Small Signal Diode

LL4148



SOD−80
CASE 100AD

Features

- This is a Pb−Free and Halide Free Device

ABSOLUTE MAXIMUM RATINGS

(Values are at T_A = 25°C unless otherwise noted.) (Notes 1 and 2)

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 s	1.0	A
		Pulse Width = 1.0 μs	2.0	
T_{STG}	Storage Temperature Range		−65 to +200	°C
T_J	Operating Junction Temperature Range		−55 to +175	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

1. These ratings are based on a maximum junction temperature of 200°C.
2. These are steady−state limits. **onsemi** should be consulted on applications involving pulsed or low−duty−cycle operations.

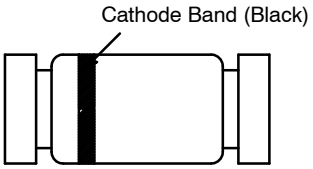
THERMAL CHARACTERISTICS

(Values are at T_A = 25°C unless otherwise noted.) (Note 3)

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

3. JEDEC Standard 51−3 method (PCB Board size 76 × 114 × 0.6T mm^3)

MARKING DIAGRAM



ORDERING INFORMATION

Device	Package	Shipping†
LL4148	SOD−80 (Pb−Free/ Halide Free)	2500 / Tape & Reel (7″)

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

ELECTRICAL CHARACTERISTICS (Values are at T_A = 25°C unless otherwise noted.)

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

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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TYPICAL PERFORMANCE CHARACTERISTICS

