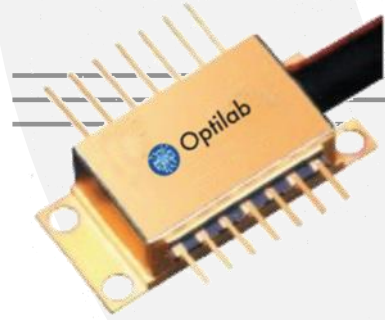




DFB-1310-DM-4



4 GHz 1310 nm Directly Modulated DFB Laser

DEVICE

OVERVIEW

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 built-in 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

USE IN

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

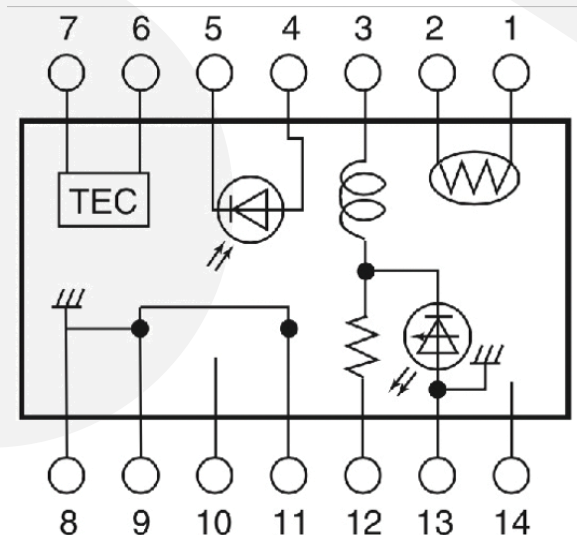
OPTIONS

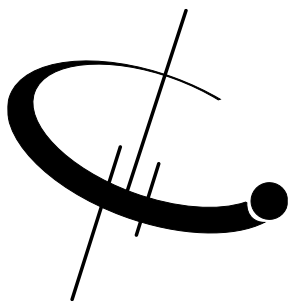
DFB-1310-DM-4-x

X Connector Type: a: FC/APC. Contact Optilab for more options

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 |





DFB-1310-DM-4

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	0.20 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/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)

GENERAL

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

ABSOLUTE MAXIMUM RATING

TEC Current	1.0 A max.
TEC Voltage	2.0 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.

