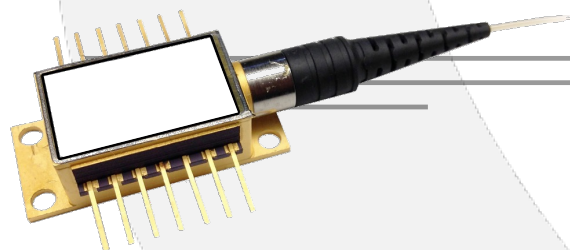


# LD-FP-1550



## DEVICE

## 1550 nm FP Laser Diode, 12 mW

## OVERVIEW

The Optilab LD-FP-1550 is a high power Fabry-Perot (FP) laser diode with a 1550 nm wavelength. The LD-FP-1550 incorporates a strained multi-quantum (st-MQW) laser diode chip with thermo-electric cooler (TEC), a PIN photodiode, and PM output fiber, in a hermetically sealed 14-pin butterfly package. This laser is designed for laboratory test application that requires short coherence laser. Contact Optilab for more information.

## FEATURES

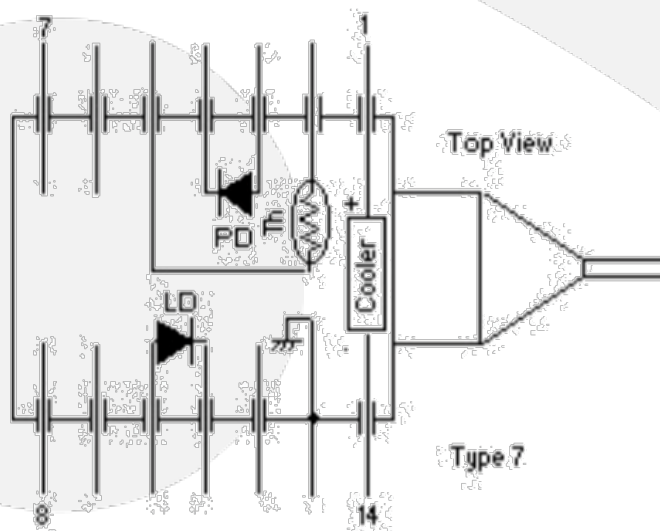
- Up to 12 mW output power
- 10 nm max. Spectral Width
- Optional 30 dB Isolator
- Short Coherence Length
- PM Fiber Output
- Built in TEC, Thermistor & Monitor PD

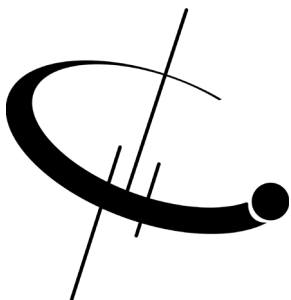
## USE IN

- RF over Fiber (RfOf)
- Optical Sensors
- Hybrid Fiber-Coaxial (HFC)
- General laboratory and research use

## FUNCTIONAL DIAGRAM

PIN	Description	PIN	Description
1	TEC(+)	8	NC
2	Thermistor	9	NC
3	Detector(P)	10	LD(P)
4	Detector(N)	11	LD(N)
5	Thermistor	12	NC
6	NC	13	Ground
7	NC	14	TEC(-)





# LD-FP-1550

## SPECIFICATIONS

Center Wavelength	1530 nm – 1560 nm
Optical Output Power	12 mW min.
Operating Current	150 mA max. @ CW
Forward Voltage	2.5 V typ.
Series Resistance	25 $\Omega$ typ.
Threshold Current	25 mA typ.
Monitor Current	0.10 mA min., 1.0 mA max.
Photodiode Dark Current	2 nA typ., 100 nA max.
Side Mode Suppression	30 dB typ.
Spectral Width	10 nm max.
Optical Isolation (optional)	30 dB typ.
Relative Intensity Noise	-145 dB/Hz max.
Polarization Extinction Ratio	20 dB typ.

## GENERAL

## MECHANICAL

Operating Temperature	-10°C to +60 °C
Storage Temperature	-40°C to +70 °C
Operating Humidity	95% @ < 30 °C
Optical Fiber Type	PANDA PM
Optical Connector	FC/APC, other available

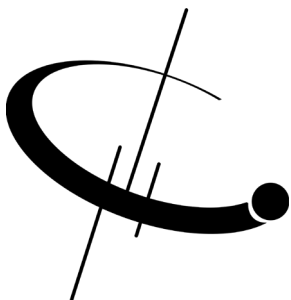
## TEC AND THERMISTOR CHARACTERISTICS

TEC Current	1.0 A max.
TEC Voltage	2.4 V max.
TEC Resistance	2.4 $\Omega$ typ.
Thermistor Resistance	7.7 k $\Omega$ min., 12.6 k $\Omega$ max.
Thermistor B Constant	3,270 K min., 3,450 K typ., 3,630 K max.