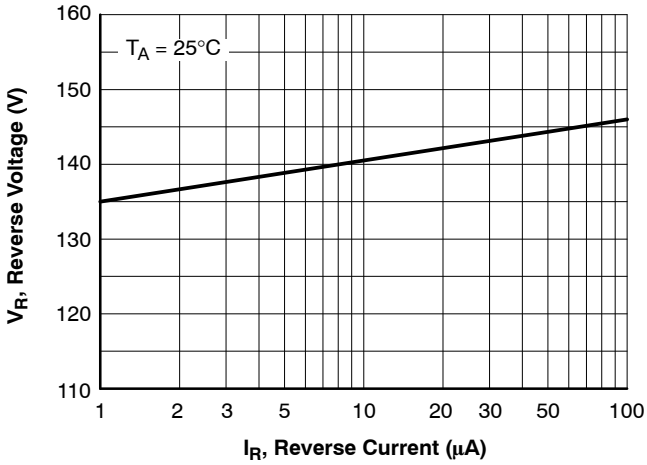


Figure 1. Reverse Voltage vs. Reverse Current BV – 1.0 to 100 μA

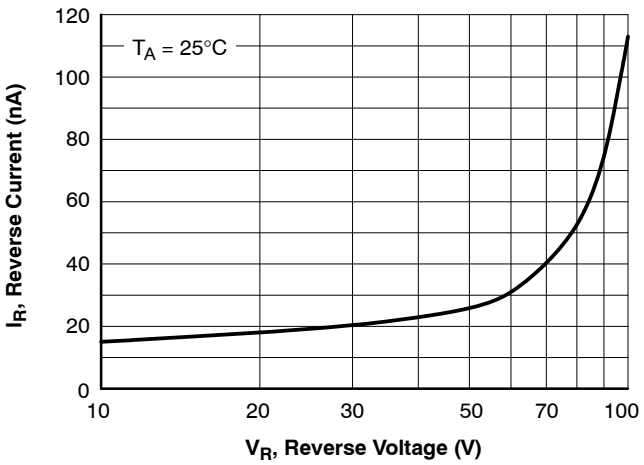


Figure 2. Reverse Voltage vs. Reverse Current I_R – 10 to 100 A

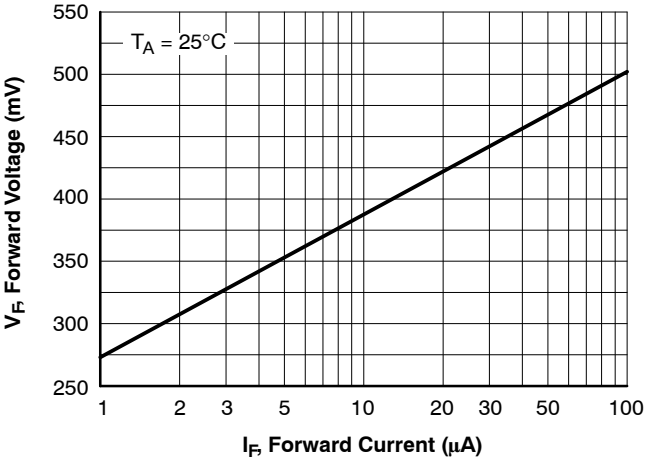


Figure 3. Forward Voltage vs. Forward Current V_F – 1 to 100 μA

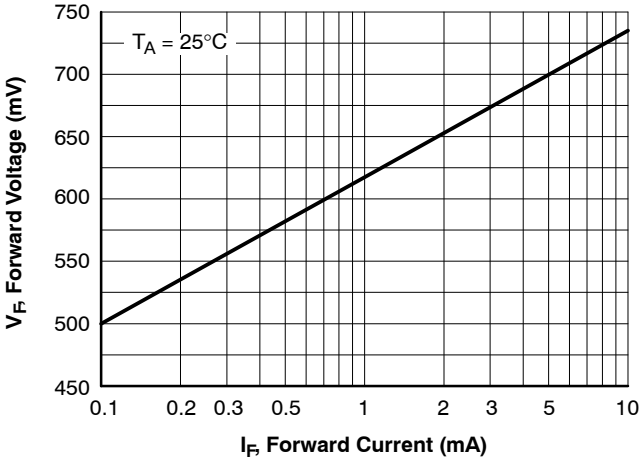


Figure 4. Forward Voltage vs. Forward Current V_F – 0.1 to 10 mA

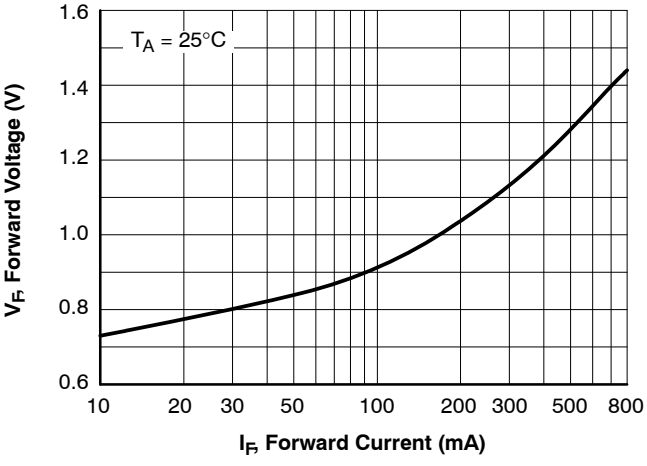


Figure 5. Forward Voltage vs. Forward Current V_F – 10 to 800 mA

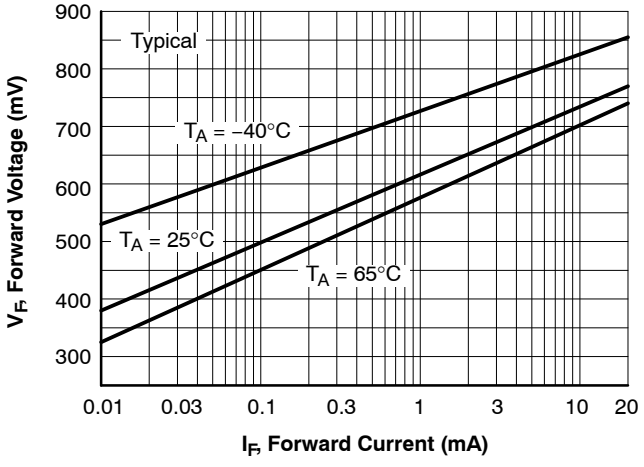


Figure 6. Forward Voltage vs. Ambient Temperature V_F – 0.01 to 20 mA (–40 to +65°C)

TYPICAL PERFORMANCE CHARACTERISTICS (Continued)

