Ultra Bright Red, Green, and Blue LED

LEDRGBE

Description

The LEDRGBE emits light with spectral outputs centered at 620, 515, and 480 nm. This LED is composed of heterostructures (HS) grown on an InGaN substrate. The diode is encapsulated in a round clear epoxy casing with a 5 mm diameter.

Specifications

Absolute Max Ratings	
Specification	**Max[a]**
Power Dissipation (R/G/B)	40/64/64 mW
Forward Voltage at 20 mA (R/G/B)	2.4/3.6/3.6 V
Reverse Voltage	5.0 V
DC Forward Current	50 mA
Reverse Current V_r = -5 V	5 µA
Operating Temperature	-20 to 80 °C
Storage Temperature Range	-30 to 85 °C

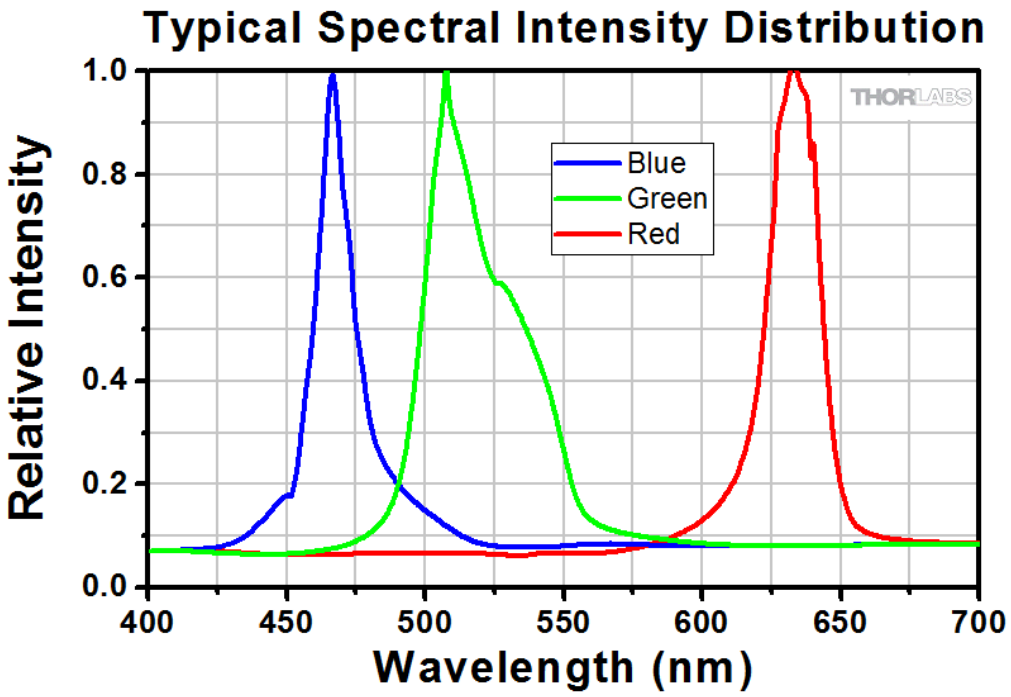
a. All maximum measurements specified are at 25 °C.

Specifications	
	Typical
Forward Voltage at 20 mA (R/G/B)	2.0/3.2/3.2 V
Center Wavelength (R/G/B)	627.5/525/467.5 nm (±8/±10/±8 nm)
FWHM (R/G/B)	20/36/15 nm
Half Viewing Angle	25°
Total Optical Power (R/G/B)	5.8/3.1/6.2 mW

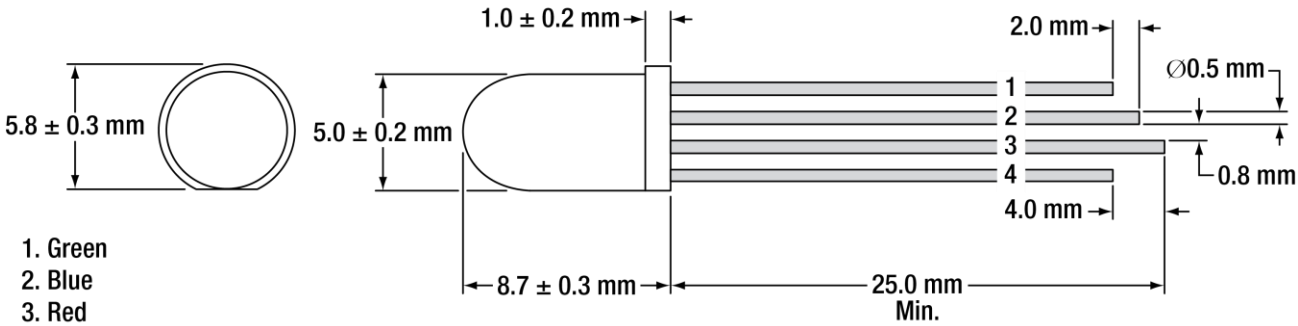
Soldering Specifications	
	Conditions
Manual Soldering	295 °C ± 5 °C , for less than 3 seconds
Hand Soldering	260 °C ± 5 °C, for less than 5 seconds
Reflow Soldering	**Preheating:** 70 °C to 80 °C , for 30 seconds **Soldering:** 245 °C ± 5 °C , for less than 5 seconds

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

Typical Performance Plots



Drawing



1. Green
2. Blue
3. Red
4. Common Anode
   (Aligns to Flat on LED Housing)

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 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.