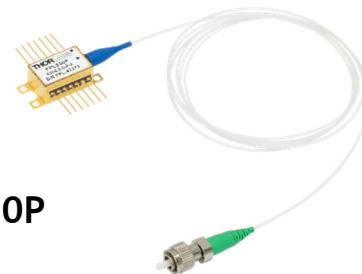


830 nm Fabry-Perot Laser Diode, 300 mW, PM Fiber



FPL830P

Description

The FPL830P 830 nm Fabry-Perot Laser Diode is based on quantum well epitaxial layer growth and a highly reliable ridge waveguide structure. This diode features high optical output power and slope efficiency. The laser diode is housed in a butterfly package with an integrated monitor photodiode, TEC, and a thermistor that allows the laser to be temperature controlled. The output is coupled to 1.5 m of FC/APC-terminated PM780-HP polarization-maintaining single mode optical fiber.

Specifications

Specifications ^a				
	Symbol	Min	Typical	Max
Center Wavelength	λ_c	820 nm	830 nm	840 nm
Spectral Bandwidth (RMS)	$\Delta\lambda$	-	0.5 nm	2.0 nm
Output Power CW @ I_{CW}	P_{CW}	280 mW	300 mW	330 mW
Operating Current CW	I_{CW}	-	900 mA	1000 mA
Threshold Current	I_{TH}	-	152 mA	250 mA
Forward Voltage	V_F	-	2.22 V	2.8 V
Slope Efficiency	$\Delta P / \Delta I$	-	0.55 W/A	-
Polarization Extinction Ratio	PER	-	16 dB	-
Monitor Photodiode Current	I_{photo}	-	3.35 mA	-
TEC Operation (Typical/Max @ $T_{CASE} = 25^\circ\text{C} / 70^\circ\text{C}$)				
TEC Current	I_{TEC}	-	0.48 A	2.5 A
TEC Voltage	V_{TEC}	-	0.61 V	3.2 V
Thermistor Resistance	R_{TH}	-	10 k Ω	-

a. CW; $T_{CHIP} = 25^\circ\text{C}$, $T_{CASE} = 0 - 70^\circ\text{C}$

Absolute Maximum Ratings	
LD Reverse Voltage (Max)	2.0 V
PD Reverse Voltage (Max)	15 V
Absolute Max Current ^a	1000 mA
Absolute Max Power	330 mW
Operating Case Temperature	0 to 50°C
Storage Temperature	-10 to 70°C
Pin Code	14 Pin, Type 1

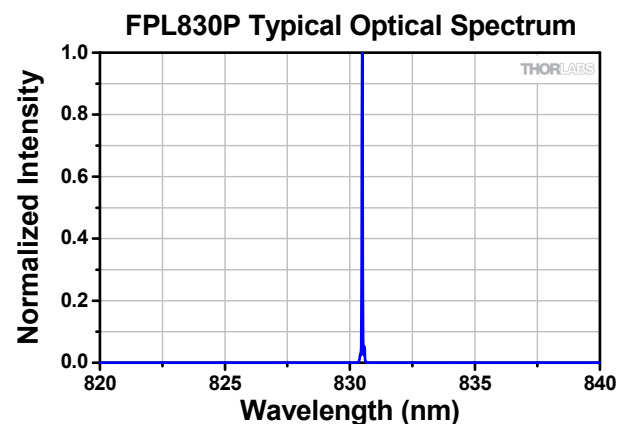
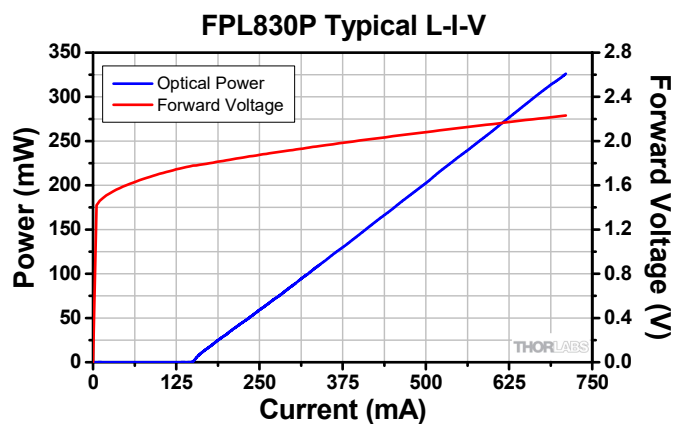
- a. Due to variations between each lot of laser diodes, some devices will produce an output power higher than the 330 mW max when driven at 1000 mA current. Do not drive the laser diode with a current that will cause the output power to exceed the specified maximum power rating. Operating in this regime can cause damage to the device.



Fiber Specifications

Fiber Type	PM780-HP
Numerical Aperture	0.12
Core Diameter	4.5 μm
Mode Field Diameter	5.3 \pm 1.0 μm at 850 nm
Fiber Length	1.5 \pm 0.1 m
Connector	FC/APC, 2.0 mm Narrow Key
Connector Key Alignment	Slow Axis

Typical Performance Plots



Drawings