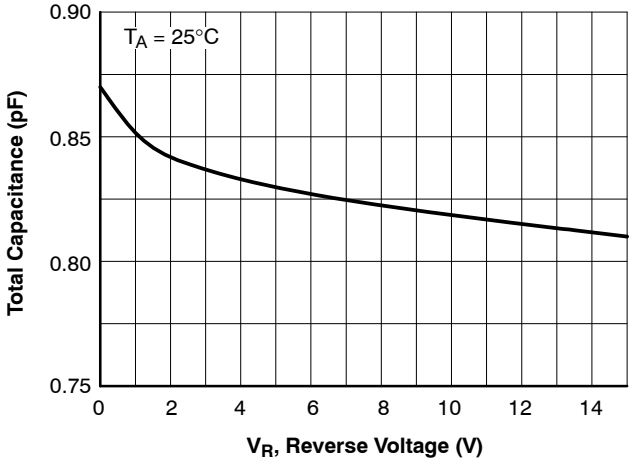


Figure 7. Total Capacitance

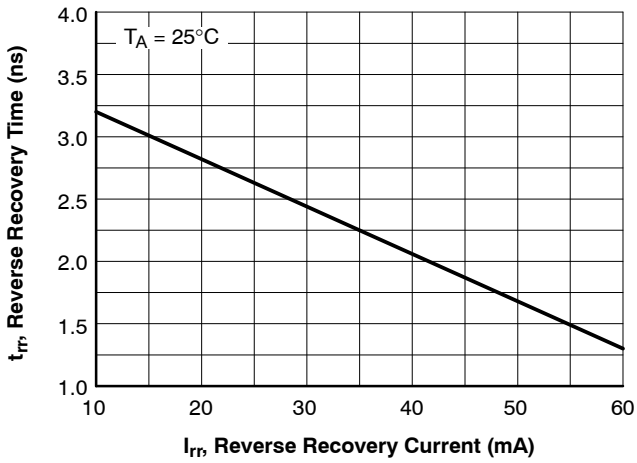


Figure 8. Reverse Recovery Time vs. Reverse Recovery Current

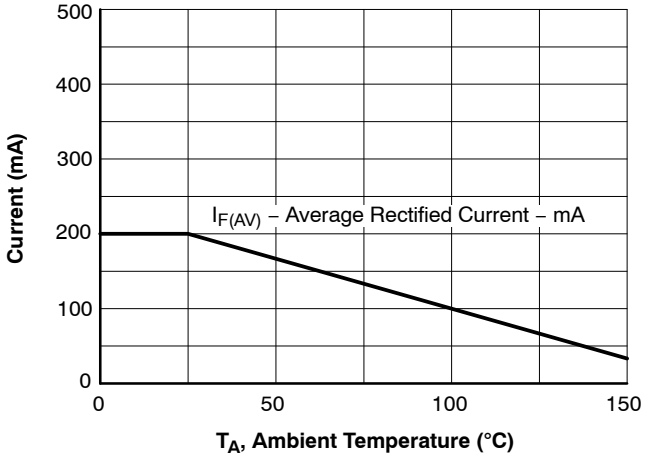


Figure 9. Average Rectified Current ($I_{F(AV)}$) vs. Ambient Temperature (T_A)

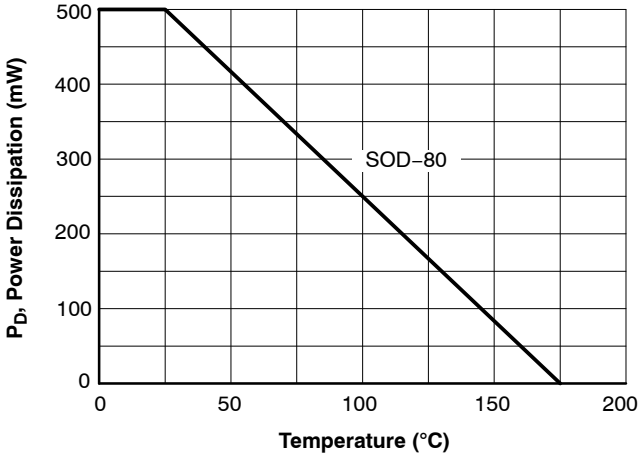
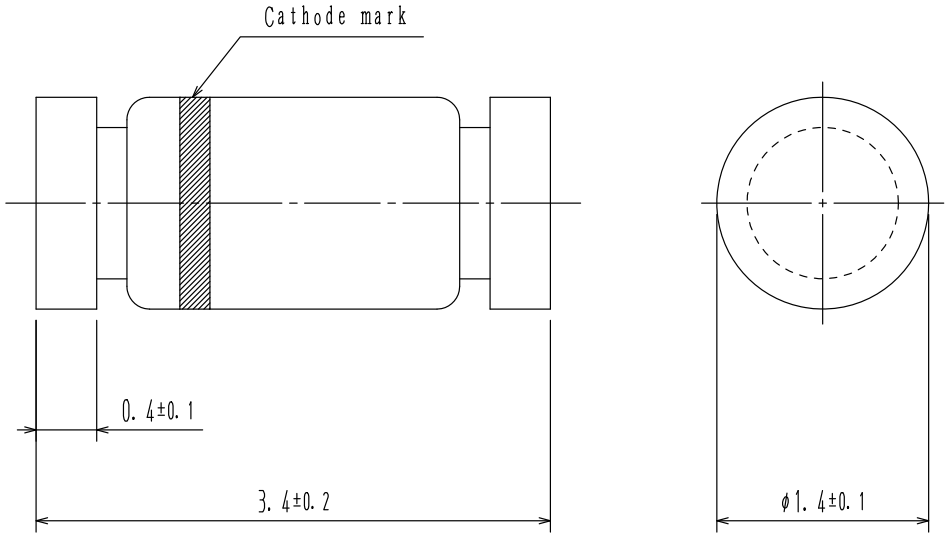


Figure 10. Power Derating Curve

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

MiniMELF / SOD−80
CASE 100AD
ISSUE O

DATE 30 APR 2012



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

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