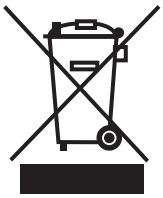
405 nm Laser Diode, 1000 mW

L405G1

Description

This 405 nm, 1000 mW laser diode has a multi-transverse-mode output. 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 Ø9.0 mm TO can with a G pin configuration. This laser is compatible with our line of laser diode and TEC controllers as well as our selection of laser diode mounts and collimation solutions. It is recommended to have the base of the TO package in good thermal contact with a low thermal resistance heat sink.

Specifications



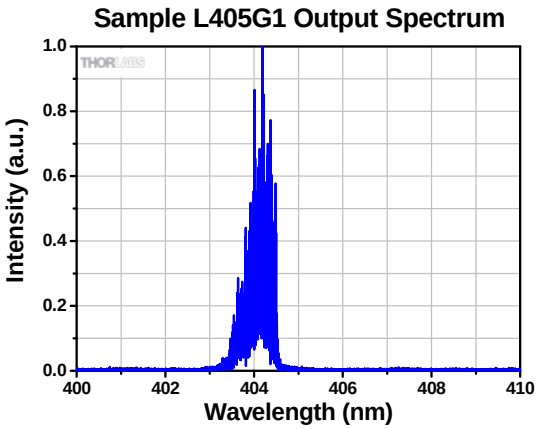
Absolute Maximum Ratings[a]		
Specification	**Symbol**	**Maximum**
Output Power, CW	P_{max}	1100 mW
LD Reverse Voltage	$V_{reverse}$	2 V
Operating Case Temperature	T_{op}	0 to +30 °C
Storage Temperature	T_{stor}	-40 to +85 °C

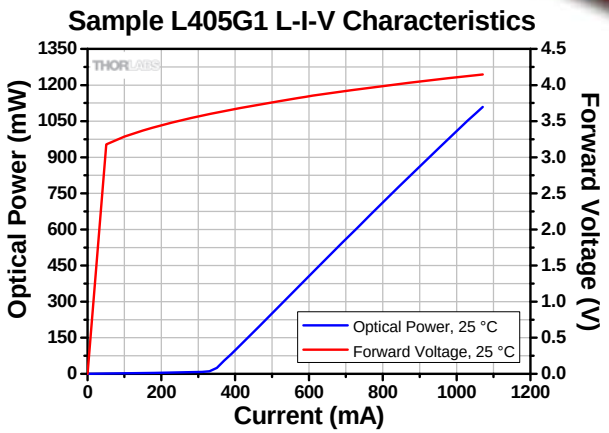
a. Absolute Maximum Rating specifications should never be exceeded. Operating at or beyond these conditions can permanently damage the laser.

L405G1 Specifications					
Specification		**Symbol**	**Min**	**Typical**	**Max**
Center Wavelength @ P_{op}		λ_o	400 nm	405 nm	410 nm
Output Power, CW		P_{op}	-	1000 mW	-
Threshold Current		I_{TH}	150 mA	230 mA	400 mA
Operating Current CW @ P_{op}		I_{op}	700 mA	900 mA	1200 mA
Operating Voltage @ P_{op}		V_{op}	-	5.0 V	5.5 V
Slope Efficiency		η	-	1.1 W/A	-
Beam Divergence (FWHM) @ P_{op}	**Parallel**	$\theta_{\parallel}$	5°	13°	25°
	Perpendicular	$\theta_{\perp}$	30°	45°	60°

T_{CASE} = 25°C, CW

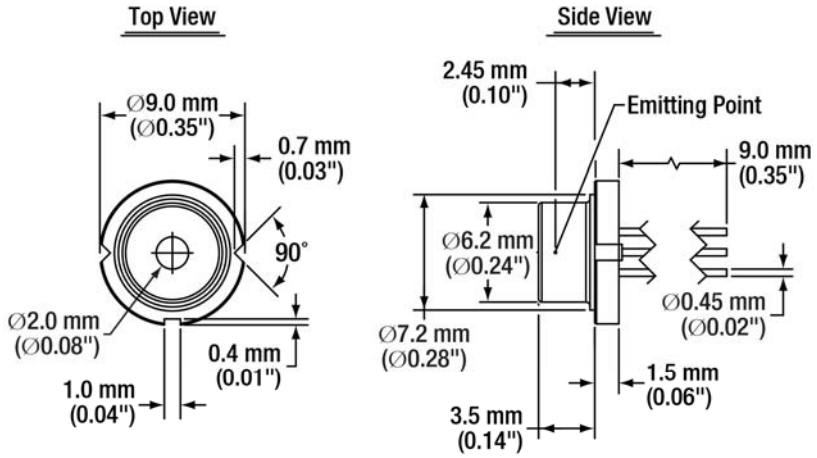
Performance Plots

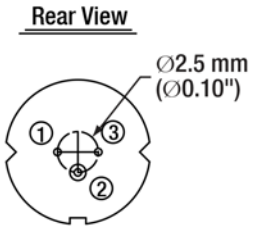


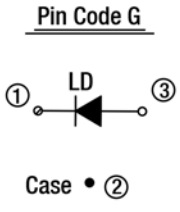


The data presented here is for one particular laser diode. Slight variations in performance data will occur from device to device. The sample spectrum of the L405G1 laser diode was taken at 25 °C using a Thorlabs OSA201C Spectrum Analyzer with resolution of 7.5 GHz. The L-I-V characteristics data was taken at 25 °C. Please visit our website for the raw data.

Drawings







Pin	Description
1	Laser Cathode
2	Case Common
3	Laser Anode