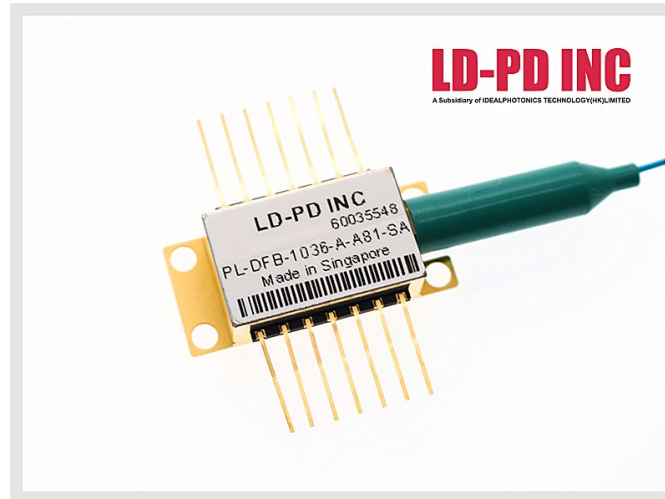


## 1036nm DFB Laser diode for Seed Laser



### Description:

The PL-DFB-1036-A-A81 1036nm DFB laser diode module made by LD-PD is a cost effective, highly coherent laser source. 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 < 2MHz
- Excellent wavelength control and stability
- Industry Standard 14 pin Butterfly package
- Mode-Hop free tuning
- Excellent reliability
- Customer specific wavelengths available

### Optional:

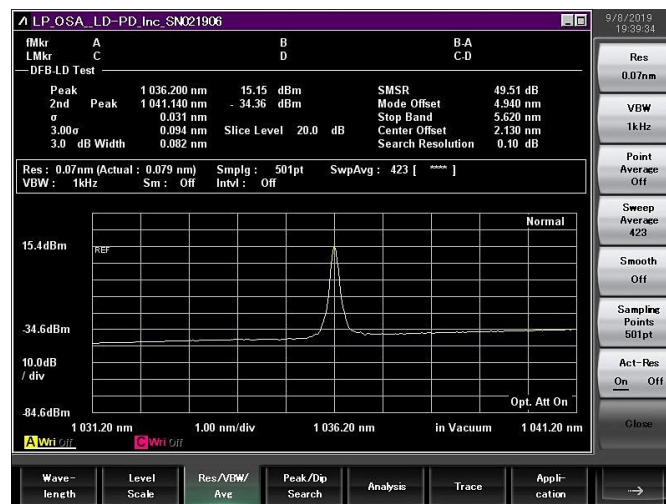
- Tunable diode laser absorption spectroscopy
- Seed laser
- Fiber laser

## Laser Specifications:

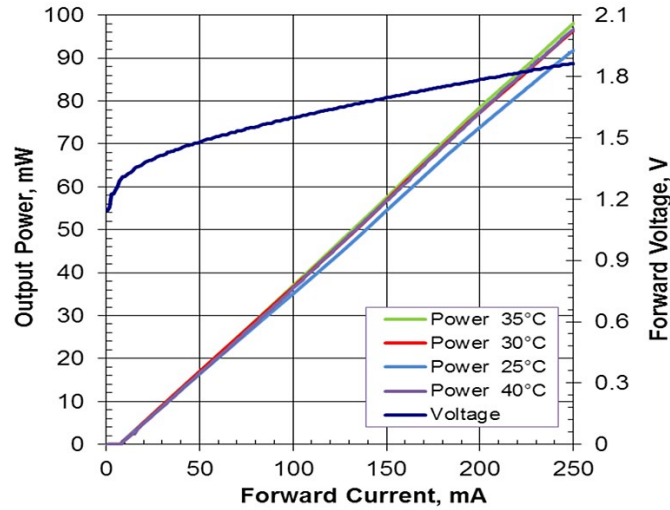
Tsub=25°C, CW bias unless stated otherwise

| Parameter                      | Symbol                   | Min    | Typ    | Max    | Unit       |
|--------------------------------|--------------------------|--------|--------|--------|------------|
| Centre Wavelength              | $\lambda$                | 1035.5 | 1036.0 | 1036.5 | nm         |
| Side Mode Suppression Ratio    | SMSR                     | 30     | 40     |        | dB         |
| Threshold Current              | I <sub>th</sub>          |        | 20     | 30     | mA         |
| Operating Current              | I <sub>op</sub>          |        | 180    | 250    | mA         |
| Chip output Power              | P <sub>f</sub>           | 50     | 70     | 90     | mW         |
| Quantum Efficiency             | $\eta$                   | 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 <sub>f</sub>           |        | 1.3    | 2      | V          |
| Thermistor Resistance          | RT                       | 9.5    | 10     | 10.5   | K $\Omega$ |
| Thermistor Temp. Coefficient   |                          |        | -4.4   |        | %/°C       |
| Connector                      | FC/APC                   |        |        |        |            |

