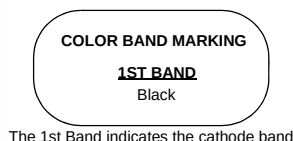
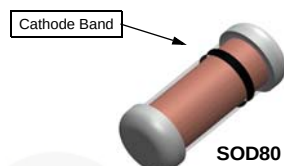


LL4148

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 ⁽¹⁾

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 μs	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°C . These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics ⁽²⁾

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

Note:

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

Electrical CharacteristicsValues 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	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 mA), $I_{rr} = 1.0\ \text{mA}, R_L = 100\ \Omega$		4.0	ns

Typical Performance Characteristics

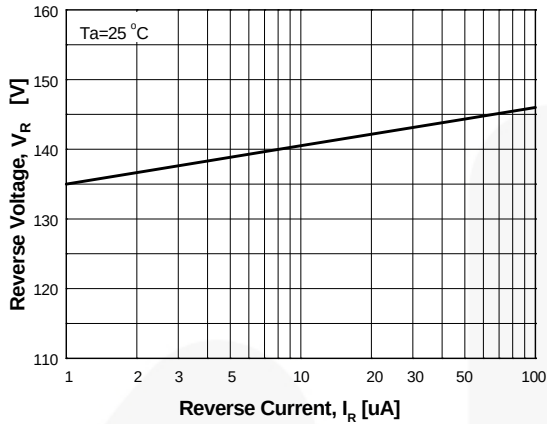


Figure 1. Reverse Voltage vs Reverse Current
 V_R - 1.0 to 100 μ A

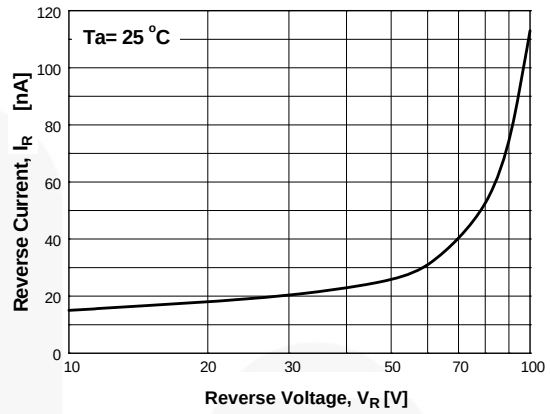


Figure 2. Reverse Voltage vs Reverse Current
 I_R - 10 to 100 V

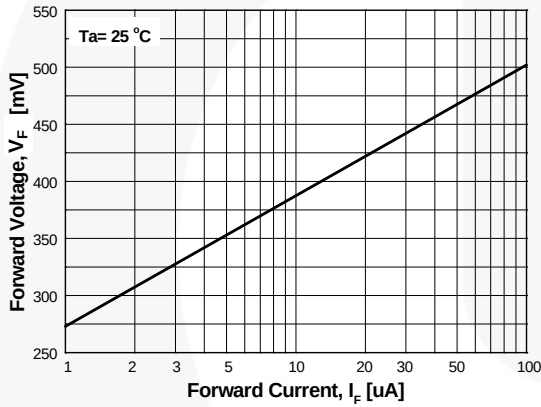


Figure 3. Forward Voltage vs Forward Current
 V_F - 1 to 100 μ A

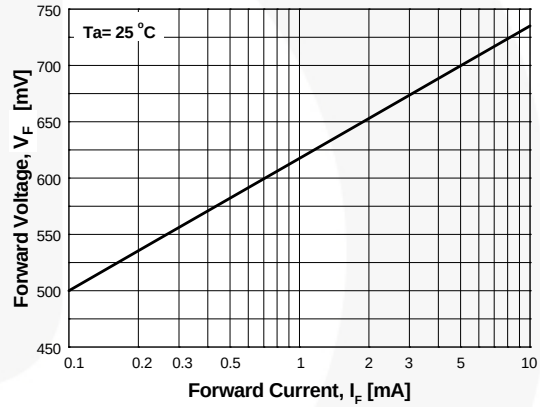


Figure 4. Forward Voltage vs Forward Current
 V_F - 0.1 to 10 mA

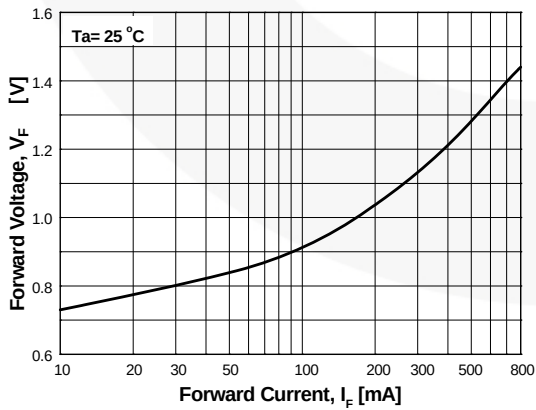


Figure 5. Forward Voltage vs Forward Current
 V_F - 10 to 800 mA

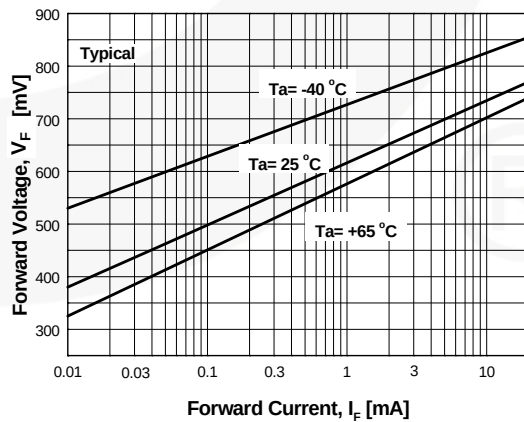


Figure 6. Forward Voltage vs Ambient Temperature
 V_F - 0.01 - 20 mA (-40 to +65 Deg C)

