LED with Window, 310 nm

LED310W

Description

The LED310W emits light with a spectral output centered at 310 nm. This LED is encased in a TO-39 package with a UV glass window.

Specifications

Specification	Value
Color	Deep UV
Nominal Wavelength	310 nm
LED Type	TO-39 Flat Window
Maximum Forward Current[a]	40 mA
Test Forward Current	20 mA
Viewing Full Angle	114°
Typical Bandwidth (FWHM)	15 nm
Operating Temperature (Non-Condensing)	-30 to 80 °C
Storage Temperature	-40 to 100 °C
Typical Lifetime	>5000 h

a. Measured at 25°C

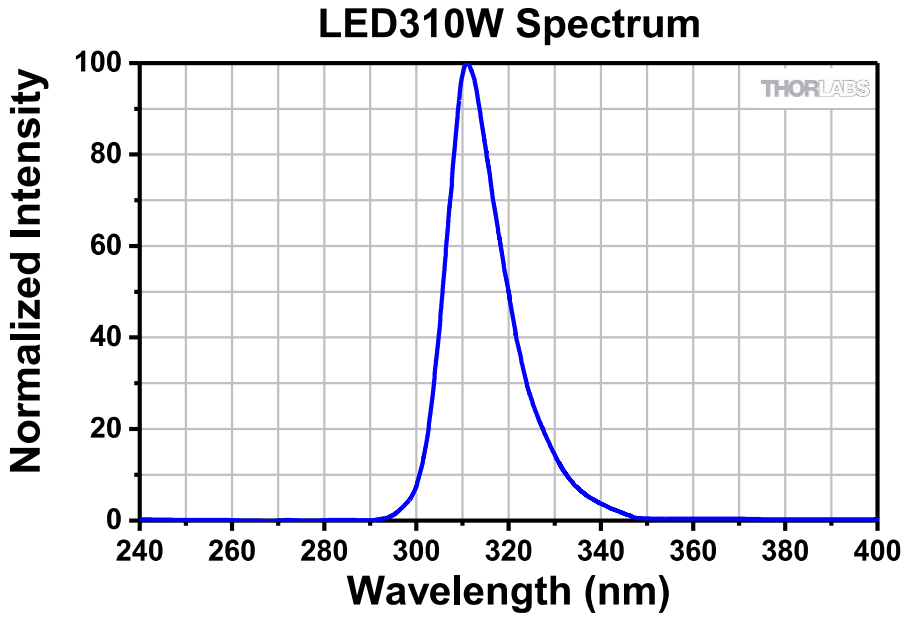
LED310W				
	Symbol	**Min**	**Typical**	**Max**
Peak Wavelength[a]	λ_p	305 nm	310 nm	315 nm
LED Power Output[b]	P_{out}	-	1.5 mW	-
Forward Voltage	V_F	-	5.0 V	-

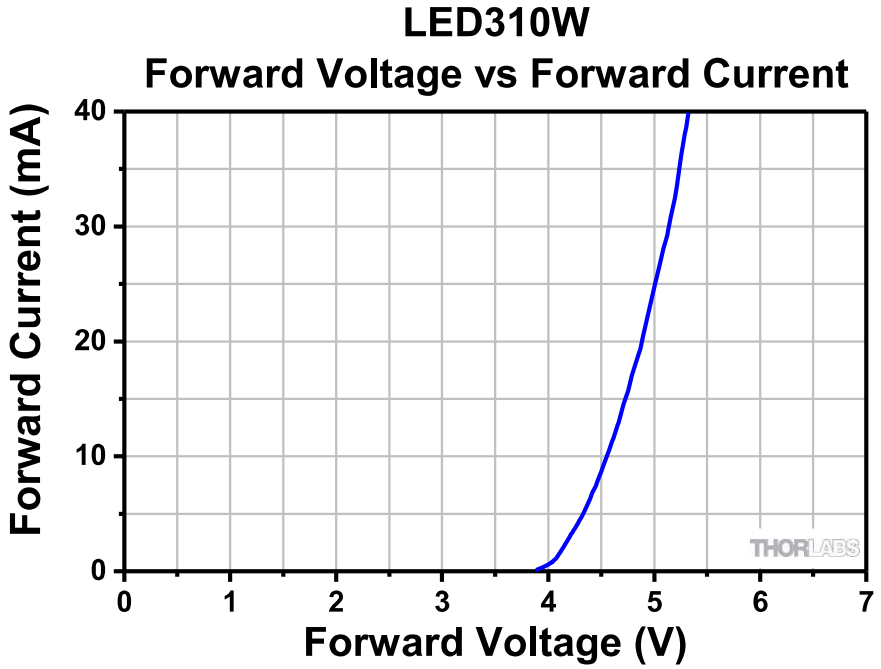
a. Peak wavelength measurement tolerance is ±3 nm.
b. When Driven with the 20 mA Test Forward Current

