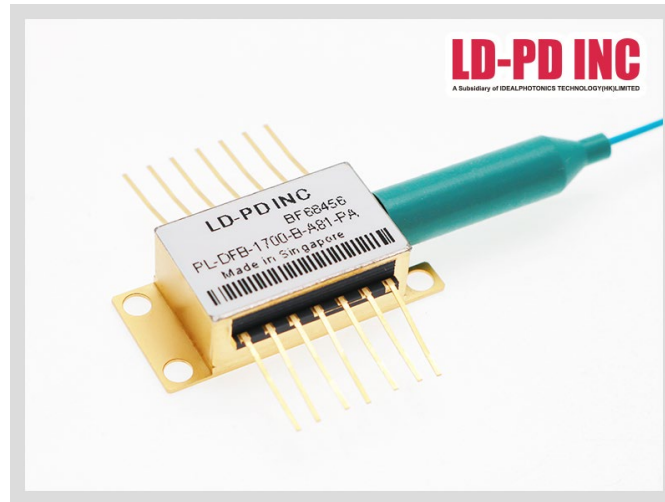


## 1700nm DFB Tunable Laser diode



### Description:

The PL-DFB-1700-A1 1700nm 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

### Applications:

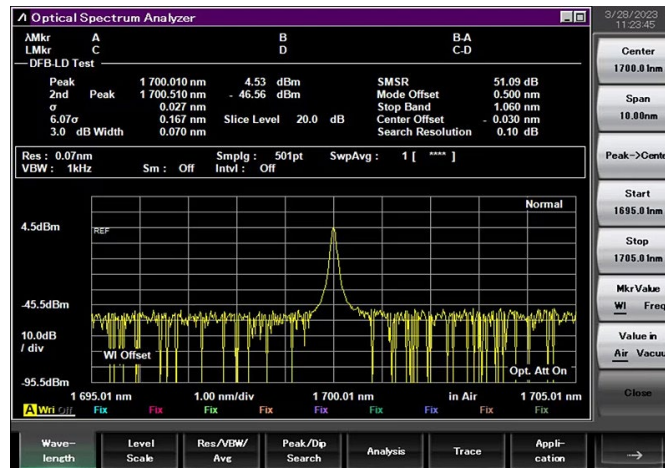
- Tunable diode laser absorption spectroscopy
- Gas Monitoring

**Electrical/Optical Characteristics:**

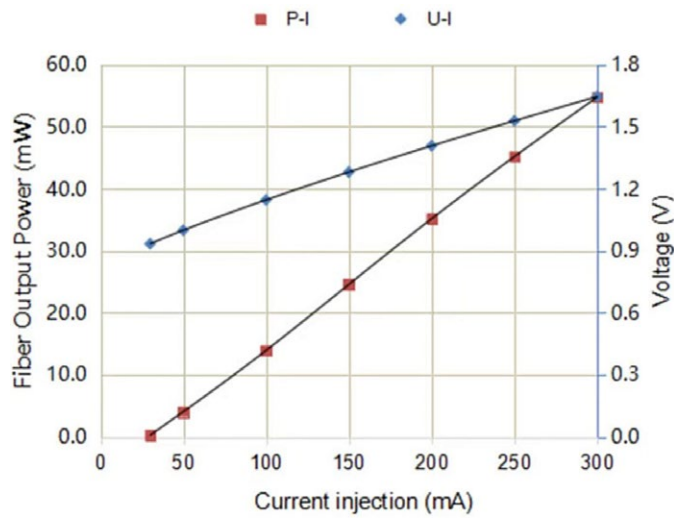
Electrical/Optical Characteristics (Tsub=25°C, CW bias unless stated otherwise)

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	$\lambda$	1699	1700	1701	nm
Side Mode Suppression Ratio	SMSR	30	40		dB
Threshold Current	I <sub>th</sub>		20	30	mA
Operating Current	I <sub>op</sub>		240	300	mA
Chip output Power	P <sub>f</sub>	10	30	40	mW
Quantum Efficiency	$\eta$	0.08	0.12		mW/mA
Current Tuning Coefficient	$\lambda / I$		0.015		nm/mA
Temperature Tuning Coefficient	$\lambda / T$		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				

