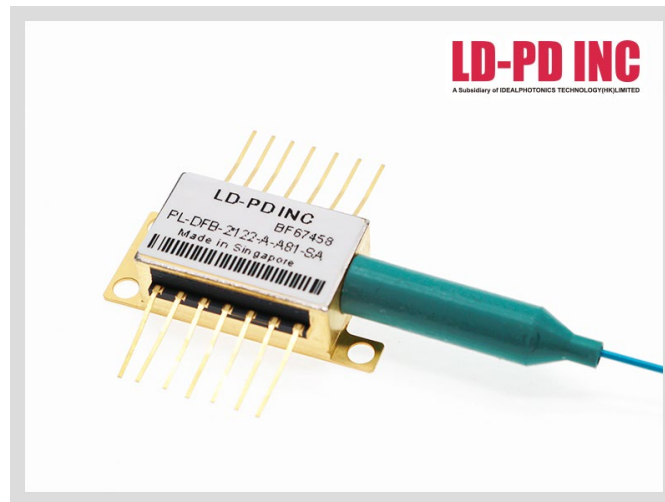


## 2122nm DFB Laser diode



### Description:

The PL-DFB-2122-A1 2122nm 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

### Application:

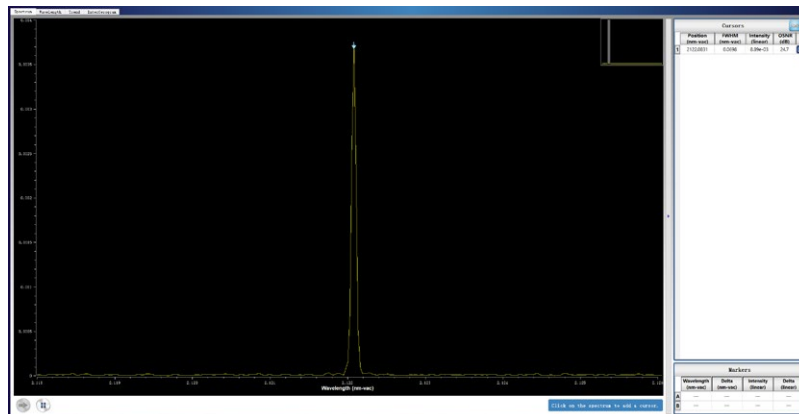
- Tunable diode laser absorption spectroscopy
- Gas Monitoring

## Laser Specifications:

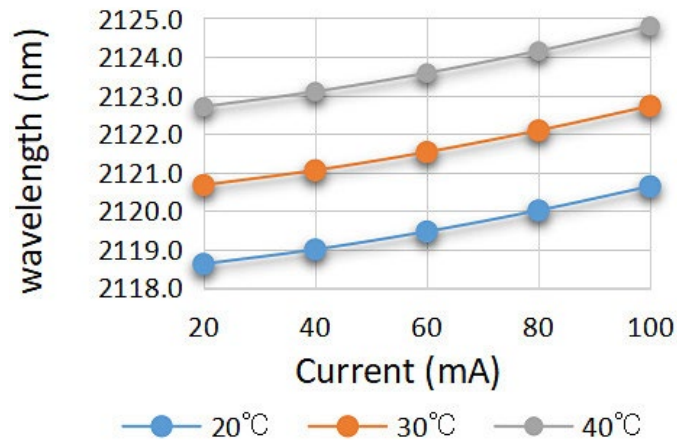
Tsub=25°C, CW bias unless stated otherwise

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	$\lambda$	2121	2122	2123	nm
Side Mode Suppression Ratio	SMSR	30	40		dB
Threshold Current	I <sub>th</sub>		20	30	mA
Operating Current	I <sub>op</sub>		80	120	mA
Chip output Power	P <sub>f</sub>	4	7	12	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	R <sub>T</sub>	9.5	10	10.5	K $\Omega$
Thermistor Temp. Coefficient			-4.4		%/°C
Connector	FC/APC				

