

1319nm Ultra High power Narrow linewidth DFB Laser diode



Description

The PL-DFB-1319-D-A81-PA-NL 1319nm Ultra High power and Narrow linewidth DFB laser diode module made by LD-PD is a cost effective with output fiber up to 180mw, highly coherent laser source. Which typical narrow linewidth at 100KHZ. The DFB laser diode chip is packaged in an industry standard hermetically sealed 14 pin butterfly package with TEC and PD Built in.

Features

- Narrow Linewidth<100KHz
- Excellent wavelength control and stability
- Industry Standard 14 pin Butterfly package
- Mode-Hop free tuning
- Excellent reliability
- Customer specific wavelengths available

Application

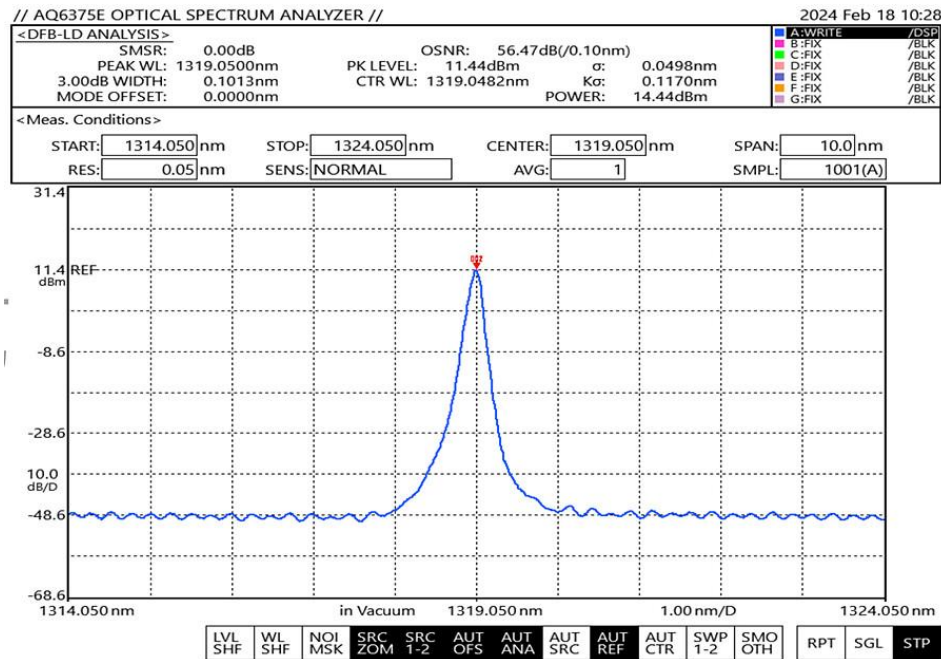
- Tunable diode laser absorption spectroscopy
- Lidar
- Long distance Fiber Communication

Laser Specifications

Electrical/Optical Characteristics(Tsub=25°C, CW bias unless stated otherwise)

| Parameter | Symbol | Min | Typ | Max | Unit |
|--------------------------------|--------------------------|--------|-------|--------|------------|
| Centre Wavelength | λ | 1318.5 | 1319 | 1319.5 | nm |
| Side Mode Suppression Ratio | SMSR | 30 | 40 | | dB |
| Threshold Current | I _{th} | | 20 | 30 | mA |
| Operating Current | I _{op} | | 1000 | 1300 | mA |
| Chip output Power | P _f | 100 | 150 | 190 | mW |
| Linewidth(3dB) | L | 30 | 50 | 100 | KHZ |
| Quantum Efficiency | η | 0.08 | 0.12 | | mW/mA |
| Current Tuning Coefficient | $\Delta\lambda/\Delta I$ | | 0.015 | | nm/mA |
| Temperature Tuning Coefficient | $\Delta\lambda/\Delta T$ | | 0.12 | | nm/K |
| Forward Voltage | V _f | | 1.3 | 2 | V |
| Thermistor Resistance | RT | 9.5 | 10 | 10.5 | K Ω |
| Thermistor Temp. Coefficient | | | -4.4 | | %/°C |
| Connector | FC/APC | | | | |

