830 nm Fabry-Perot Laser Diode, 650 mW

LD830-SE650

Description

The LD830-SE650 830nm Fabry-Perot, Single Spatial Mode, Laser Diode is based on quantum well epitaxial layer growth and a highly reliable ridge waveguide structure. This diode features high optical output power and slope efficiency. The LD830-SE650 (Ø9 mm), a TO-can package discrete laser diode, is a compact light source suited to many applications. TO-can packaged lasers are fully compatible with Thorlabs' entire line of Laser Diode and TEC Controllers as well as our Thorlabs' Laser Diode Mounts and Collimation Solutions.

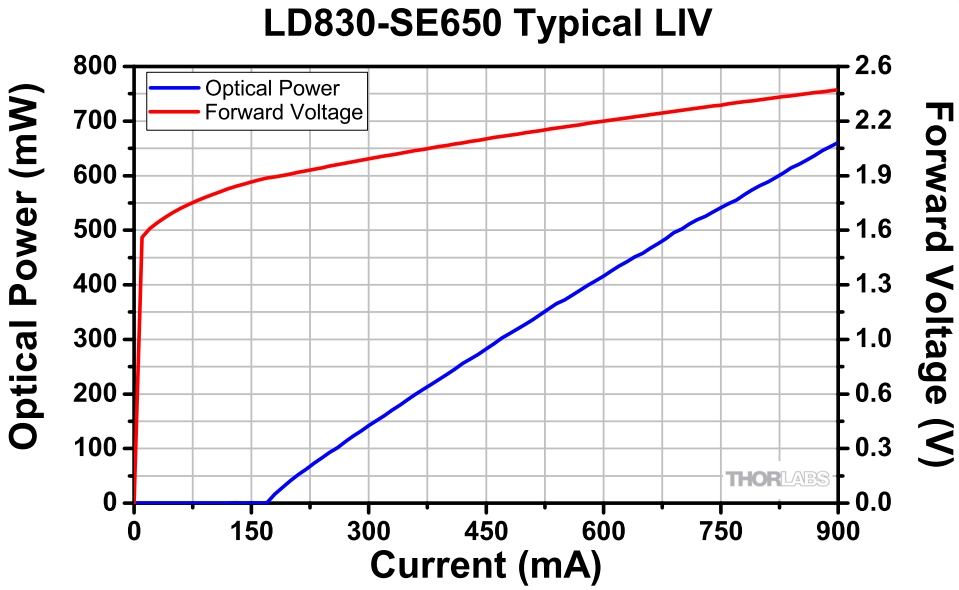
Specifications

LD830-SE650	
LD Reverse Voltage (Max)	2 V
Absolute Max Current	1050 mA
Absolute Max Power	660 mW
Operating Temperature	-20 to 50 °C
Storage Temperature	-20 to 80 °C
Pin Code	E

