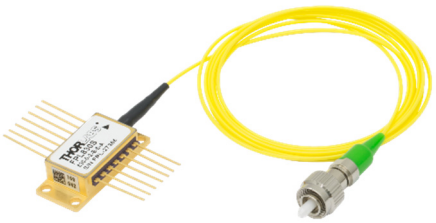
830 nm Fabry-Perot Laser Diode, 350 mW, Single Mode Fiber



FPL830S

Description

The FPL830S is an 830 nm Fabry-Perot laser diode 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 1.0 m of FC/APC-terminated 780HP single mode fiber.

Specifications

Absolute Maximum Ratings	
LD Reverse Voltage	2.0 V
PD Reverse Voltage	20 V
Current[a]	950 mA
Power	360 mW
Operating Case Temperature	0 to 60 °C
Storage Temperature	-10 to 70 °C
Pin Code	14 pin, Type 1

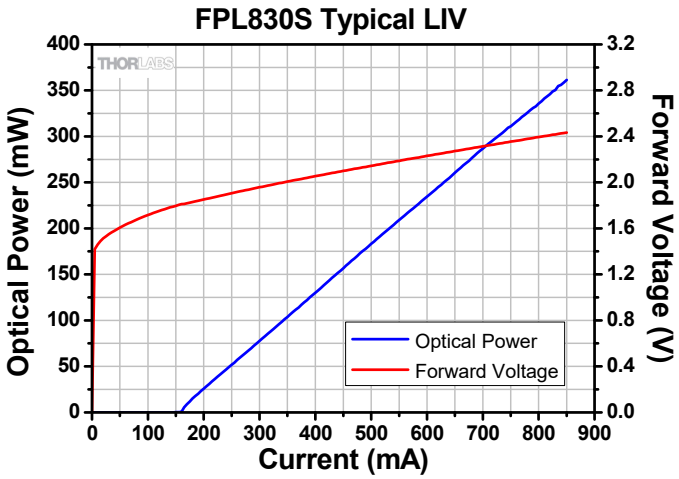
a. Due to variations between each lot of laser diodes, some devices will produce an output power higher than the 350 mW max when driven with a 950 mA current. Do not drive the laser diode with a current that will cause the output power to exceed the specified maximum power rating. Operating in this regime can cause damage to the device.

Specifications[b]				
	Symbol	**Min**	**Typical**	**Max**
Center Wavelength	λ_C	820 nm	830 nm	840 nm
Spectral Bandwidth (RMS)	$\Delta\lambda$	-	0.5 nm	3.0 nm
Output Power CW @ I_{CW}	P_{CW}	330 mW	350 mW	360 mW
Operating Current CW[b]	I_{CW}	-	900 mA	950 mA
Threshold Current	I_{TH}	-	200 mA	250 mA
Forward Voltage	V_F	-	2.5 V	3.0 V
Slope Efficiency	$\Delta P/\Delta I$		0.5 W/A	-
Monitor Photodiode Current	I_{photo}	-	0.8 mA	-
TEC Operation (Typical/Max @T_{CASE} = 25 °C/60 °C)				
TEC Current	I_{TEC}	-	0.7 A	2.5 A
TEC Voltage	V_{TEC}	-	0.8 V	3.2 V
Thermistor Resistance	R_{TH}	-	10 kΩ	-

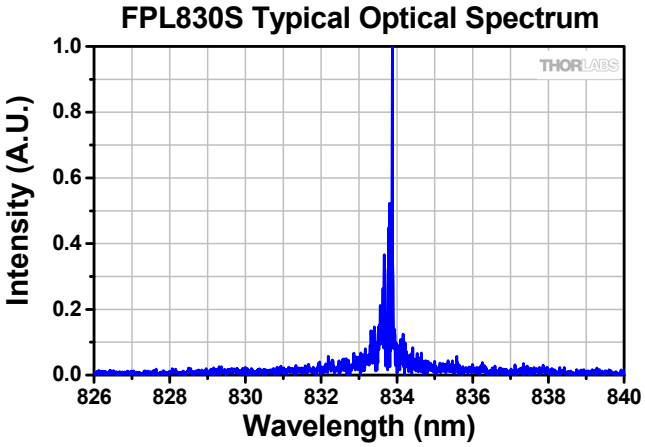
b. CW; T_{CHIP} = 25 °C, T_{CASE} = 0 – 60 °C

Fiber Specifications	
Fiber Type	780HP
Numerical Aperture	0.13
Core Diameter	4.4 µm
Fiber Length	1.0 m
Connector	FC/APC, 2.0 mm Narrow Key

Typical Performance Plots



The device was held at 25 °C.



While the laser diode was held at 25 °C, it was driven at the current required to reach an output power of 350 mW.

Drawings