



## Description

LED590L is an AlGaInP LED mounted on a hermetically sealed TO-18 package with a spherical glass lens. It is designed for a relatively narrow viewing angle.

## Specifications

Absolute Max Ratings	
Specification	Max
Reverse Voltage	5 V
DC Forward Current	30 mA
Pulsed Forward Current <sup>a</sup>	100 mA
Operating Case Temperature	-30 to 85 °C
Storage Temperature	-30 to 100 °C

Specifications <sup>b</sup>			
	Min	Typical	Max
Operating Current (Continuous)	-	20 mA	30 mA
Forward Voltage at 50 mA	-	2.1 V	2.4 V
Optical Output Power at 50 mA	-	2 mW	-
Viewing Half Angle	-	20°	-
Peak Wavelength	580 nm	590 nm	600 nm
Bandwidth (FWHM)	-	15 nm	-

a. Pulsed forward current condition: Duty cycle = 1% and pulse width = 10  $\mu$ s.

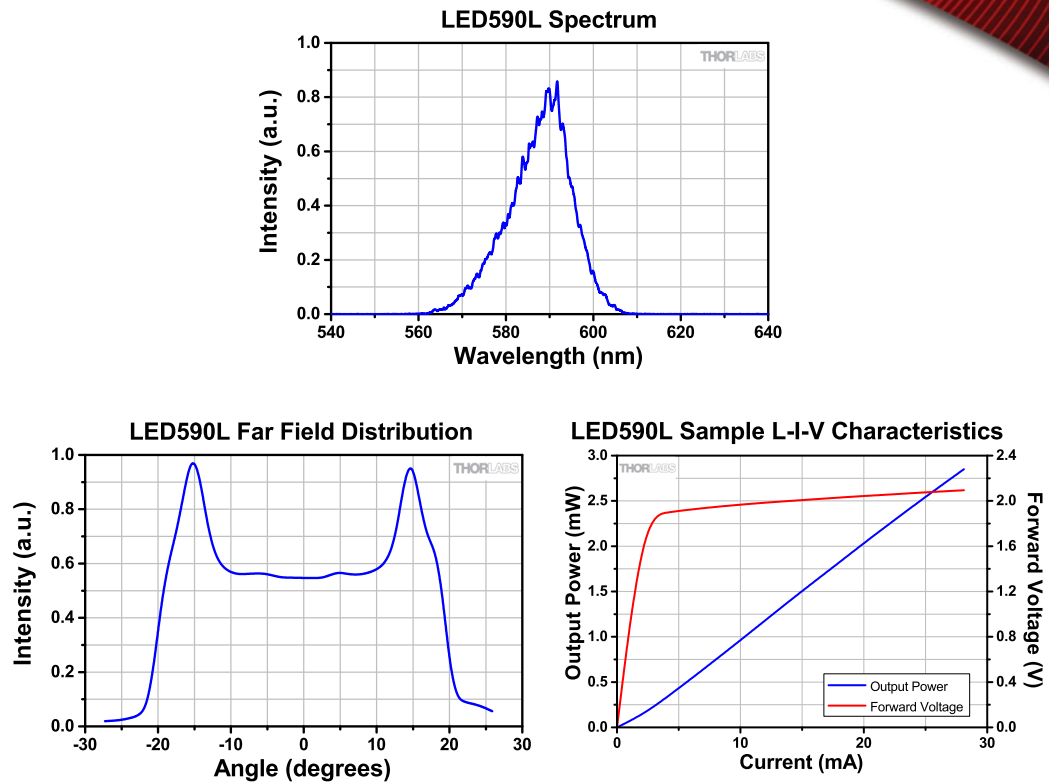
b. Unless otherwise specified, all specifications are for operation at 25 °C.

Soldering Specifications	
	Conditions
Dip Soldering	Pre-heat backside of PCB at 90 °C maximum for 60 seconds or less; Solder bath at 260 °C maximum for 5 seconds or less
Hand Soldering	Soldering iron tip at 260 °C maximum for 3 seconds or less

Cleaning Solvents						
Solvent	Ethyl Alcohol	Isopropyl Alcohol	Propanol	Acetone	Trichloroethylene	MKS
Approved	Yes	Yes	Yes	Yes	No	No

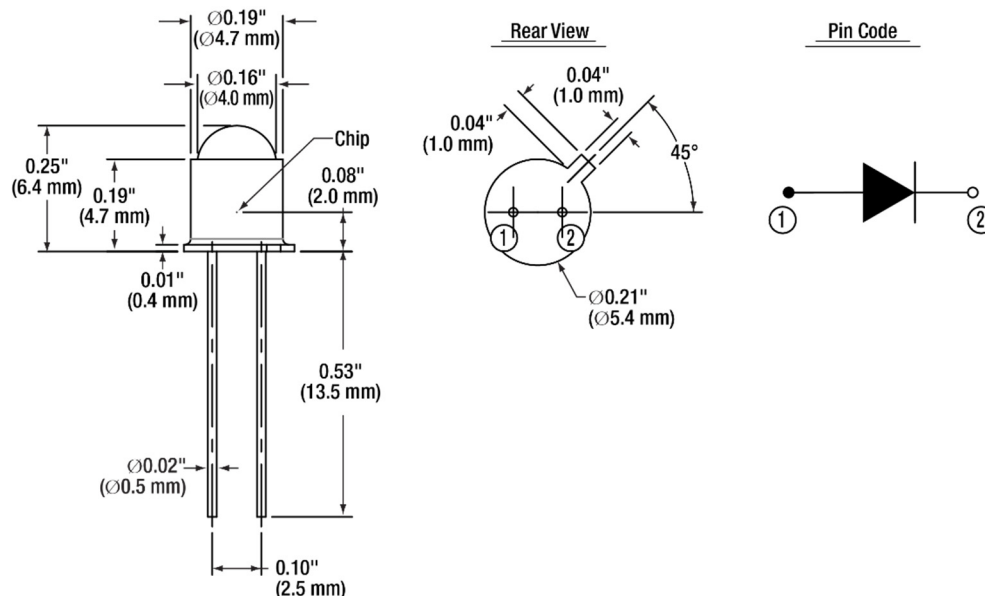


## Typical Performance Plots



These measurements were taken at a case temperature of 25 °C. The output spectrum and radiation distribution were measured with an operating current of 20 mA.

## Drawing



## ***Precautions and Warranty Information***

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These products are ESD (electro static discharge) sensitive and as a result are not covered under warranty. 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.

During operation, the LED emits high intensity ultraviolet (UV) light, which is harmful to skin and eyes. UV light is hazardous to skin and may cause cancer. Avoid exposure to UV light when LED is operational. Precautions must be taken to avoid looking directly at the UV light without the use of UV light protective glasses. Do not look directly at the front of the LED or at the LED's lens when LED is operational.

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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.*