

1310 nm, 2 mW, Pigtailed DFB Laser

LP1310-PAD2



Description

Thorlabs' LP1310-PAD2 Polarization-Maintaining Pigtailed DFB Laser Diode is a standard TO-packaged diode that has been pigtailed to a 1 m long polarization-maintaining fiber (PM1310-XP) with an FC/APC connector. The connector key is aligned to the slow axis of the fiber. This PM fiber pigtailed laser diode features an internal optical isolator to avoid back reflection for stable output power and single longitudinal mode, as well as a monitor photodiode. Each unit is tested before shipment. Please refer to the unit-specific test datasheet for optimal operating parameters.

Specifications

Absolute Maximum Ratings	
LD Reverse Voltage (Max)	2 V
PD Reverse Voltage (Max)	10 V
Absolute Max Current ^a	40 mA
Absolute Max Power ^a	3 mW
Storage Temperature	-10 to 65 °C

- a. Do not exceed the maximum optical power or maximum drive current, whichever occurs first.



Physical Specifications	
Diode Size	5.6 mm
Pin Code	D
Fiber	PM1300-XP
Connector	2.0 mm Narrow Key FC/APC



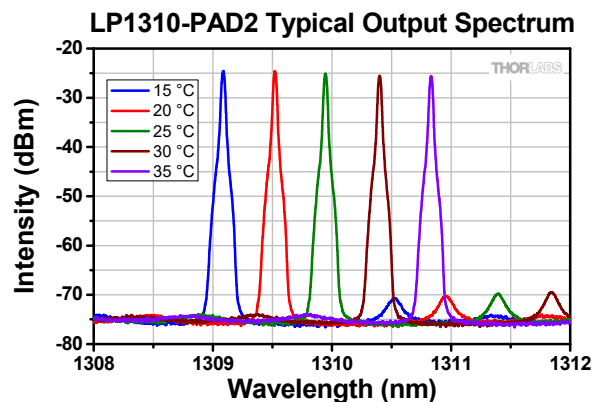
NOTICE
To avoid equipment damage from electrostatic discharge: Wear ESD wriststrap when handling this device.

LP1310-PAD2 Specifications ^b				
	Symbol	Min	Typical	Max
Center Wavelength	λ_c	1307 nm	1310 nm	1313 nm
Output Power	P_{op}	-	2 mW	-
Operating Current @ $P_{op} = 2$ mW	I_{op}	-	20 mA	40 mA
Temperature Tuning Range	°C	15 °C	-	35 °C
Threshold Current	I_{TH}	-	6 mA	20 mA
Side Mode Suppression Ratio (SMSR)	SMSR	35 dB	40 dB	-
Wavelength Shift over Current	$\Delta\lambda / \Delta I$	-	0.004 nm/mA	-
Wavelength Shift over Temperature	$\Delta\lambda / \Delta T$	-	0.08 nm/°C	-
Operating Voltage @ $P_{op} = 2$ mW	V_F	-	1.0 V	2.0 V
Monitor Current @ $P_{op} = 2$ mW	I_{PD}	120 μ A	-	1000 μ A
Slope Efficiency @ $P_{op} = 2$ mW	$\Delta P / \Delta I$	-	0.2 mW/mA	-
Laser Linewidth (-20 dB) @ $P_{op} = 2$ mW	$\Delta\nu$	-	0.1 nm	1.0 nm
Polarization Extinction Ratio (PER)	PER	20 dB	-	-

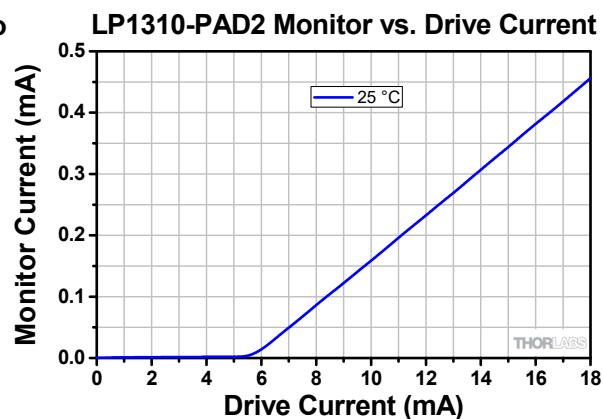
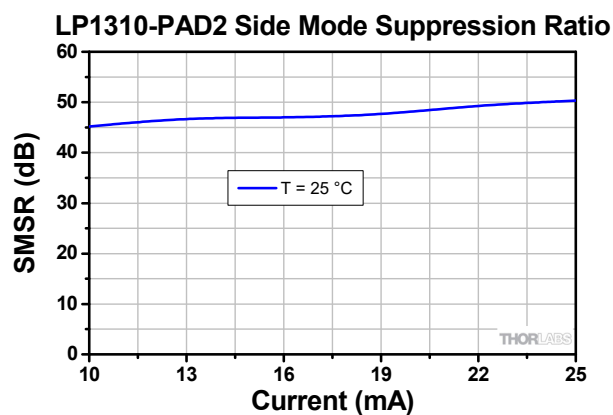
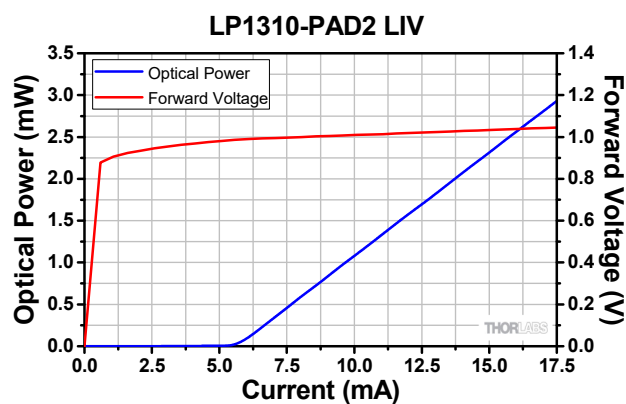
- b. $T_{CASE} = 25^\circ \text{C}$; $T_{CHIP} = 25^\circ \text{C}$

Performance Plots

The plots below are typical; performance will vary between individual lasers. Each laser includes a serial-number-specific datasheet detailing performance.



Measured using an optical spectrum analyzer with 0.02 nm spectral resolution.



Drawing