Typical Performance Characteristics (Continued)

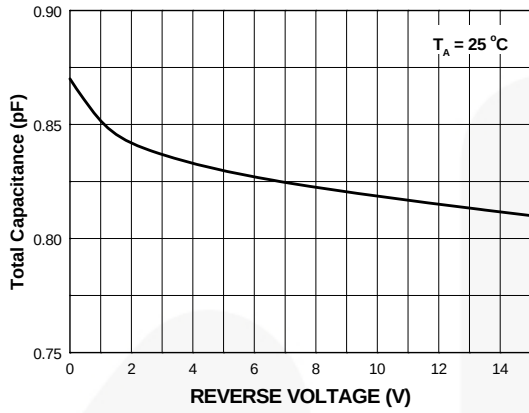


Figure 7. Total Capacitance

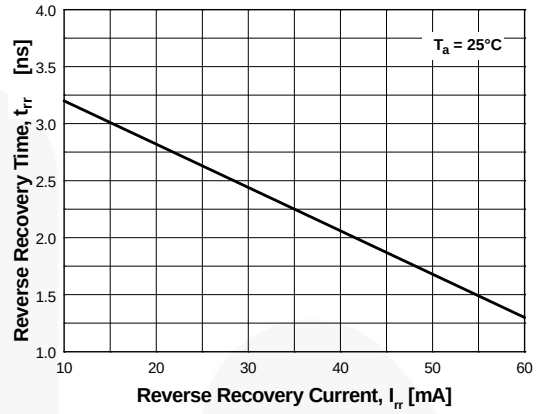


Figure 8. Reverse Recovery Time vs Reverse Recovery Current

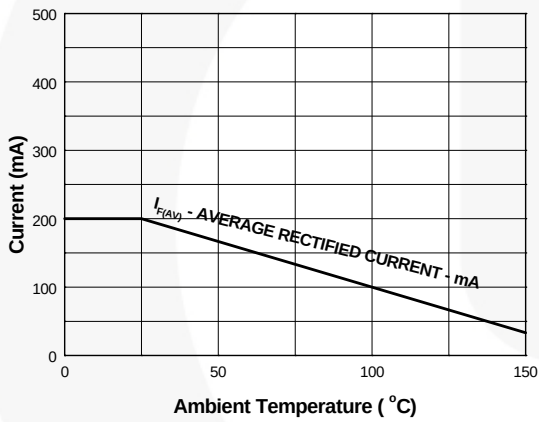


Figure 9. Average Rectified Current ($I_{F(AV)}$) vs Ambient Temperature (T_A)

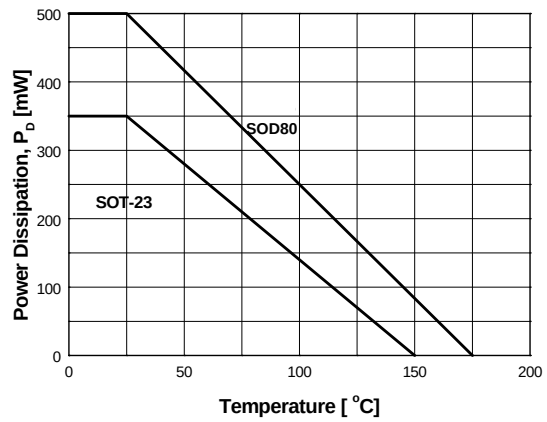
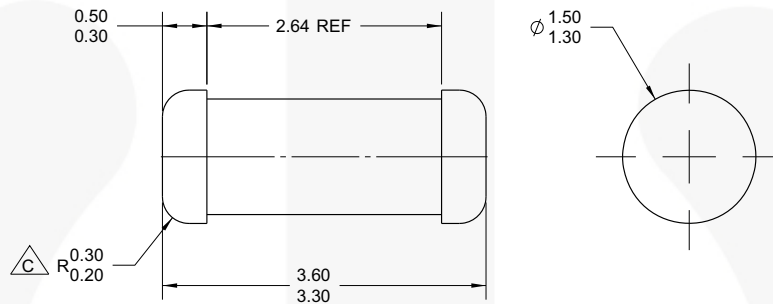


Figure 10. Power Derating Curve

Physical Dimensions

SOD-80



NOTES: UNLESS OTHERWISE SPECIFIED

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

B) ALL DIMENSIONS ARE IN MILLIMETERS.

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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CTL™	GTO™		TinyPWM™
Current Transfer Logic™	IntelliMAX™	Saving our world, 1mW/W/kW at a time™	TinyWire™
DEUXPEED®	ISOPLANAR™	SignalWise™	TranSiC™
Dual Cool™	Making Small Speakers Sound Louder and Better™	SmartMax™	TriFault Detect™
EcoSPARK®	MegaBuck™	SMART START™	TRUECURRENT®*
EfficientMax™	MICROCOUPLER™	Solutions for Your Success™	μSerDes™
ESBC™	MicroFET™	SPM®	
	MicroPak™	STEALTH™	UHC®
Fairchild®	MicroPak2™	SuperFET™	Ultra FRFET™
Fairchild Semiconductor®	MillerDrive™	SuperSOT™-3	UniFET™
FACT Quiet Series™	MotionMax™	SuperSOT™-6	VCX™
FACT®	mWSaver™	SuperSOT™-8	VisualMax™
FAST®	OptoHiT™	SupreMOS®	VoltagePlus™
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