

Unmounted Single-Color LED, 1050 nm

LED1050L2



Description

The LED1050L2 emits light with a spectral output centered at 1050 nm. This LED is encased in a TO-46 package with an aspherical glass lens.

Specifications

Specification	Value
Color	IR
Nominal Wavelength	1050 nm
LED Type	TO-46 with Aspherical Glass Lens
Maximum Current ^a	100 mA
Test Current ^a	50 mA
Pulsed Current ^{a,b}	1000 mA
Reverse Voltage ^a	5 V
Full Viewing Angle ^{a,c}	18°
Typical Bandwidth (FWHM) ^{a,c}	42 nm
Operating Temperature (Non-Condensing)	-40 to 100 °C
Storage Temperature	-40 to 100 °C
Emitter Size	300 µm x 300 µm

	Symbol	Min	Typical	Max
Peak Wavelength ^{a,c}	λ_p	1000 nm	1050 nm	1100 nm
LED Power Output ^{a,c}	P_{out}	-	8 mW	-
LED Power Output (Pulsed) ^{a,b,d}	P_{out}	-	74 mW	-
Forward Voltage ^{a,c}	V_F	-	1.2 V	1.4 V
Rise Time ^{a,c}	t_r	-	15 ns	-
Fall Time ^{a,c}	t_f	-	15 ns	-

a. Measured at 25 °C

b. Pulsed Current Condition: Duty Cycle = 1 % and Pulse Width = 10 µs

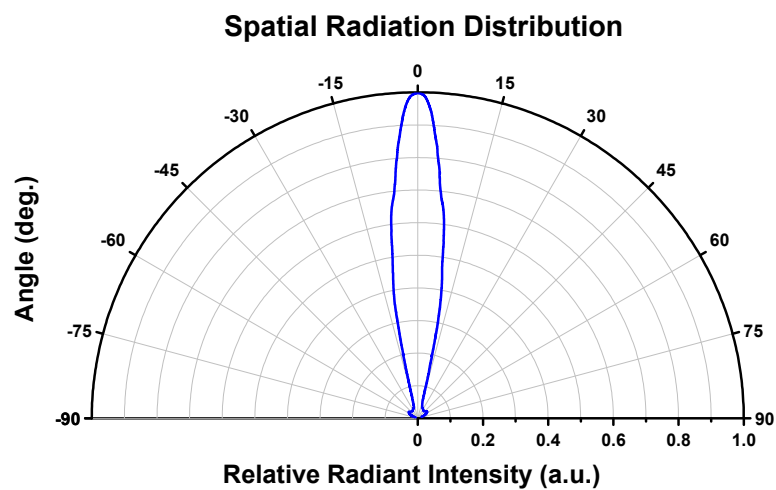
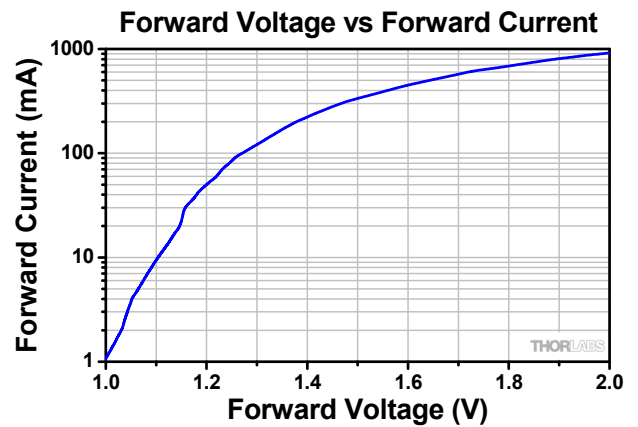
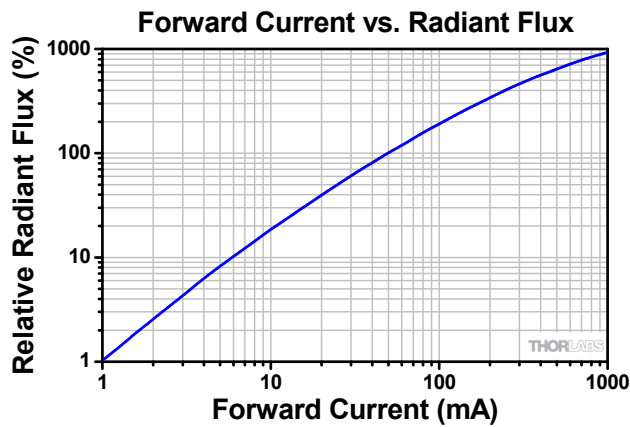
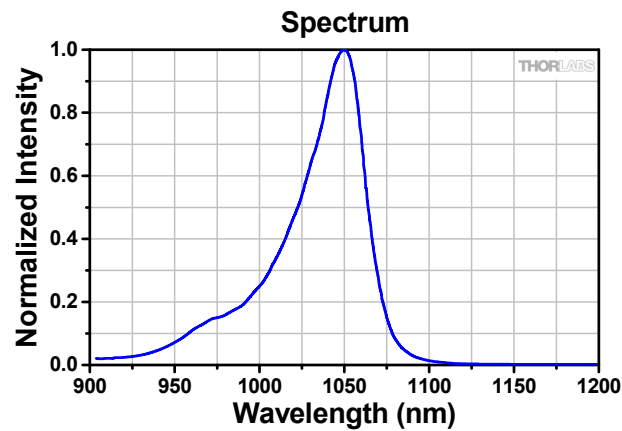
c. When Driven with the Test Current