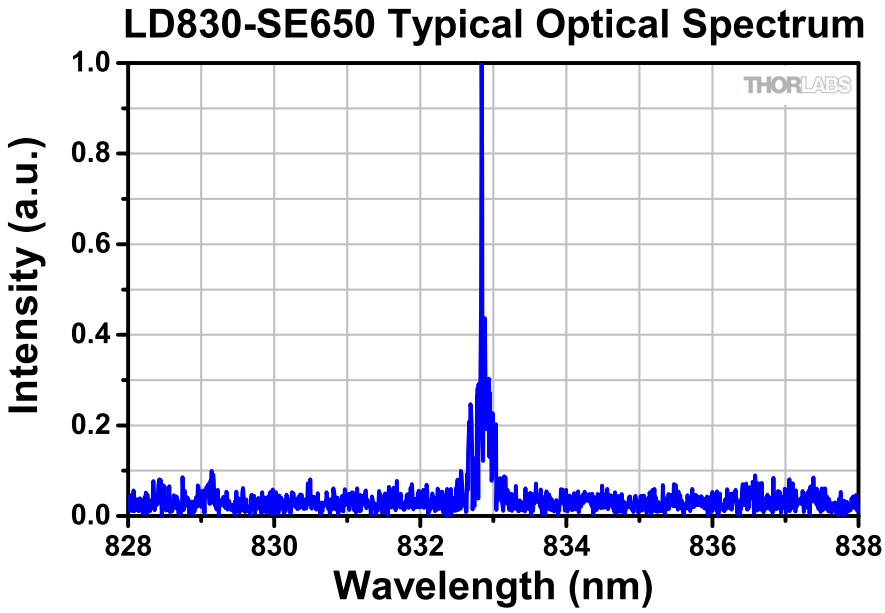
T_{CHIP} = 25 °C

LD830-SE650				
	Symbol	**Min**	**Typical**	**Max**
Center Wavelength	λ	820 nm	830 nm	840 nm
Spectral Bandwidth	Δλ	-	0.5 nm	-
Output Power CW @ I_{CW}	P_{CW}	600 mW	650 mW	660 mW
Operating Current CW	I_{CW}	-	900 mA	1050 mA
Threshold Current	I_{TH}	-	200 mA	300 mA
Forward Voltage	V_F	-	2.3 V	2.8 V
Slope Efficiency	ΔP/ΔI	-	0.9 W/A	-
Transverse Beam Divergence Angle (FWHM)	Θ_T	-	13°	16°
Lateral Beam Divergence Angle (FWHM)	Θ_L	-	7°	10°

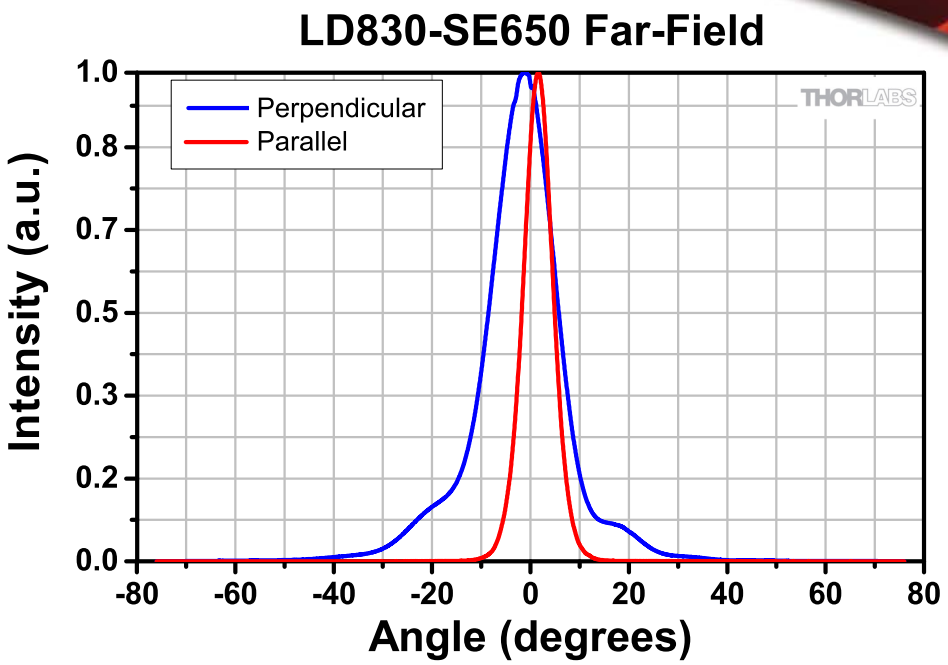
Typical Performance Plots



The output power and forward voltage as functions of diode drive current are shown above for a typical LD830-SE650, with the temperatures of the chip and case stabilized at 25 °C. These data will be taken for each LD830-SE650 and included on the item-specific data sheet delivered with the diode.



This high-resolution optical spectrum is typical of the LD830-SE650 driven with a current of 885.4 mA and temperature stabilized at 25 °C. This measurement was made using Thorlabs' OSA201 optical spectrum analyzer, which has a resolution of 7.5 pm over this wavelength range.



Perpendicular and parallel far-field beam divergences typical for LD830-SE650 diodes are shown above. These data were taken for a drive current of 800 mA and while the diode was temperature stabilized at 25 °C.

Drawing