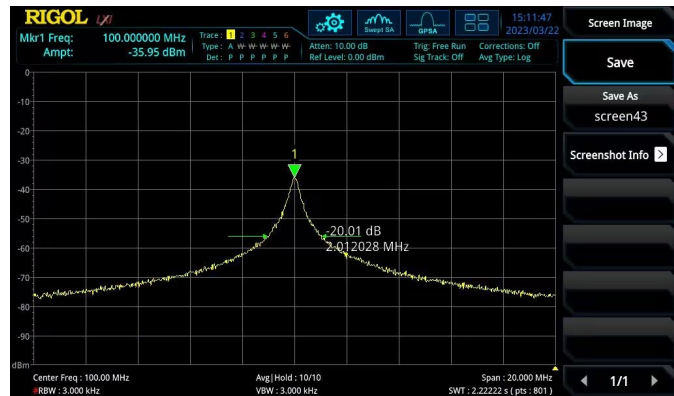
**Spectrum:**



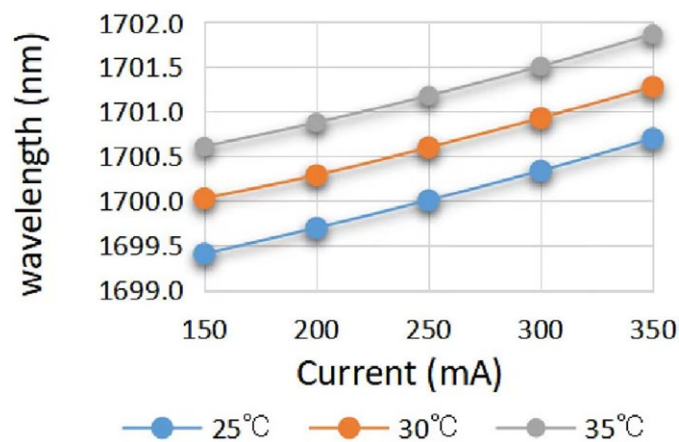
**L-I Curve:**



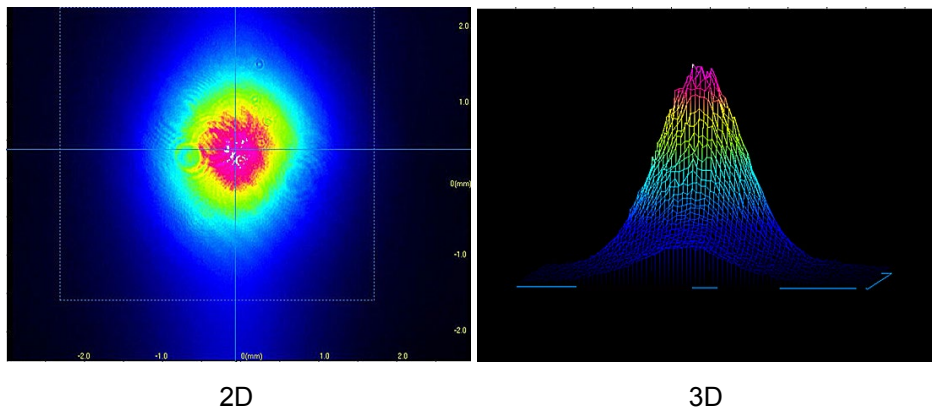
**DFB Linewidth Testing Result:**



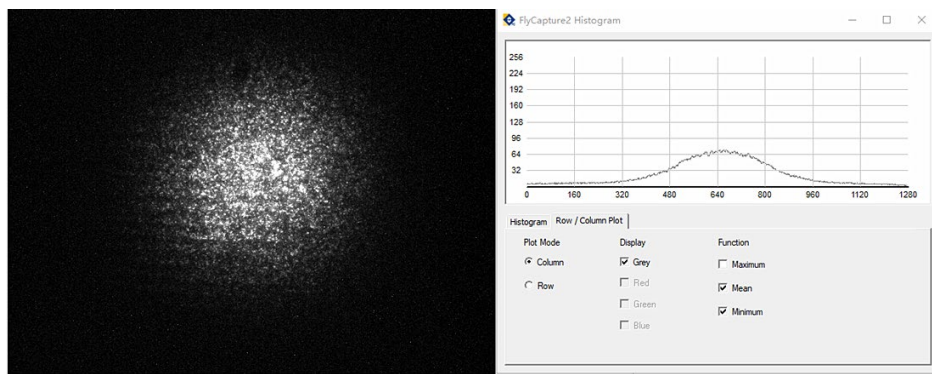
**Tuning Characteristics:**



**Beam Quality:**

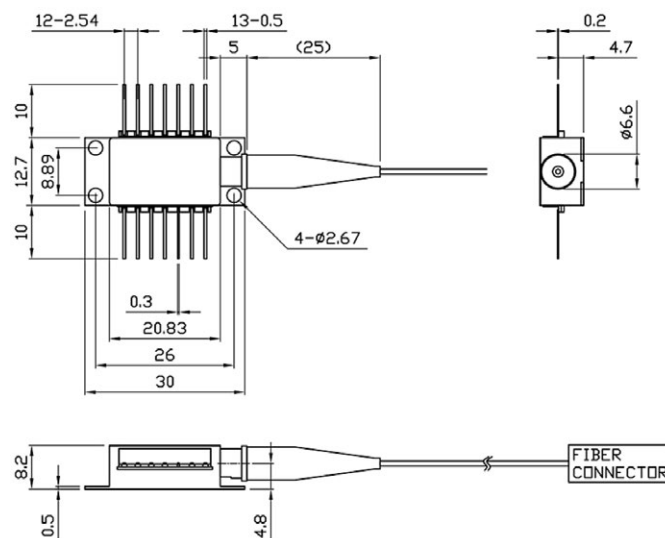


**Camera Analysis:**

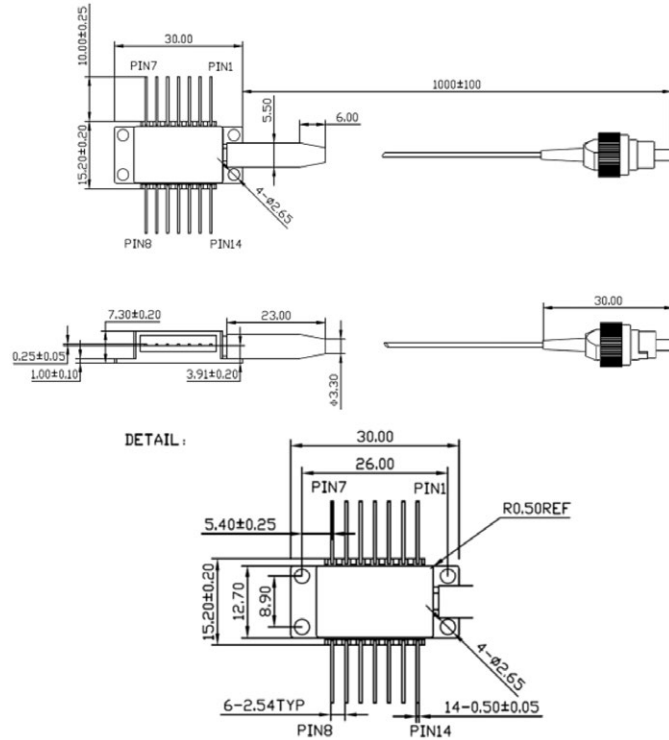


**Package Size:**

TYPE A

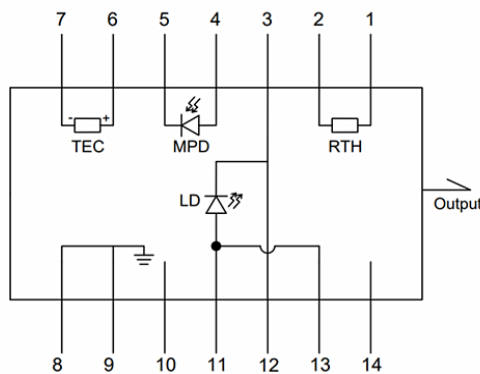


**TYPE B**



**Schematic Diagram (Top View):**

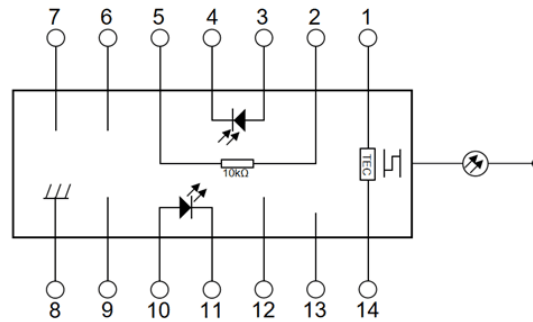
**TYPE A**



**TYPE A 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

TYPE B



TYPE B Pin Connection

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

Absolute Maximum Ratings:

Item	Unit	Min	Typ	MMax
Case Temperature	°C	-5	25	70
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	230	300
Forward Voltage	V	0.8	1.2	1.8
TEC Current	A	-	-	1.2
Reverse Voltage(LD)	V	-	-	2.0
Reverse Voltage(PD)	V	-	-	20

**Ordering Info:**

PL-DFB-□□□□-☆-A8▽-XX

□□□□: Wavelength

1270: 1270nm

1532: 1532nm

1392: 1392nm

1512: 1512nm

1567: 1567nm

1600.3: 1600.3nm

\*\*\*\*\*

1653.7: 1653.7nm

1700: 1700nm

☆: Output Power

A: 10mW

B: 30mW

▽: 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