d. When Driven with the Pulsed Current

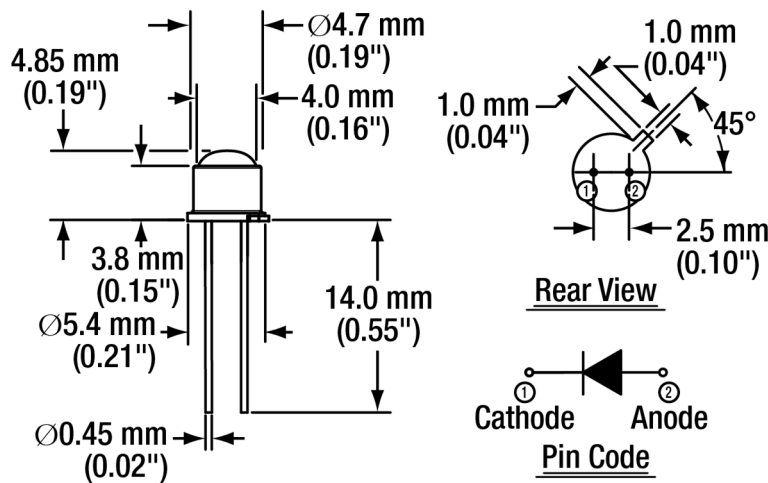
Soldering Specifications

Soldering Temperature	T_{SOL}	250 °C (within 5 sec)
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Performance Plots



Drawings



Precautions and Warranty Information

These products are ESD (electro static discharge) sensitive and as a result warranty is only valid for one year for unopened products in accordance with and subject to the terms and conditions set forth in Thorlabs' General Terms and Conditions of Sale which can be found at https://www.thorlabs.com/Images/PDF/LG-PO-001_Thorlabs_terms_and_agreements.pdf. Warranty is void after product packaging is opened. In order to ensure the proper functioning of an LED care must be given to maintain the highest standards of compliance to the maximum electrical specifications when handling such devices. The LEDs are particularly sensitive to any voltage that exceeds the absolute maximum ratings of the product. Any applied voltage in excess of the maximum specification will cause damage and possible complete failure to the product. The user must use handling procedures that prevent any electro static discharges or other voltage surges when handling or using these devices.

Do not look directly at the front of the LED or at the LED's lens when LED is operational. Safety of the assembled end product is the sole responsibility of the assembler of the system. Keep out of reach of children.

Thorlabs, Inc. Life Support and Military Use Application Policy is stated below:

THORLABS' PRODUCTS ARE NOT AUTHORIZED FOR USE AS CRITICAL COMPONENTS IN LIFE SUPPORT DEVICES OR SYSTEMS OR IN ANY MILITARY APPLICATION WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE PRESIDENT OF THORLABS, INC. As used herein:

1. Life support devices or systems are devices or systems which, (a) are intended for surgical implant into the body, or (b) support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in a significant injury to the user.
2. A critical component is any component in a life support device or system whose failure to perform can be reasonably expected to cause the failure of the life support device or system or to affect its safety or effectiveness.
3. The Thorlabs products described in this document are not intended nor warranted for usage in Military Applications.

