

Unmounted Single-Color LED, 2800 nm



Description

The LED2800W emits light with a spectral output centered around 2800 nm. This LED is encased in a TO-18 package with a glass cover.

Specifications

Specification	Value		
Color	MIR		
Nominal Wavelength	2800 nm		
LED Type	TO-18 with Round Glass Cover		
Maximum Current (qCW Mode) a, b, c	200 mA		
Maximum Current (Pulsed Mode) a, d	1000 mA		
Test Forward Current	150 mA		
Full Viewing Angle ^a	30°		
Operating Temperature (Non-Condensing)	0 to 50 °C		
Storage Temperature	0 to 50 °C		
Typical Lifetime ^{a, b}	>80 000 h		

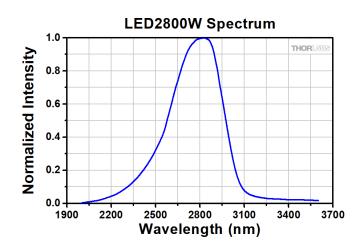
	Symbol	Min	Typical	Max
Peak Wavelength ^{a, b, e}	λ_{p}	2830 nm	-	2900 nm
Average Optical Power (qCW Mode)a, b, f	P _{out}	100 μW	300 μW	-
Peak Optical Power (Pulsed Mode)a, d, g	P _{out}	700 μW	2000 μW	-
Forward Voltage ^{a, b, f}	V_{F}	0.2 V	-	1 V
Bandwidth (FHWM) ^{a, b, e}		300 nm		500 nm

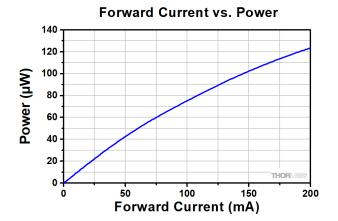
- a. Measured at 25°C
- b. Repetition Rate: 0.5 kHz, Pulse Duration: 1 ms, and Duty Cycle: 50%
- c. For Long-Time Operation
- d. Repetition Rate: 0.5 kHz, Pulse Duration: 20 $\mu s,$ and Duty Cycle: 1%
- e. Measured at Test Current
- f. Measured at 200 mA
- g. Measured at 1 A

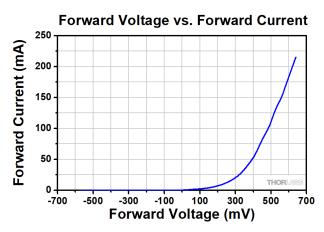
Soldering Specifications					
Soldering Temperature	T _{SOL}	180 °C (Within 3 Sec), 3 mm From Case			



Performance Plots

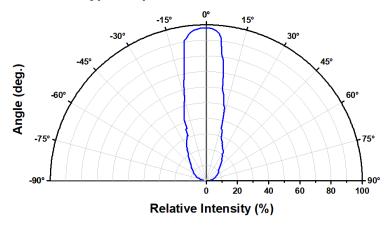






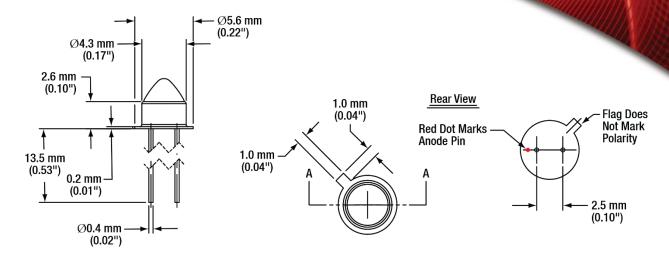
The data in the graphs above are measured at quasi-continuous wave (qCW) mode, with a repetition rate of 0.5 kHz. The pulse duration is 1 ms, and the duty cycle is 50%.

Typical Spatial Radiation Distribution





Drawings



Precautions and Warranty Information

These products are ESD (electrostatic discharge) sensitive. As a result, the one-year warranty is void when the package seal is broken. 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. All statements regarding safety of operation and technical data only apply when the unit is operated correctly according to its specifications. The safety of any system incorporating the equipment is the responsibility of the assembler of the system. It is the full responsibility of the user to ensure safety. The device must not be operated in explosion-endangered environments! 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.