## ABSOLUTE MAXIMUM RATING

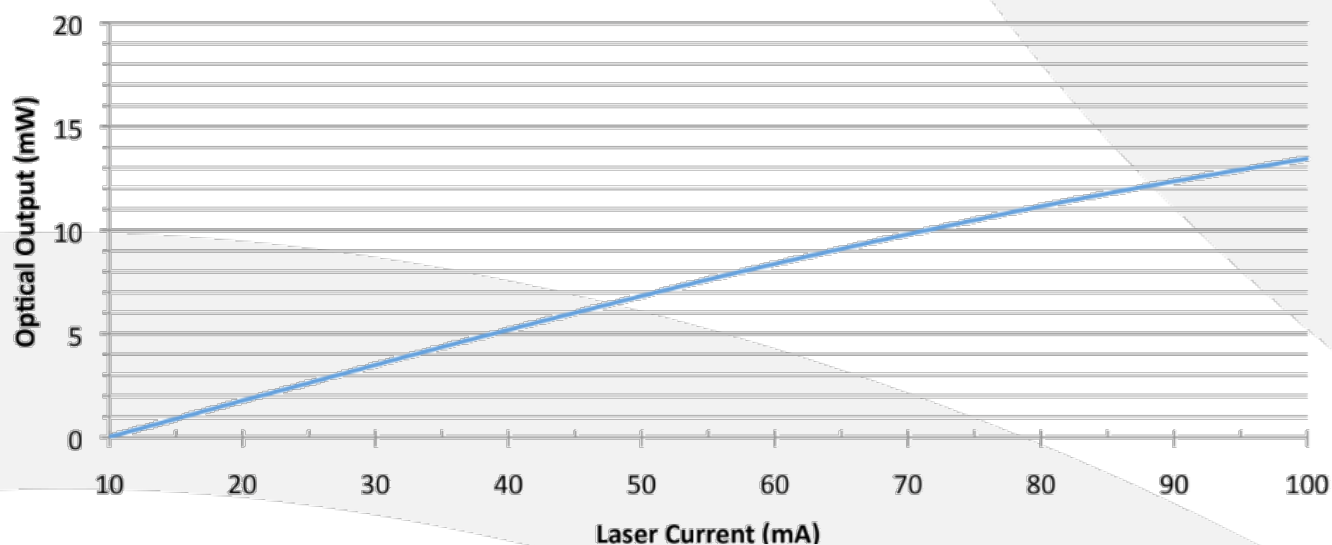
Reverse Voltage	2 V
Operating Current	200 mA
PD Reverse Voltage	20 V
PD Forward Current	10 mA
TEC Voltage	4 V
TEC Current	4 A



