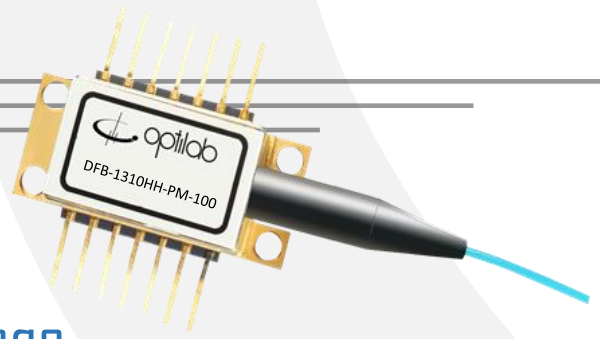


# DFB-1310H-PM-100



## DEVICE

## DFB Laser in 14-Pin BTF Package 1310 nm, Up to 100 mW, PM Output

## OVERVIEW

The Optilab DFB-1310H-PM-100 is a single frequency laser coupled with Polarization Maintaining fiber. Built with Distributed Feed-Back Grating (DFB) as cavity reflector, it provides pure, single longitudinal mode, hopping free and extremely stable wavelength source. This laser diode is fabricated with Multiple Quantum Well (MQW) for excellent reliability and stability. It can be used either in CW operation for seeding the external modulation and coherence interferometry, or directly modulated for signal transmission. This MQW DFB laser features 100 mW of output optical power, high Side Mode Suppression Ratio (SMSR). The standard 14-pin butterfly integrates TEC, thermistor, monitor PD and an output isolator. Contact Optilab for more information.

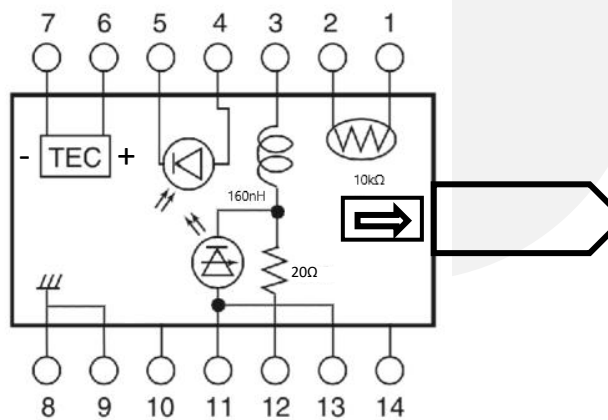
## FEATURES

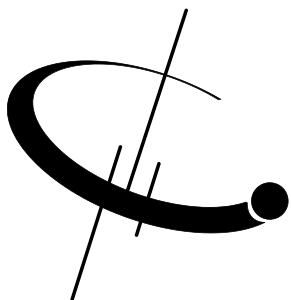
- Up to 100 mW output power
- Built-in Isolator
- Polarization maintained Fiber Output
- Built-in TEC, Thermistor & Monitor PD
- Side Mode Suppression Ratio 50 dB
- Zero Chromatic Dispersion

## USE IN

- PM pulse laser source
- Stabilized Single Frequency Source
- Light Source for Interferometer
- CW 1310 nm laser source
- External modulation optical link

## FUNCTIONAL DIAGRAM





# DFB-1310H-PM-100

## ABSOLUTE MAXIMUM RATING

LD Forward Current	650 mA
LD Forward Voltage	2.9 V
LD Reverse Voltage	2 V
PD Forward Current	5 mA
PD Reversed Voltage	10 V
TEC Voltage	3.5 V
TEC Current	1.5 A
Lead Soldering Time	10 s @ < 260 °C

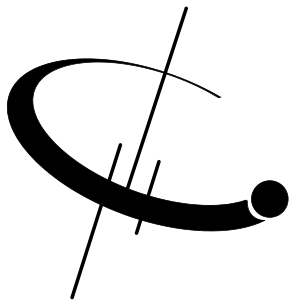
## E/O SPECIFICATIONS

Center Wavelength Range	1310 +/- 3 nm
Optical Output Power	60 / 80 / 100 / 120 mW
Threshold Current	15 mA typ.
LD Operation Current	500 mA typ., 600 mA max
Forward Voltage	2.5 V typ.
Side Mode Suppression Ratio	45 dB Min., 50 dB typ.
Wavelength Temperature Coefficient	80 pm/°C typ.
Laser Linewidth	10 MHz Max.
3 dB S21 Bandwidth	2 GHz Min.
Relative Intensity Noise	-145 dB/Hz
Thermistor Resistance	10 +/- 0.5 kOhm @ 25°C, NTC
Thermistor B Constant	3950 +/- 100 K
Polarization Extinction Ratio	20 dB Min.
Optical Isolation	30 dB typ.

