



L520P50

Description

This 520 nm, 50 mW laser diode is a compact light source suited for a variety of applications including fluorescence and spectroscopic measurements, DNA sequencing, flow cytometry, imaging, and microscopy. It comes in a Ø5.6 mm TO package with an A pin configuration. It is recommended to have the base of the laser diode in good thermal contact with a heat sink.

Specifications

Absolute Maximum Ratings*	
Specification	Maximum
Forward Current, CW	200 mA
LD Reverse Voltage	2 V
Operating Case Temperature	-20 to +60 °C
Storage Temperature	-40 to +85 °C
Soldering Temperature, <10 seconds	260 °C
Junction Temperature	150 °C

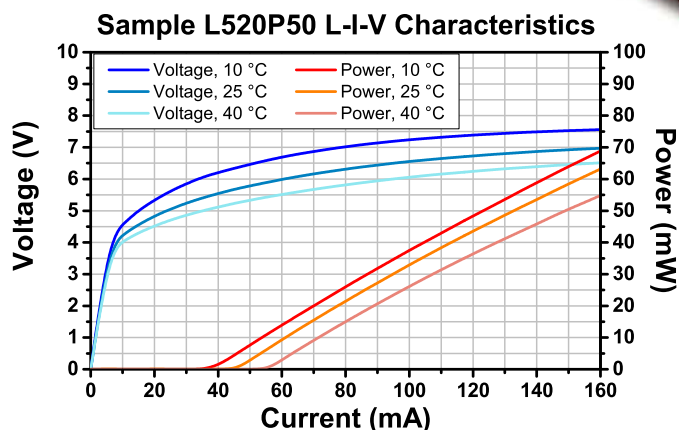
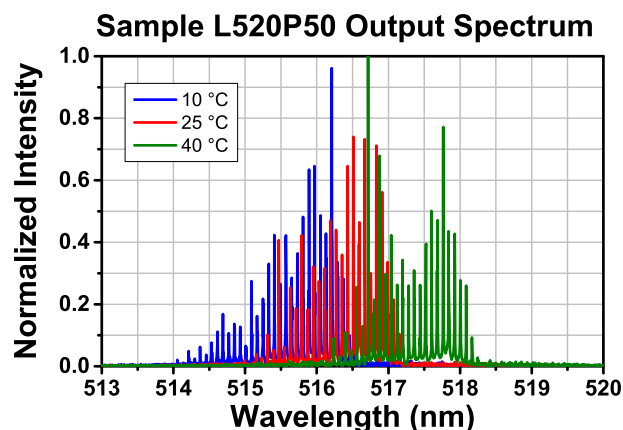
*Absolute Maximum Rating specifications should never be exceeded. Operating at or beyond these conditions can permanently damage the laser.



L520P50 Specifications					
		Symbol	Min	Typical	Max
Center Wavelength @ P _{op}		λ_o	510 nm	520 nm	530 nm
Output Power, CW		P _{op}	-	50 mW	-
Threshold Current		I _{TH}	-	45 mA	75 mA
Operating Current CW @ P _{op}		I _{op}	-	150 mA	-
Max Recommended Operating Current	-20 to +40 °C	I _{op}	-	-	160 mA
	+40 to +60 °C	I _{op}	-	-	140 mA
Operating Voltage @ P _{op}		V _{op}	-	7.0 V	8.0 V
Slope Efficiency		η	-	0.5 W/A	-
Polarization Extinction Ratio (TE/TM)		PER	-	20 dB	-
Beam Divergence (FWHM)	Parallel @ P _{op}	$\theta_{//}$	4°	7°	11°
	Perpendicular @ P _{op}	θ_{\perp}	16	22°	25°
Monitor Current @ P _{op}		I _{PD}	-	90 μ A	-
Thermal Resistance, Junction to Case		R _{th}	-	34 K/W	-
Modulation Frequency		f	-	>100 MHz	-

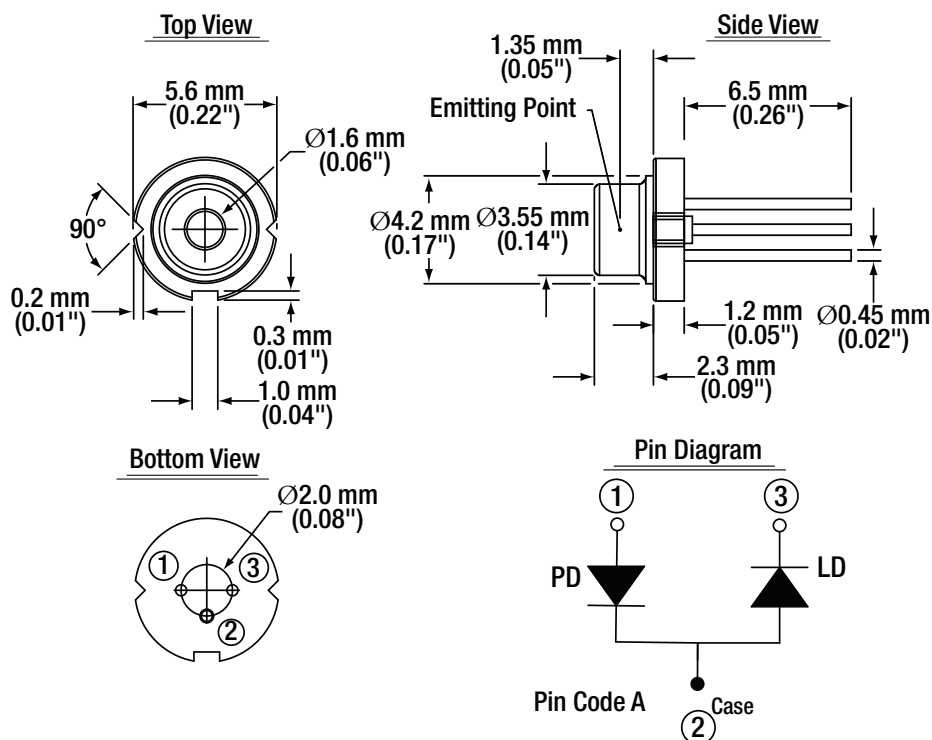
T_{CASE} = 25 °C

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 L520P50 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 10 °C, 25 °C, and 40 °C. Please visit our website for raw spectral data and L-I-V characteristics at 10 °C, 25 °C, and 40 °C.

Drawings



Pin	Description
1	PD Anode
2	Case
3	LD Cathode