450 nm Multimode Laser Diode, 1600 mW

L450P1600MM

Description

This 450 nm, 1600 mW laser diode has a multi-transverse-mode output with low etendue. This source is suited to many applications, including phosphor pumping for broadband source generation, high-intensity RGB illumination, fluorescence and spectroscopic measurements, and microscopy. It is packaged in a ∅5.6 mm TO can with a G pin configuration. The laser diode package contains a Zener diode to reduce the likelihood of damage to the laser diode from small levels of ESD and reverse potential on the laser diode. It is recommended to have the base of the TO package in good thermal contact with a low thermal resistance heat sink.

Specifications

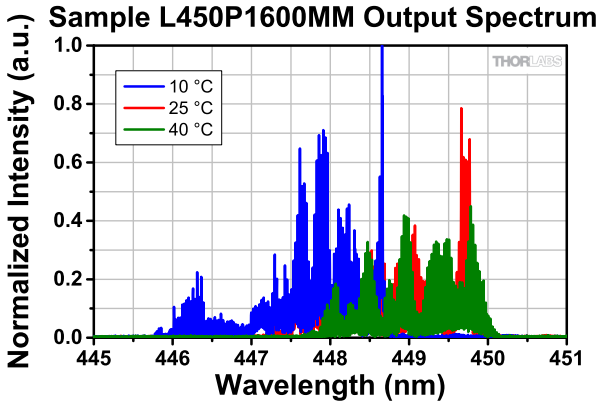
Absolute Maximum Ratings*	
Specification	**Maximum**
Optical Output Power	1800 mW
Forward Operating Current	1500 mA
Reverse Current	20 mA
Operating Case Temperature	-20 to +85 °C
Storage Temperature	-40 to +85 °C
Soldering Temperature, <10 seconds	260 °C
Junction Temperature	150 °C

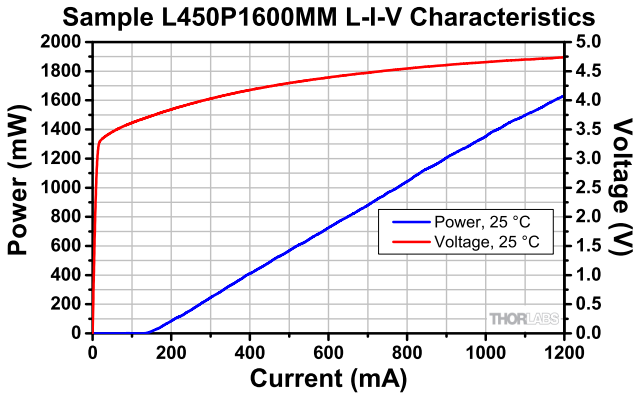
*Absolute Maximum Rating specifications should never be exceeded. Operating at or beyond these conditions can permanently damage the laser.

L450P1600MM Specifications					
		Symbol	**Min**	**Typical**	**Max**
Center Wavelength @ P_{op}		λ_o	440 nm	450 nm	460 nm
Optical Output Power (CW)		P_{op}	-	1600 mW	-
Threshold Current		I_{TH}	-	200 mA	300 mA
Operating Current @ P_{op}		I_{op}	-	1200 mA	1500 mA
Operating Voltage @ P_{op}		V_{op}	-	4.8 V	6.0 V
Beam Divergence (FWHM)	**Parallel @ P_{op}**	$\theta_{//}$	-	7°	-
	Perpendicular @ P_{op}	$\theta_{\perp}$	19°	23°	27°
Thermal Resistance (Junction to Case)		R_{th}	-	15 K/W	-

T_{CASE} = 25 °C

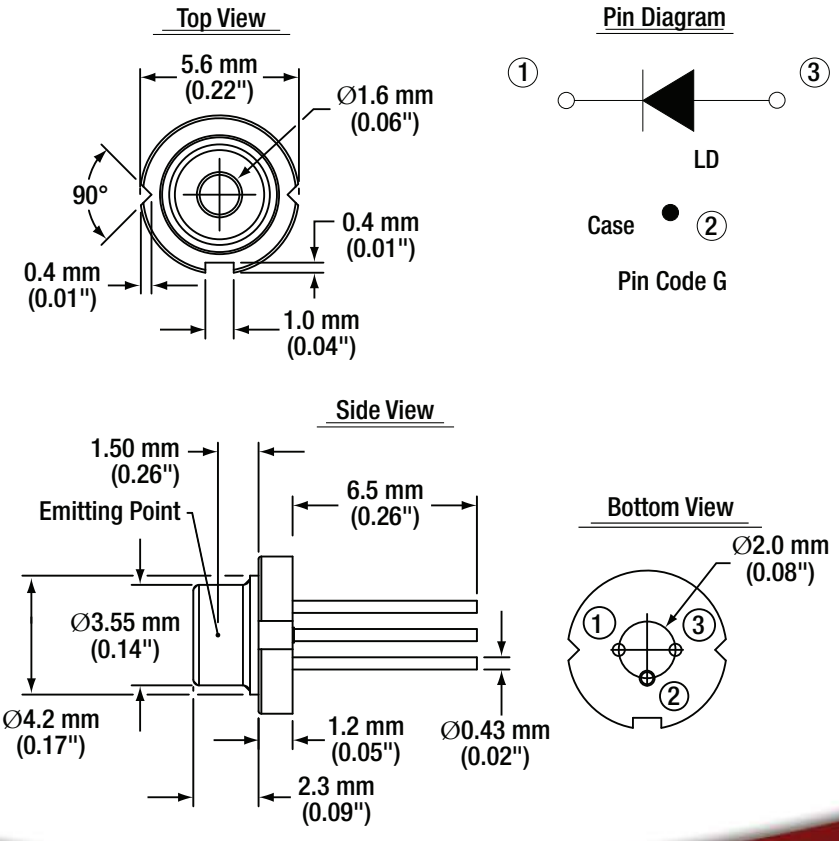
Performance Plots





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 L450P1600MM laser diode was measured at 10 °C, 25 °C, and 40 °C using a Thorlabs OSA201 Spectrum Analyzer with resolution of 7.5 GHz. The L-I-V characteristics data was taken at 25 °C. Please visit our website for raw spectral data and L-I-V characteristics.

Drawings



Pin	Description
1	Cathode
2	Case
3	Anode