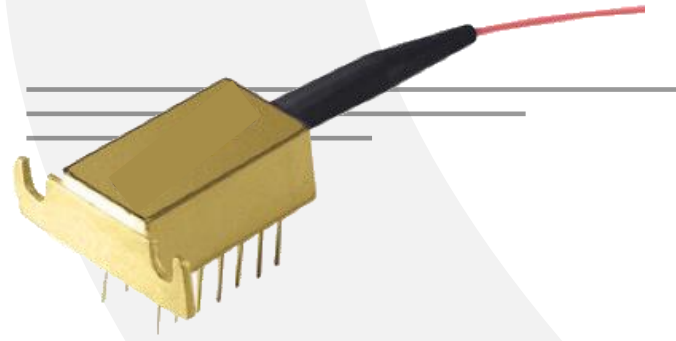




# DFB-1470-DL



## DEVICE

## DFB Laser Diode, 1470 nm, 8 mW, Single Mode, Dual in-line (1470 – 1480nm)

## OVERVIEW

The Optilab DFB-1470-DL Single Mode Dual in-line DFB laser is a cost effective 1470nm – 1480nm range wavelength laser source. The MQW DFB laser features 8 mW of output optical power, high Side Mode Suppression Ratio (SMSR), low residual chirp, and a built-in thermoelectric cooler, thermistor, and rear-facet monitor photodiode for external optical power control. Contact Optilab for more information.

## FEATURES

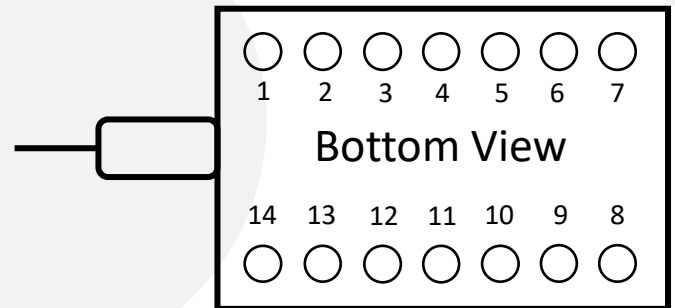
- Up to 2 GHz analog bandwidth
- 15 mW output power typical
- Built-in TEC, Thermistor & Monitor PD
- Side Mode Suppression Ratio 40 dB

## USE IN

- Analog link up to 2 GHz bandwidth
- 3 Gb/s digital communication
- CW 1470 - 1480 nm laser source
- Directly modulated optical link

## FUNCTIONAL DIAGRAM

- |                       |                        |
|-----------------------|------------------------|
| 1 Cooler (+)          | 8 PD Anode             |
| 2 Not Connected       | 9 LD (-)               |
| 3 Not Connected       | 10 LD (+), Case Ground |
| 4 Not Connected       | 11 Thermistor          |
| 5 LD (+), Case Ground | 12 Thermistor          |
| 6 Not Connected       | 13 Not Connected       |
| 7 PD Cathode          | 14 Cooler (-)          |





# DFB-1470-DL

## SPECIFICATIONS

Center Wavelength Range	1470-1480 typ.
Optical Output Power	6 mW min. 8 mW typ.
Threshold Current	20 mA max. @ CW
Operating Current	150 mA typ. @ CW, 200 mA max.
Forward Voltage	1.6 V typ.
Series Resistance	20 $\Omega$ typ.
Slope Efficiency	0.1 mW/mA typ.
Threshold Power	0.1 mW
Monitor Current	0.3 mA @ 1.0 mW
Side Mode Suppression	40 dB typ.
Laser Linewidth	2 MHz typ.
Rise/Fall Time (10%-90%)	200 ps typ.
3 dB S21 Bandwidth	2 GHz
RF Return Loss	-10 dB from DC to 2 GHz
Optical Isolation	30 dB typ.
Relative Intensity Noise	-155 dB/Hz max
Optical Connectors (optional)	FC/APC or others
Optical Fiber Type	SMF-28 (standard)

## GENERAL & MECHANICAL

## ABSOLUTE MAXIMUM RATING

All wavelength/power measurement based on 25°C

Wavelength Tuning Coefficient	0.1nm/°C
Operating Temperature	-30°C to +60°C
Storage Temperature	-40°C to +75°C
Reverse Voltage	2 V
LD Current	190 mA
PD Reverse Voltage	10 V
PD Forward Current	10 mA
TEC Voltage	2.5 V
TEC Current	1.4 A
Lead Soldering Time	10 Sec @ <260°C

## TEC AND THERMISTOR CHARACTERISTICS

TEC Current	1.0 A max.
TEC Voltage	2.4 V max.
Cooler Power	2.4 W max.
TEC Resistance	2.0 $\Omega$ min., 2.4 $\Omega$ typ., 3.2 $\Omega$ max.
Thermistor Resistance	20 $\Omega$ typ.





# DFB-1470-DL

## ORDERING OPTIONS

### DFB-14XX-DL

**XX:** Wavelength in 1470, 1472, 1474, 1476, 1478, 1480 nm

## MECHANICAL DRAWING

