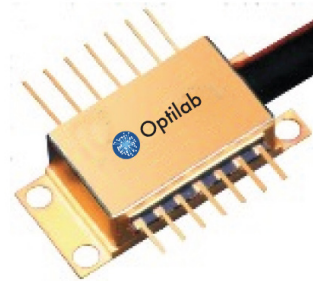


# DFB-1310-DM-4



## 4 GHz 1310 nm Directly Modulated DFB Laser

The Optilab DFB-1310-DM-4 directly-modulated (DM) DFB laser is a cost effective 1310 nm wavelength laser source for 4 GHz analog or 5 Gb/s digital transmission optical link. The MQW DFB laser features 20 mW of output optical power, high Side Mode Suppression Ratio (SMSR), low residual chirp, and a builtin thermoelectric cooler, thermistor, and a rear-facet monitor photodiode for external optical power control. Contact Optilab for more information.

### Features

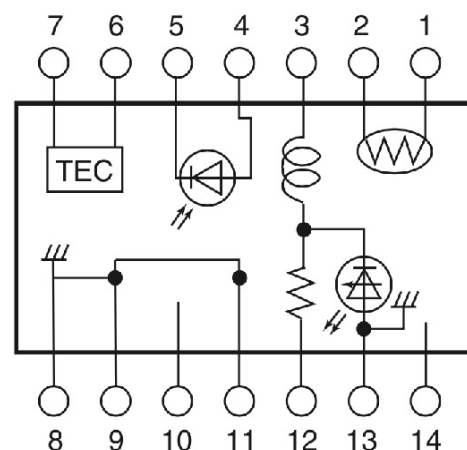
- Up to 4 GHz analog bandwidth
- 5 Gb/s digital transmission
- 20 mW output power typical
- Built-in TEC, Thermistor & Monitor PD
- Side Mode Suppression Ratio >40 dB

### Applications

- Analog link up to 4 GHz bandwidth
- 5 Gbps digital communication
- CW 1310 nm laser source
- Directly modulated optical link

### Functional Diagram

- |                     |                         |
|---------------------|-------------------------|
| 1 Thermistor        | 8 Case Ground           |
| 2 Thermistor        | 9 Case Ground           |
| 3 Laser DC Bias (-) | 10 Not Connected        |
| 4 Monitor Anode     | 11 Laser Ground         |
| 5 Monitor Cathode   | 12 Laser Modulation (-) |
| 6 TEC (+)           | 13 Case Ground          |
| 7 TEC (-)           | 14 Not Connected        |



# 4 GHz 1310 nm Directly Modulated DFB Laser

## OPTIONS

**DFB-1310-DM-4  
-X**

Connector Type

a: FC/APC

x Contact Optilab for more options

## TECHNICAL INFO

For technical info and support:

[sales@optilab.com](mailto:sales@optilab.com)

[www.optilab.com](http://www.optilab.com)

## WEB ORDER

To order, please click below.



## Optilab Advantage

- Innovation
- Performance
- Quality
- Customization
- Warranty

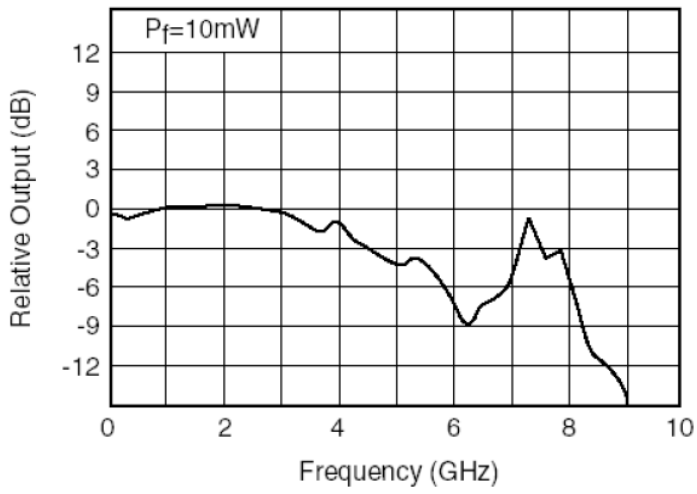
Optical Specifications	
Wavelength Range	1310 ±2 nm
Optical Output Power	20 mW typ., 17 mW min.
Threshold Current	20 mA max. @ CW
Laser Set Temperature	15 °C min., 40 °C max.
Forward Voltage	1.6 V typ.
Series Resistance	25 Ω typ.
Slope Efficiency	01.4 mW/mA
Threshold Power	0.15 mW
Monitor Current	0.10 mA min., 1.0 mA max.
Side Mode Suppression	40 dB typ.
Laser Linewidth	5 MHz typ.
Rise Time (10%-90%)	100 ps typ.
Fall Time (10%-90%)	100 ps typ.
3 dB S21 Bandwidth	4.0 GHz typ.
In-Band Ripple (Window)	<±1.5 dB
RF Return Loss	-10 dB from DC to 2.5 GHz
Optical Isolation	35 dB typ.
Relative Intensity Noise	-145 dB/Hz
Optical Connectors (Optional)	FC/APC or others
Optical Fiber Type	SMF-28 (Standard)

Absolute Maximum Rating	
Operating Temperature	-30 °C to +65 °C
Storage Temperature	-50 °C to +75 °C
Reverse Voltage	2 V
PD Reverse Voltage	20 V
PD Forward Current	10 mA
TEC Voltage	2.5 V
TEC Current	1.4 A
Lead Soldering Time	10 Sec @ <260 °C
Operating Humidity	95 % @ <30 °C