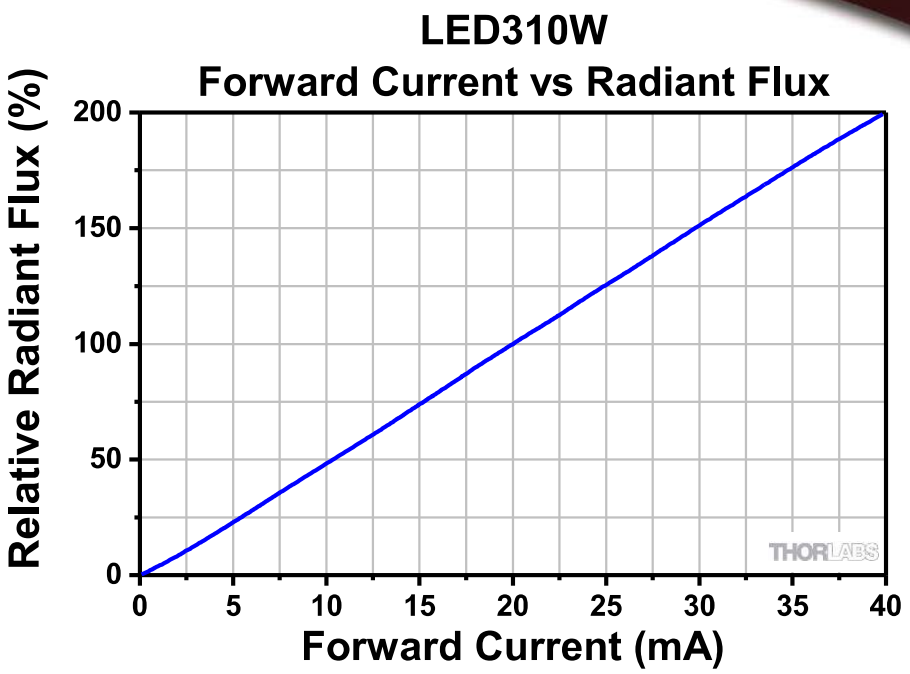
Soldering Specifications		
	Symbol	**Value**
Manual Soldering Temperature	T_{SOL}	350 °C (within 3 sec)
Flow Soldering Temperature	T_{SOL}	250 °C (within 5 sec)