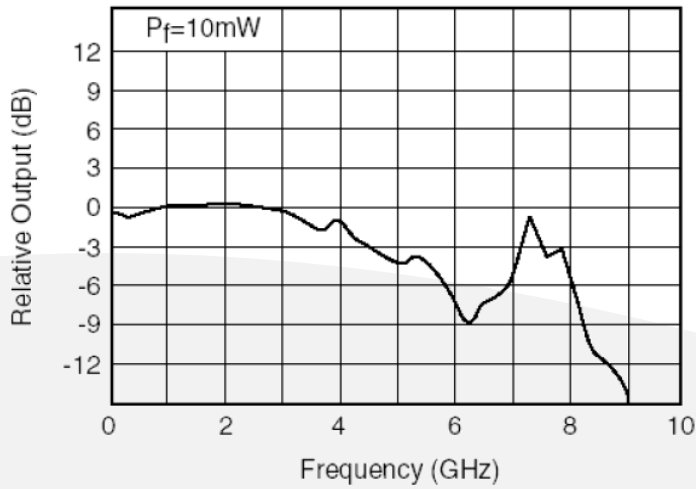
TEC AND THERMISTOR CHARACTERISTICS



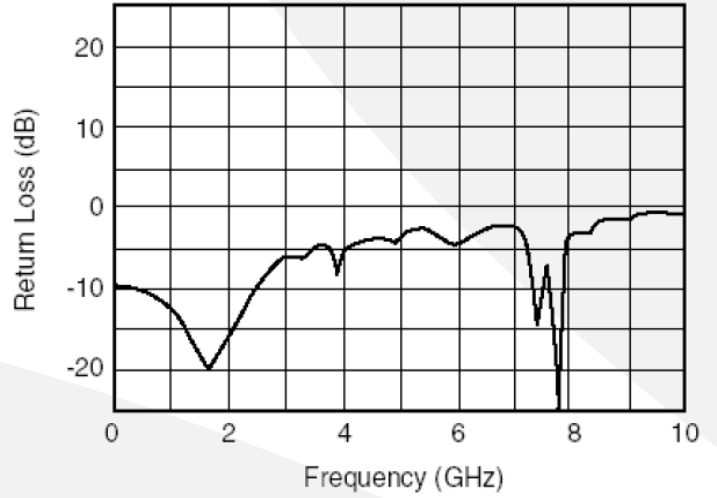


DFB-1310-DM-4

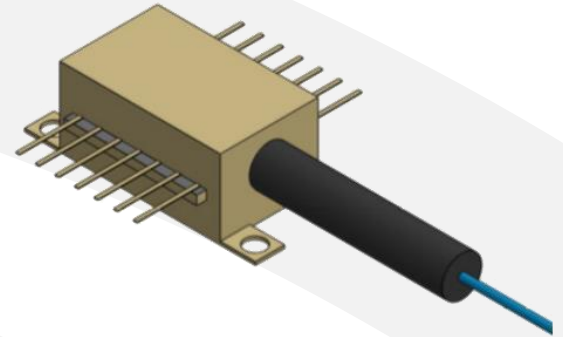
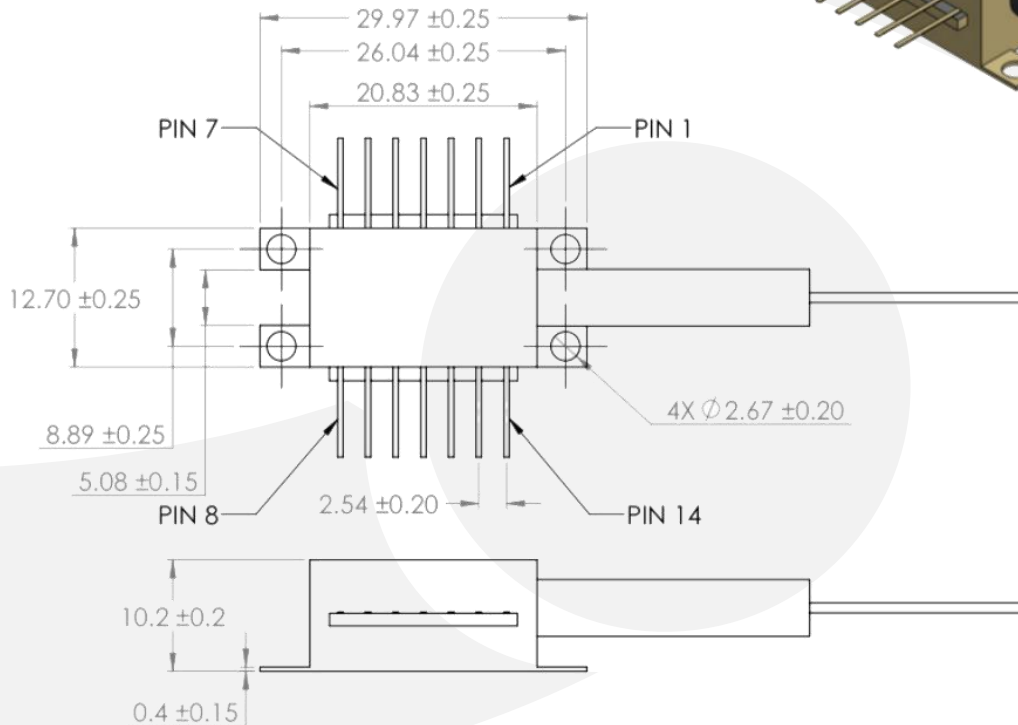
FREQUENCY RESPONSE



RF RETURN LOSS



MECHANICAL DRAWING



Unit: mm