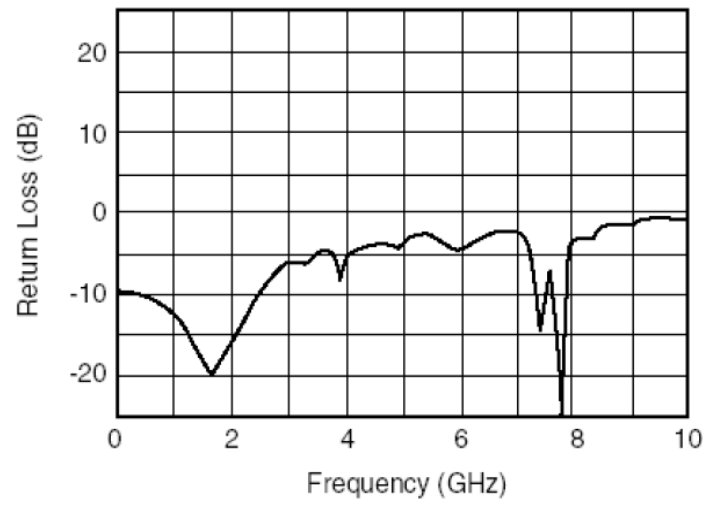
TEC and Thermistor Characteristics	
TEC Current	1.0 A max.
TEC Voltage	2.4 V max.
Cooler Power	2.4 W max.
TEC Resistance	2.0 Ω min., 3.2 Ω max.
Thermistor Resistance	7.7 k Ω min., 12.6 k Ω max.
Thermistor B Constant	3,270 K min., 3,450 K typ., 3,630 K max.

# 4 GHz 1310 nm Directly Modulated DFB Laser

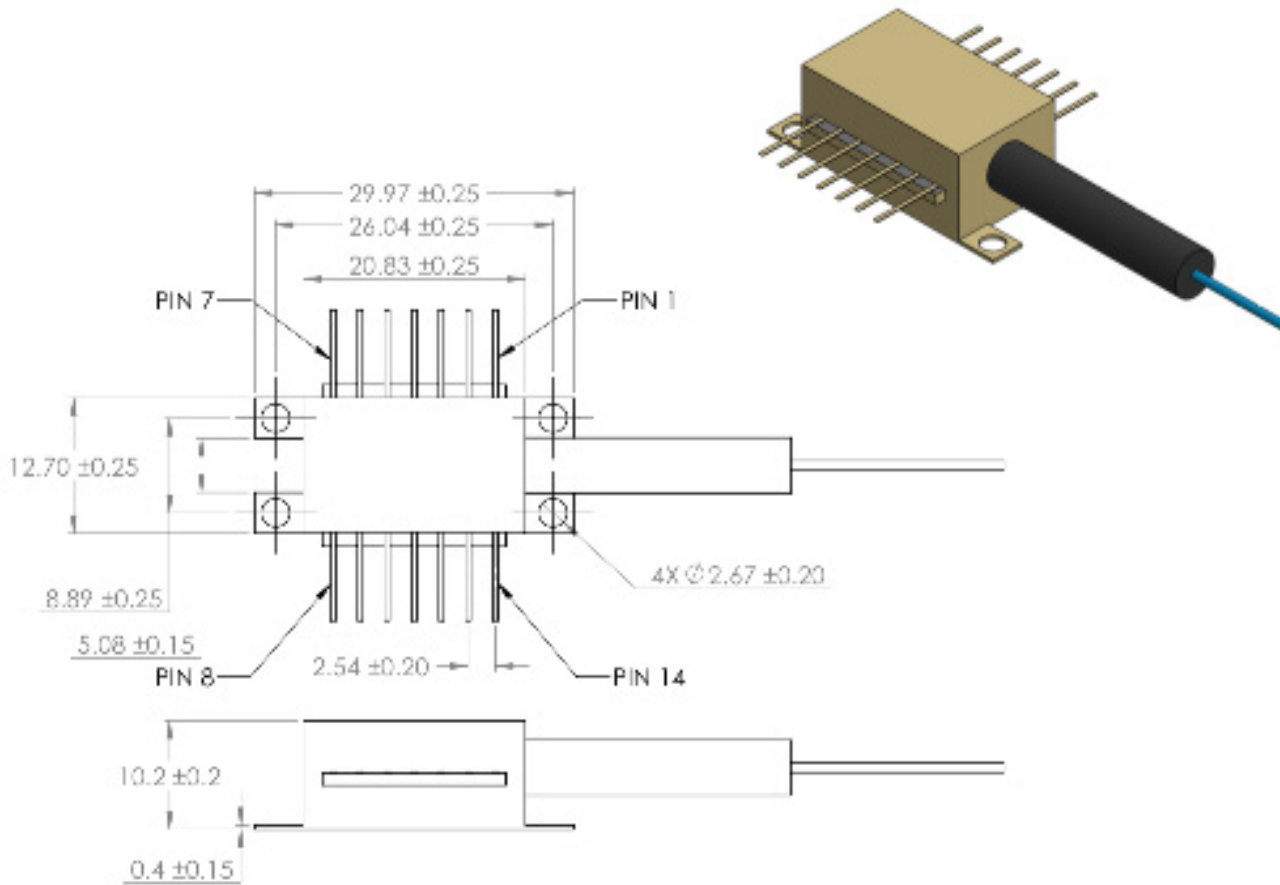
### Frequency Response



### RF Return Loss



### Machanical Drawing



Unit: mm