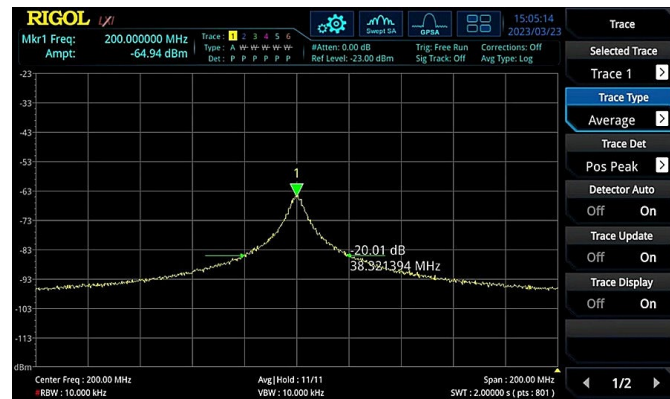
## Spectrum:



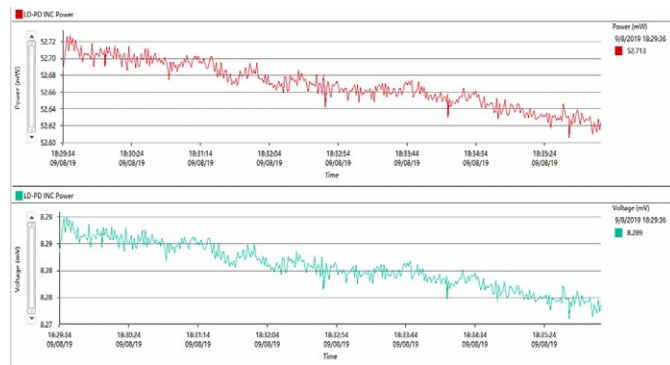
**L-I Curve:**



**DFB Linewidth Testing Result:**



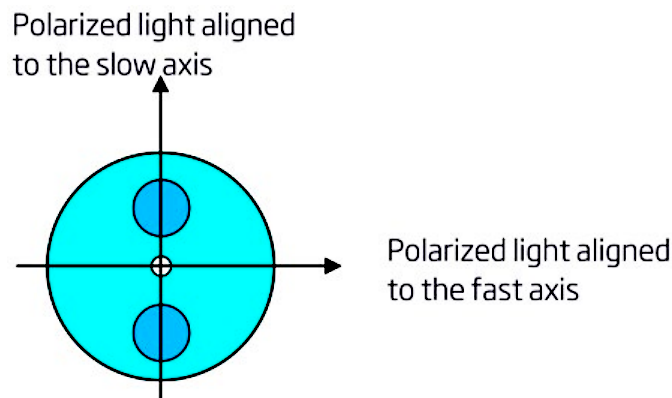
**Power Stability:**



**Panda PM980 Fiber Nominal Characteristics and Tolerances:**

| Parameters                  | Specification |
|-----------------------------|---------------|
| Fiber Bend Radius           | 3cm           |
| Max Attenuation             | 2.1dB/km      |
| Cladding Diameter           | 125um         |
| Coating Diameter            | 250um         |
| Core Cladding Concentricity | ≤0.5um        |
| Mode Field diameter         | 6.6um         |

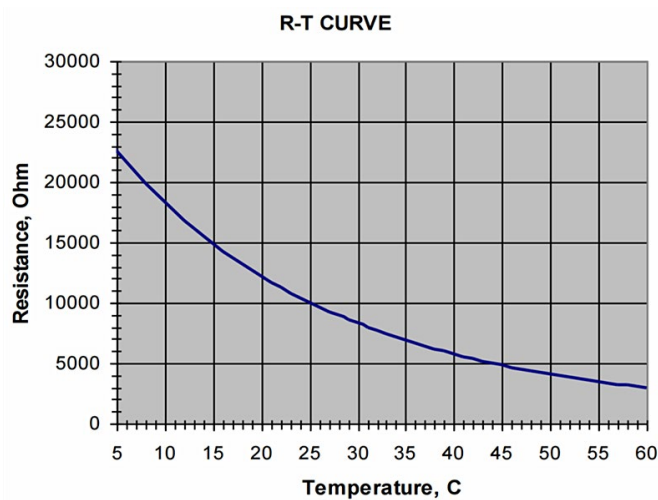
NA=0.12; FC/APC (narrow key)



