

Blue LED, 450 nm, SMD Package

LEDS450



Description

The LEDS450 is GaN-based, Surface-Mounted-Device (SMD) Blue LED with a peak wavelength of 450 nm. The LEDs are packaged into a strip containing 20 individual LED devices. High-volume orders are possible; please contact techsupport@thorlabs.com with inquiries.

Specifications

Absolute Max Ratings	
Specification	Max
Reverse Voltage	5 V
DC Forward Current	180 mA
Operating Mount Temperature	-30 to 80 °C
Storage Temperature	-30 to 85 °C



Specifications ^a			
	Min	Typical	Max
Peak Wavelength	445 nm	450 nm	455 nm
Operating Current (Continuous)	-	150 mA	-
Forward Voltage at 150 mA	6.0	6.3 V	6.6 V
Optical Output Power at 150 mA	-	250 mW	-
Viewing Half Angle	-	46°	-
Bandwidth (FWHM)	-	13 nm	-
Lifetime ^b	25000 hrs	-	-

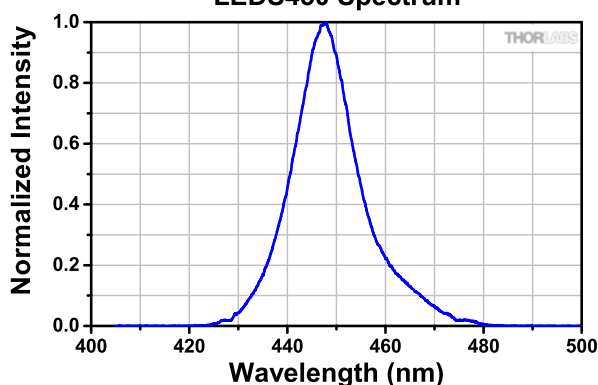
a. All values are specified for a mount temperature of 25 °C.

b. Lifetime is defined as the time required for the LED light output to drop by 50% when driven at 150 mA.

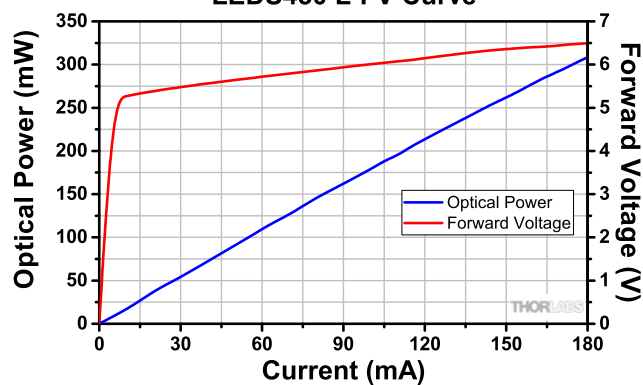
Soldering Specifications	
	Conditions
Dip Soldering	Pre-Heat Backside of PCB at 90 °C Maximum for 60 Seconds or Less; Solder Bath at 250 °C Maximum for 5 Seconds or Less
Hand Soldering	Soldering Iron Tip at 250 °C Maximum for 3 Seconds or Less

Typical Performance Plots

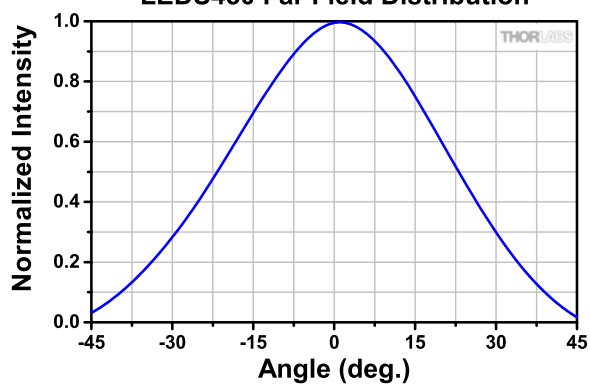
LEDS450 Spectrum



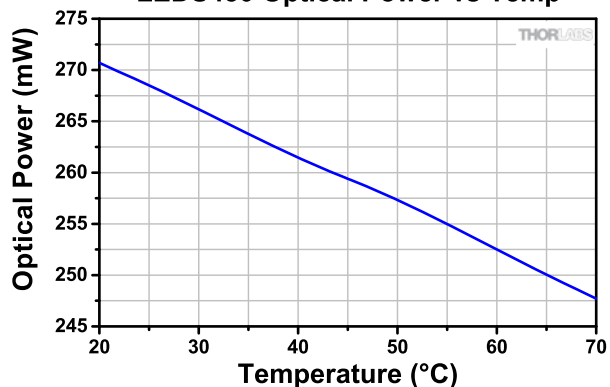
LEDS450 L-I-V Curve



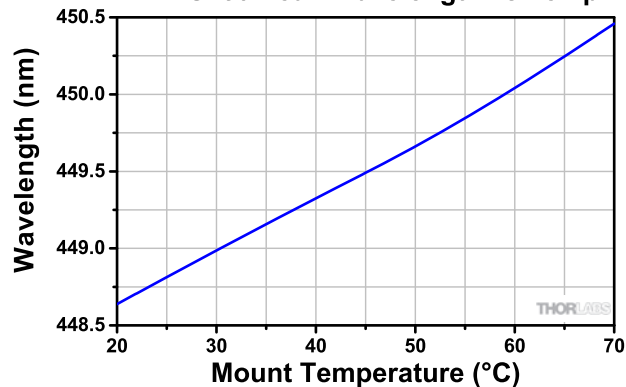
LEDS450 Far Field Distribution



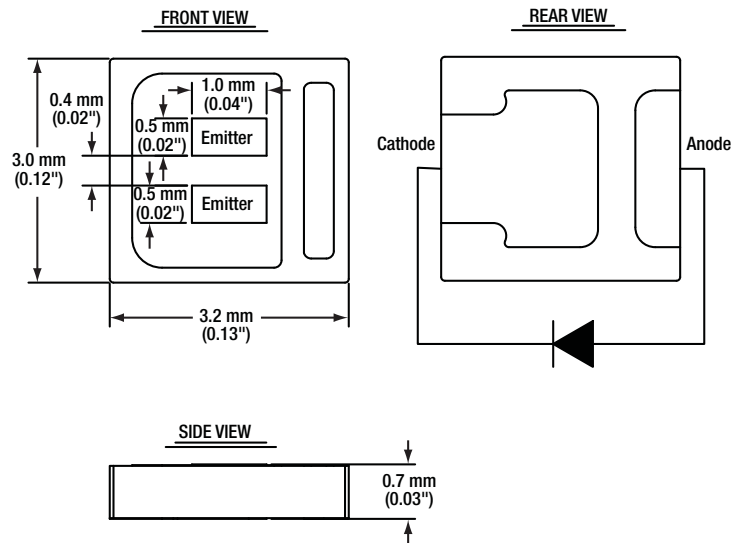
LEDS450 Optical Power vs Temp



LEDS450 Peak Wavelength vs Temp



Drawing



Precautions and Warranty Information

These products are ESD (electro static discharge) sensitive and as a result are not covered under warranty. In order to ensure the proper function of an LED, care must be taken to maintain the highest standards of compliance to the maximum electrical specifications during handling.

These 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 electrostatic discharges or other voltage surges when handling or using these devices.

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- 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.*