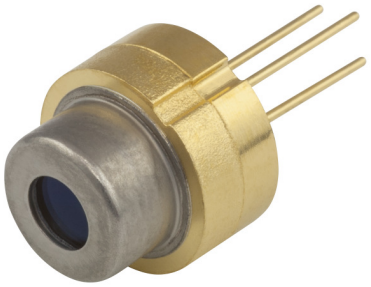
830 nm Broad Area Laser Diode-2W



LD830-ME2W

Description

The LD830-ME2W 830 nm Broad Area (multi-lateral mode) Laser Diode is based on quantum well epitaxial layer growth and a highly reliable waveguide structure. This diode, which has a 100 µm x 1 µm emitter, features high optical output power and slope efficiency and is packaged in a Ø9 mm TO-can with an E pin code. The LD830-ME2W is a compact light source suited to many applications such as printing, materials processing, and IR illumination. This diode can be custom ordered with a larger, 200 um x 1 um emitter chip, that allows for output powers greater than 3 W.

Specifications

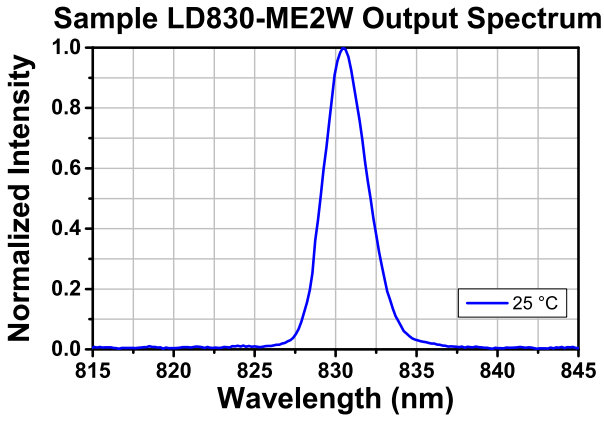
Absolute Maximum Ratings*	
Specification	**Maximum**
LD Forward Current	3 A
LD Reverse Voltage	2 V
Optical Power	2.5 W
Operating Case Temperature	-20 to +50 °C
Storage Temperature	-20 to +80 °C

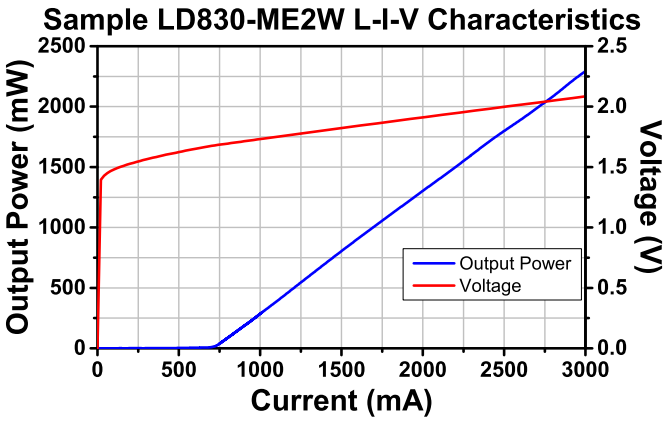
*Absolute Maximum Rating specifications should never be exceeded.
Operating at or beyond these conditions can permanently damage the laser.

LD830-ME2W Specifications				
	Symbol	**Min**	**Typical**	**Max**
Center Wavelength	λ_o	820 nm	830 nm	840 nm
Spectral Bandwidth (RMS)	$\Delta\lambda$	-	3 nm	10 nm
Output Power	P_{op}	2 W	-	-
Threshold Current	I_{TH}	-	0.8 A	1 A
Operating Current CW @ P_{op}	I_{op}	-	-	3 A
Operating Voltage @ P_{op}	V_{op}	-	2.0 V	2.5 V
Slope Efficiency	η	-	1 W/A	-
Beam Divergence (FWHM) Parallel @ P_{op}	$\theta_{//}$	-	8°	15°
Beam Divergence (FWHM) Perpendicular @ P_{op}	$\theta_{\perp}$	-	21°	30°
Emitter Dimensions	W x H	-	100 µm x 1 µm	-

T_{CASE} = 25°C

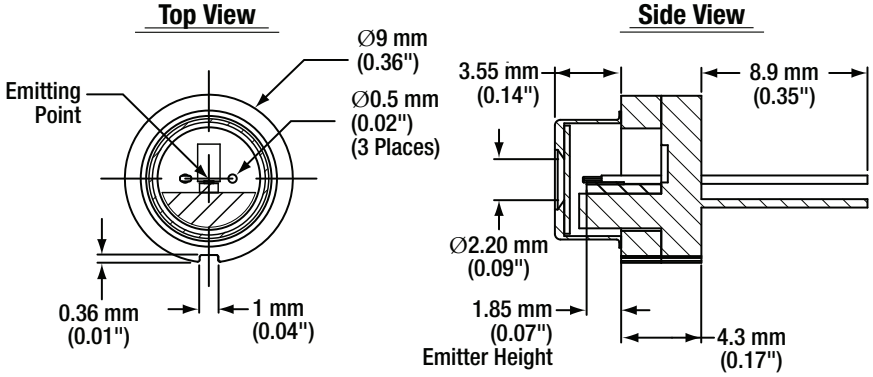
Performance Plots





The data presented here is for one particular laser diode. Slight variations in performance data will occur from device to device. The sample spectrum of the LD830-ME2W laser diode was taken at 25 °C. The measurements were taken using a Thorlabs CCS175 Spectrometer. The L-I-V Characteristics data was taken at 25 °C.

Drawings



Pin	Description
1	-
2	Case
3	Laser Cathode