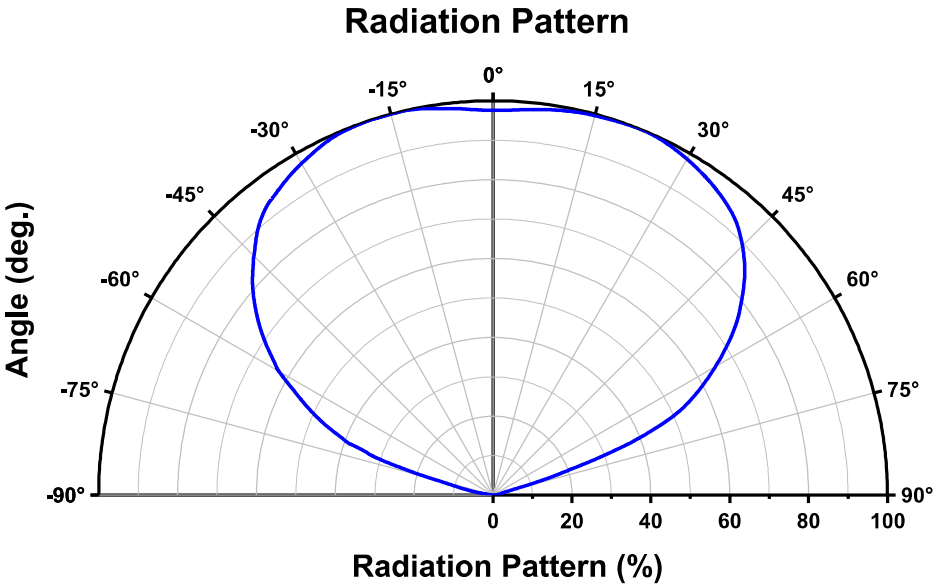
Performance Plots

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

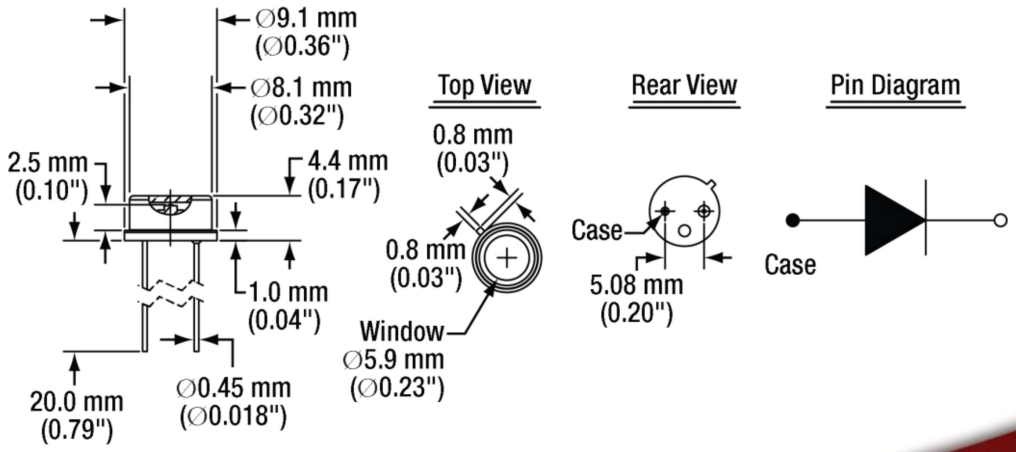





LED310W
Forward Current vs Radiant Flux
Relative Radiant Flux (%)
200
150
100
50
0
0
5
10
15
20
25
30
35
40
Forward Current (mA)
THORLABS


Radiation Pattern
0°
-15°
15°
-30°
30°
-45°
45°
-60°
60°
-75°
75°
-90°
90°
Angle (deg.)
0
20
40
60
80
100
Radiation Pattern (%)

Drawings


Ø9.1 mm
(Ø0.36")
Ø8.1 mm
(Ø0.32")
2.5 mm
(0.10")
4.4 mm
(0.17")
1.0 mm
(0.04")
20.0 mm
(0.79")
Ø0.45 mm
(Ø0.018")
Top View
0.8 mm
(0.03")
0.8 mm
(0.03")
Window
Ø5.9 mm
(Ø0.23")
Rear View
Case
5.08 mm
(0.20")
Pin Diagram
Case

Precautions and Warranty Information

These products are ESD (electrostatic 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. Safety of the assembled end product is the sole responsibility of the assembler of the system. Keep out of reach of children.

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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.