405 nm Laser Diode, 175 mW

L405A1

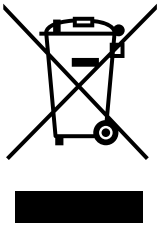
Description

This 405 nm, 175 mW TO packaged laser diode is a compact light source that outputs a single transverse mode and is suited for a variety of applications such as bio and medical, 3D printing, or measurement. It is packaged in a standard Ø5.6 mm TO can package and has an A pin configuration. This laser diode is compatible with our line of laser diode and TEC controllers as well as our selection of collimation solutions and TO can laser diode mounts.

Specifications

Absolute Maximum Ratings[a]	
Specification	**Value**
Optical Output Power, CW	210 mW
LD Reverse Voltage	2 V
PD Reverse Voltage	15 V
Operating Case Temperature	-10 °C to 70 °C
Storage Temperature	-40 °C to 85 °C

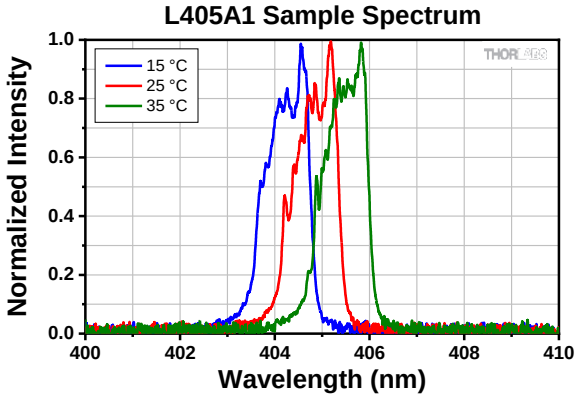
a. Absolute Maximum Rating specifications should never be exceeded. Operating at or beyond these conditions can permanently damage the laser.

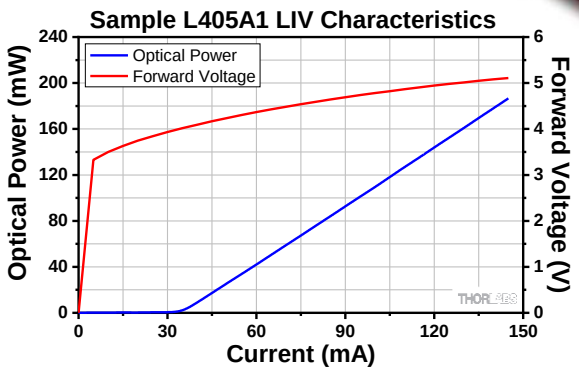


L405A1 Specifications[a]					
Specification		**Symbol**	**Min**	**Typical**	**Max**
Center Wavelength @ P_{op}		λ_o	398 nm	405 nm	415 nm
Optical Output Power, CW		P_{op}	175 mW	-	-
Threshold Current		I_{TH}	-	35 mA	60 mA
Operating Current, CW @ P_{op}		I_{op}	-	150 mA	200 mA
Operating Voltage @ P_{op}		V_{op}	-	5.0 V	7.0 V
Slope Efficiency		η	-	1.7 mW/mA	-
Beam Divergence (FWHM) @ P_{op}	**Parallel**	$\theta_{//}$	6°	9°	12°
	Perpendicular	$\theta_{\perp}$	15°	20°	25°
Monitor Current @ P_{op}		I_{PD}	0.05 mA	0.15 mA	0.5 mA

a. T_{CASE} = 25 °C if not specified.

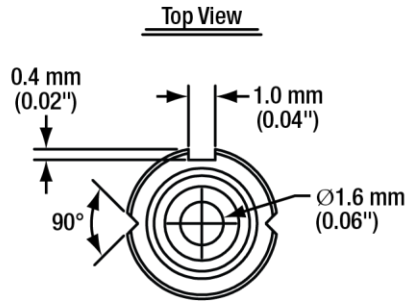
Performance Plots

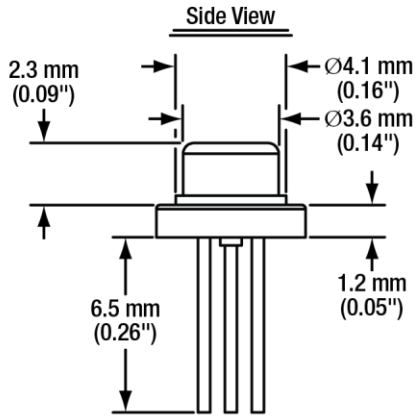




The data presented here is for one particular laser diode. Slight variations in performance data will occur from device to device. The sample spectrum of the L405A1 laser diode was measured at 15 °C, 25 °C, and 35 °C. The L-I-V characteristics data was taken at 25 °C. Please visit our website for raw spectral data and L-I-V characteristics.

Drawings





Pin	Description
1	Photodiode Anode
2	Case
3	Laser Diode Cathode