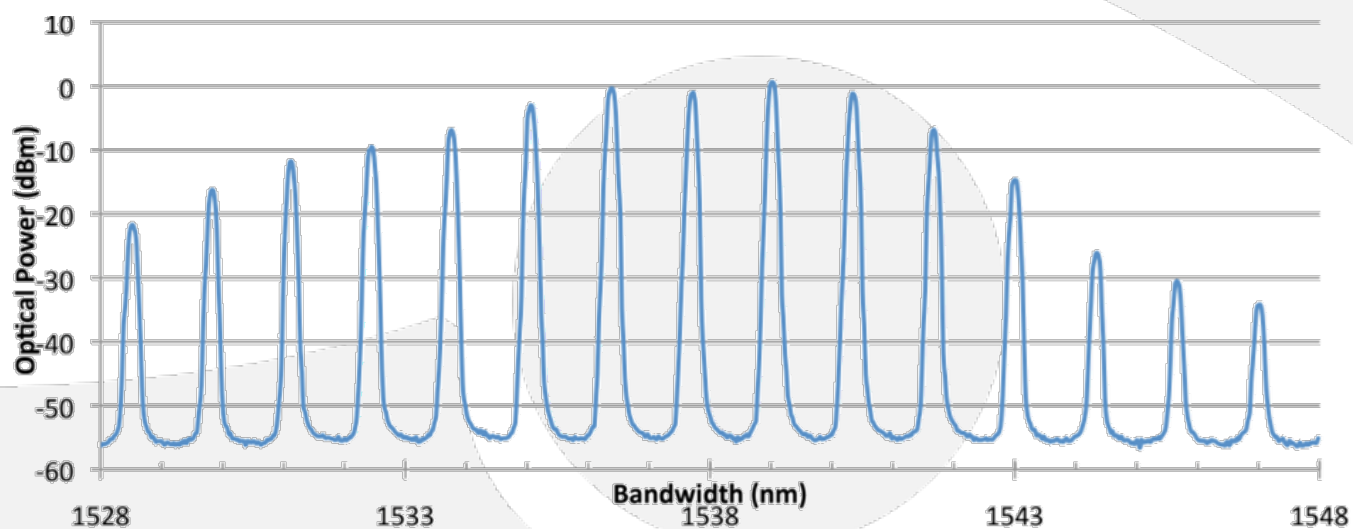


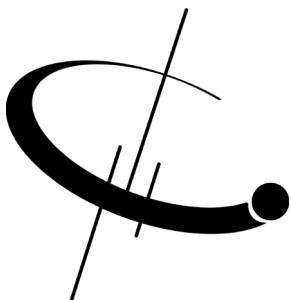
# LD-FP-1550

TYPICAL LASER DIODE LI CURVE @ 25°C



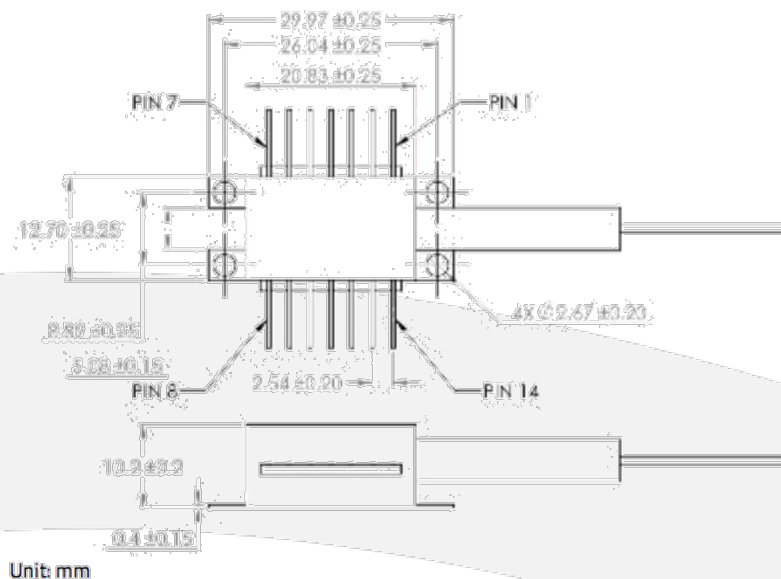
TYPICAL OPTICAL SPECTRUM @ 25°C @ 10 mW





# LD-FP-1550

## MECHANICAL DRAWING



## ORDERING OPTIONS

### LD-FP-xxxx-yy-zz

**xxxx:** Wavelength in nm

**yy:** PM for PM, None for SM

**zz:** Output Power in mW: 20, 30

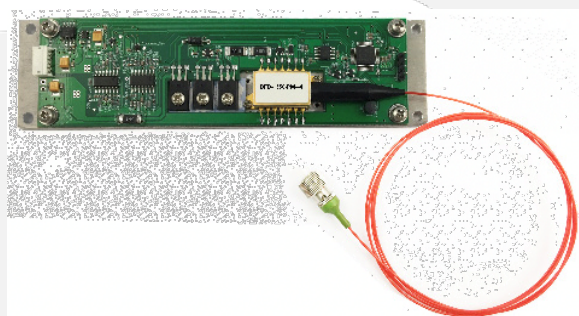
## AVAILABLE ACCESSORIES

### UNIVERSAL LASER DIODE CONTROLLER (ULDC)



ULDC is a fully integrated laser diode controller with precise current and temperature setting. With a Zero Insertion Force (ZIF) adaptor, ULDC can be used with all 14 pin laser diodes.

### FP LASER SOURCE MODULE, POLARIZATION MAINTAINING



The LD-FP-1550 can be ordered as a modular solution which allows the laser's operating temperature and output power precisely controlled to ensure constant wavelength and power stability. It can be used for module level integration system.

