIED

A) PACKAGE STANDARD REFERENCE:  
JEDEC DO-213, VARIATION AC.

B) ALL DIMENSIONS ARE IN MILLIMETERS.

$\triangle C$  CORNER RADIUS IS OPTIONAL.

D) DRAWING FILE NAME: SOD80A REV01

**Figure 11. 2-TERMINAL, SOD-80, JEDEC DO-213AC, MINI-MELF**

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| AccuPower™  | F-PFS™   | PowerTrench®  |  |
| AX-CAP®*  | FRFET®   | PowerXS™  | TinyBoost™  |
| BitSiC™   | Global Power Resource <sup>SM</sup>            | Programmable Active Droop™  | TinyBuck™   |
| Build it Now™   | GreenBridge™                                   | QFET®   | TinyCalc™   |
| CorePLUS™   | Green FPS™                                     | QS™   | TinyLogic®  |
| CorePOWER™  | Green FPS™ e-Series™                           | Quiet Series™   | TINYOPTO™   |
| CROSSVOLT™  | Gmax™  | RapidConfigure™   | TinyPower™  |
| CTL™  | GTO™   |  | TinyPWM™  |
| Current Transfer Logic™   | IntelliMAX™                                    | Saving our world, 1mW/W/kW at a time™   | TinyWire™   |
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| ESBC™   | MicroFET™                                      | SPM®  |  |
|  | MicroPak™                                      | STEALTH™  | UHC®  |
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| FACT Quiet Series™  | MotionMax™                                     | SuperSOT™-6   | VCX™  |
| FACT®   | mWSaver™                                       | SuperSOT™-8   | VisualMax™  |
| FAST®   | OptoHi™  | SupreMOS®   | VoltagePlus™  |
| FastvCore™  | OPTOLOGIC®                                     | SyncFET™  | XS™   |
| FETBench™   | OPTOPLANAR®                                    |   |   |

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