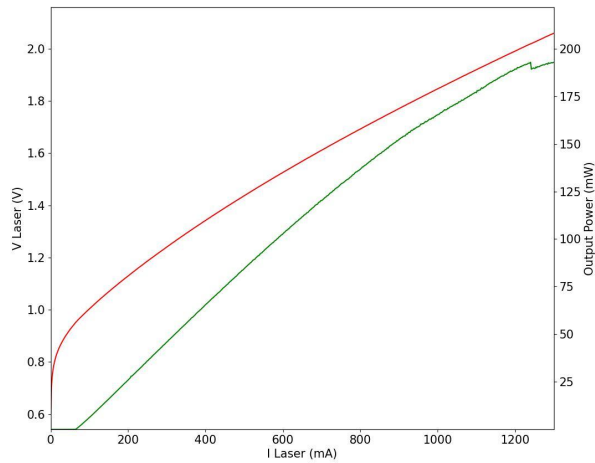
Spectrum



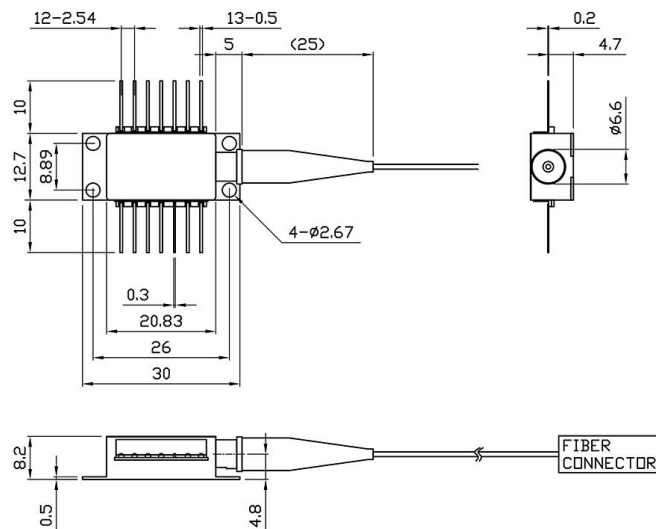
linewidth Measurement (CW,25deg)



L-I Curve

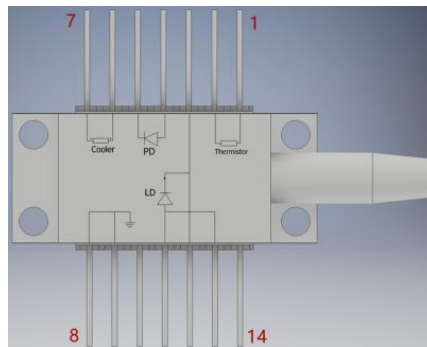


Package Size



Pin definition

Schematic Diagram (Top View)



Pin Connection

| PIN# | Function | PIN# | Function |
|------|--------------|------|-------------|
| 1 | Thermistor | 8 | Case Ground |
| 2 | Thermistor | 9 | Case Ground |
| 3 | LD(-) | 10 | NC |
| 4 | Detector (+) | 11 | LD(+) |
| 5 | Detector (-) | 12 | LD (-), RF |
| 6 | TEC (+) | 13 | LD (+) |
| 7 | TEC (-) | 14 | NC |

Ordering Info

PL-NL-□□□□-☆-A8▽-XX-NL

□□□□: Wavelength

1319:1319nm

1512:1512nm

1653.7: 1653.7nm

☆ : Output Power

A: 20mW

B: 50mW

C: 100mW

D: 180mW

▽: Wavelength Tolerance

1: ±1nm

2: ±2nm

XX: Fiber and Connector Type

SA=SMF-28E+ FC/APC

SP=SMF-28E+ FC/PC

PP=PM Fiber+ FC/PC

PA=PM Fiber+ FC/APC

NL: Narrow Linewidth@100KHZ