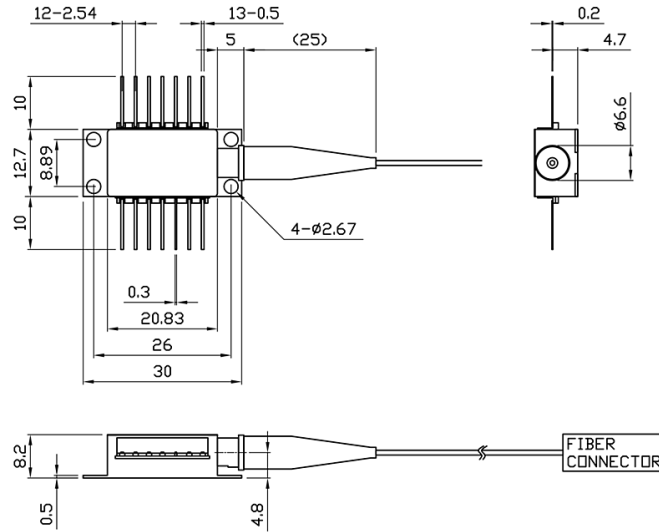
The output light is polarized along the slow axis of PM fiber.

**Thermistor specs:**

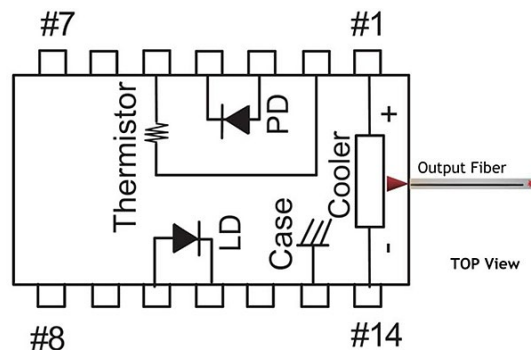
| Parameters       | Value | Unit |
|------------------|-------|------|
| Thermistor Type  | NTC   |      |
| Resistance@25deg | 10000 | ohm  |
| Resistance Tol.± | 1     | %    |
| Beta 0-50 deg    | 3375  | K    |



**Package Size:**



**Pin definition:**



| PIN# | Function                  | PIN# | Function                  |
|------|---------------------------|------|---------------------------|
| 1    | Thermoelectric Cooler (+) | 8    | N/C                       |
| 2    | Thermistor                | 9    | N/C                       |
| 3    | PD Monitor Anode (-)      | 10   | Laser Anode (+)           |
| 4    | PD Monitor Cathode (+)    | 11   | Laser Cathode (-)         |
| 5    | Thermistor                | 12   | N/C                       |
| 6    | N/C                       | 13   | Case Ground               |
| 7    | N/C                       | 14   | Thermoelectric Cooler (-) |

## Absolute Maximum Ratings:

| Item                 | Unit | Min | Typ | Max |
|----------------------|------|-----|-----|-----|
| Case Temperature     | °C   | -5  | 25  | 70  |
| Chip Temperature     | °C   | +10 | 25  | 40  |
| Operating Current    | mA   | 0   | 180 | 250 |
| Forward Voltage      | V    | 0.8 | 1.2 | 2.0 |
| TEC Current          | A    | -   | -   | 3.0 |
| TEC Voltage          | V    |     |     | 4   |
| Reverse Voltage (LD) | V    | -   | -   | 2.0 |
| Reverse Voltage (PD) | V    | -   | -   | 20  |

## Ordering Info:

PL-DFB- □□□□- -A8▽- XX

□□□□: Wavelength

1036: 1036nm

1532: 1532nm

1392: 1392nm

1512: 1512nm

1567: 1567nm

\*\*\*\*\*

1653.7: 1653.7nm

: Output Power

A: 40mW

B: 70mW

▽: Wavelength Tolerance

1: ±1nm

2: ±2nm

XX: Fiber and Connector Type

SA=HI1060+ FC/APC

SP=HI1060+ FC/PC

PA=PM980 Fiber+ FC/APC

PP=PM980 Fiber+ FC/PC