## MECHANICAL & ENVIRONMENT SPECIFICATIONS

Operating Case Temperature	-20 °C to +65 °C
Storage Temperature	-40 °C to +85 °C
Optical Connectors	FC/APC, slow axis aligned
Optical Fiber Type	Fujikura SMI3-PS-U40D, Panda
Fiber Tubing	900 µm Loose Tube

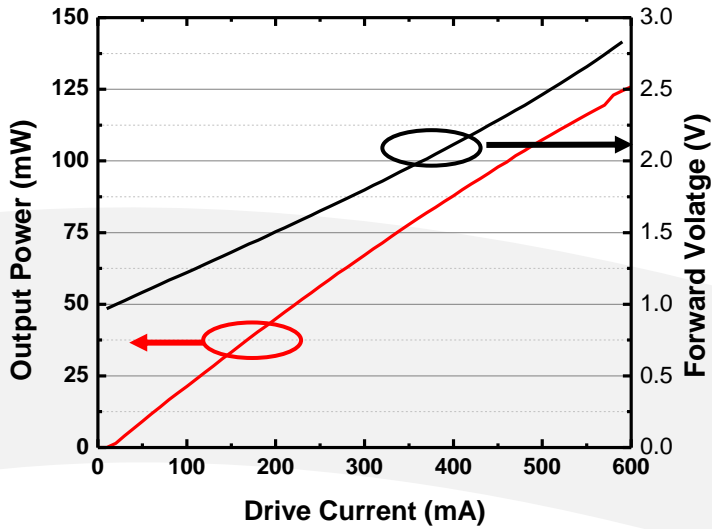




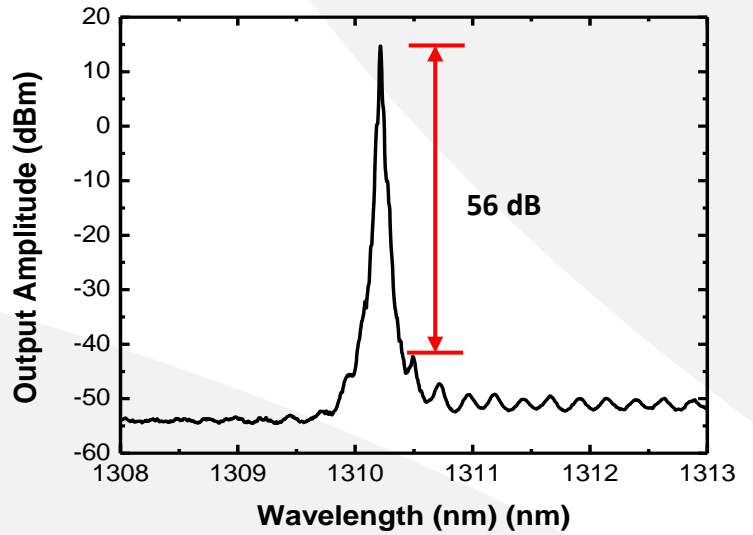
# DFB-1310H-PM-100

## SAMPLE TEST DATA

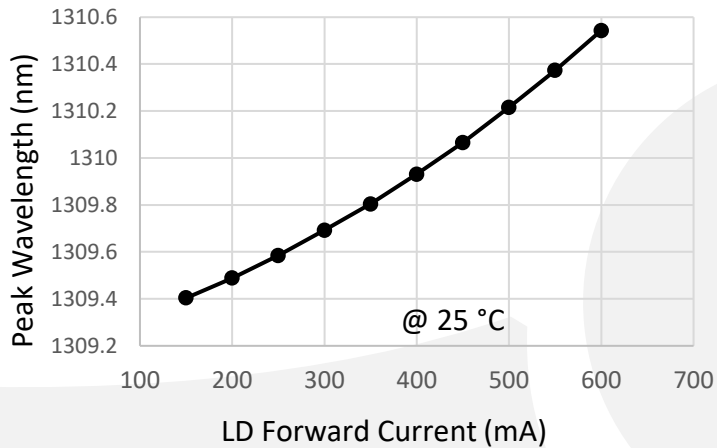
### L-I-V Curve



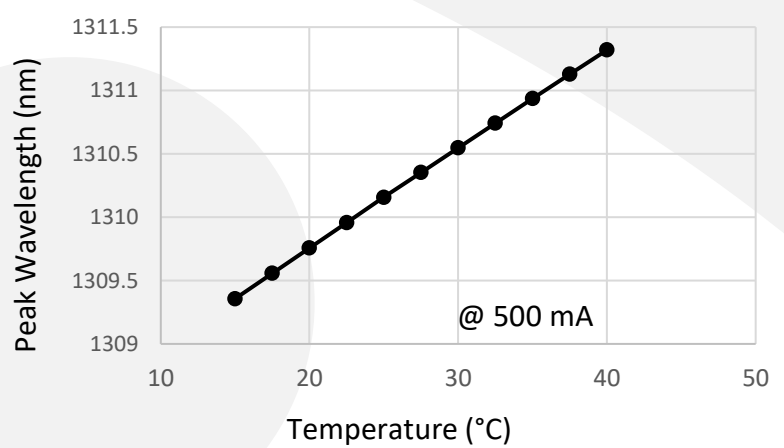
### Typical Output Spectrum

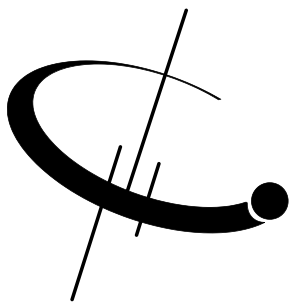


### Drive Current Tuned Wavelength



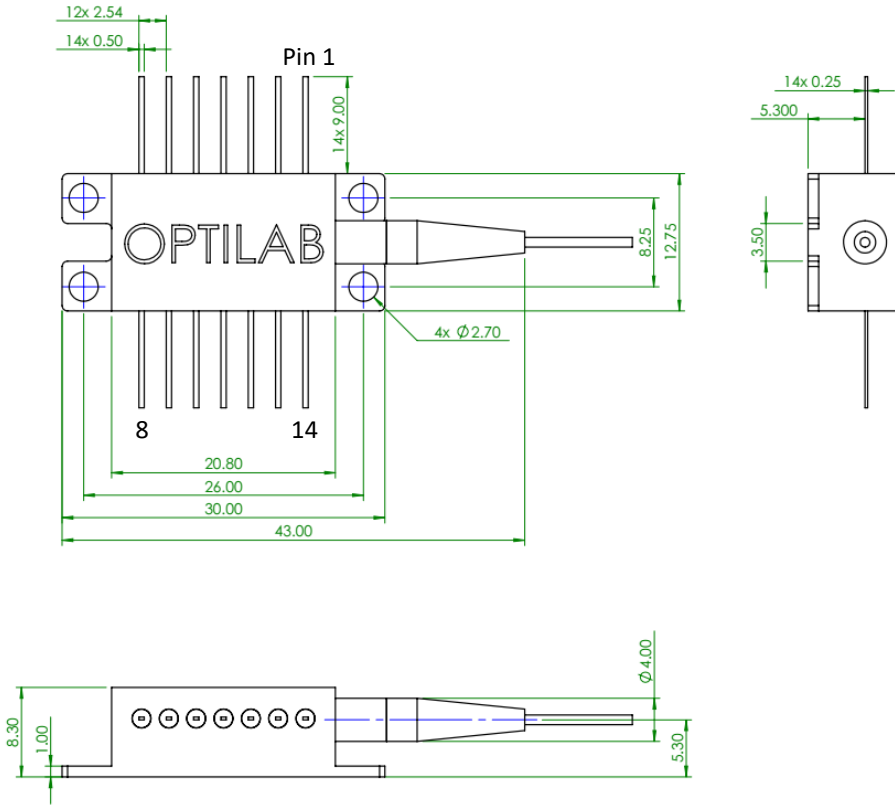
### Temperature Tuned Wavelength





# DFB-1310H-PM-100

## MECHANICAL DRAWING



Pin	Description
1	Thermistor
2	Thermistor
3	LD Bias Input, Cathode (-)
4	Monitor PD Anode (+)
5	Monitor PD Cathode (-)
6	TEC +
7	TEC -
8	Case Ground
9	Case Ground
10	Not Connected
11	LD Anode (+)
12	Modulation Signal Input (-)
13	LD Anode (+)
14	Not Connected

## ORDERING OPTION

DFB-XXXX-PM-YYY	
XXXX: Wavelength in nanometer	1270, 1290, 1310, 1330 nm
YYY: Optical power in mW	060 mW 080 mW 100 mW 120 mW