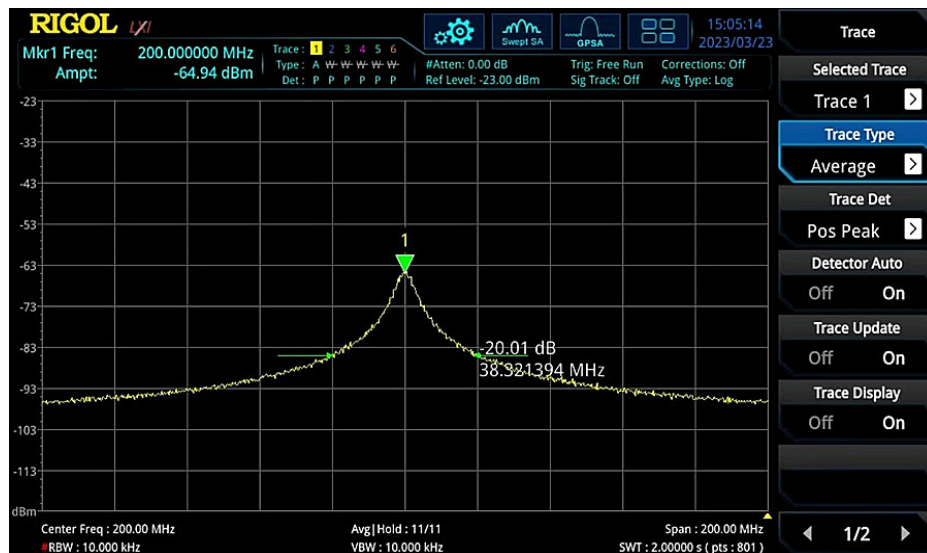
## Spectrum:



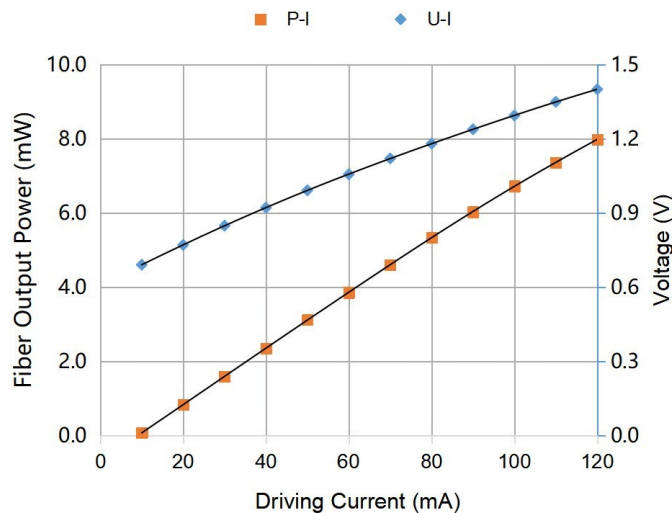
**Tuning characteristics:**



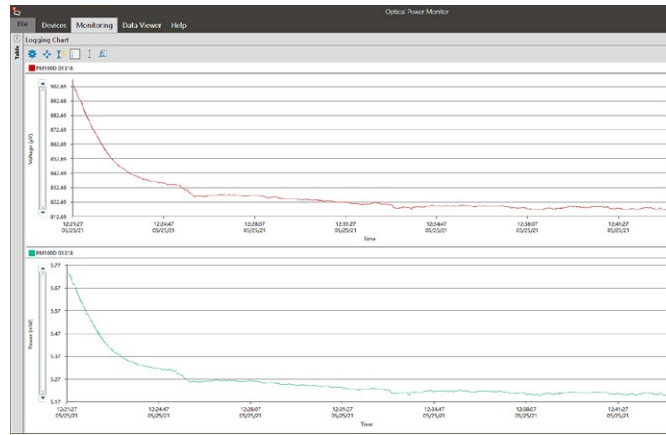
**DFB Linewidth Testing Result:**



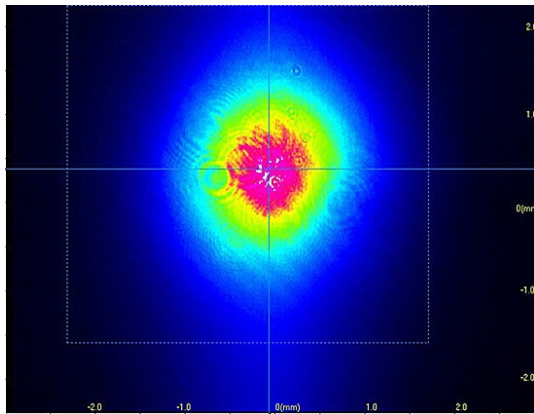
**L-I Curve:**



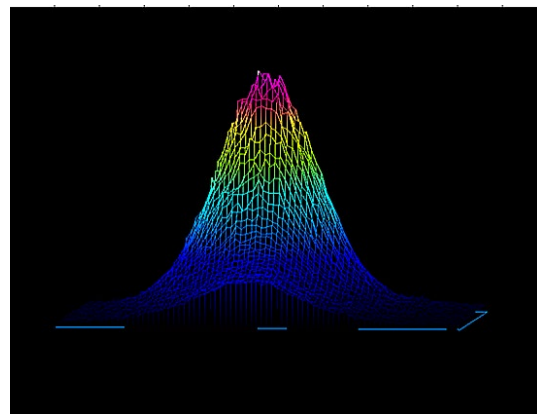
**Power Stability:**



**Beam Quality:**

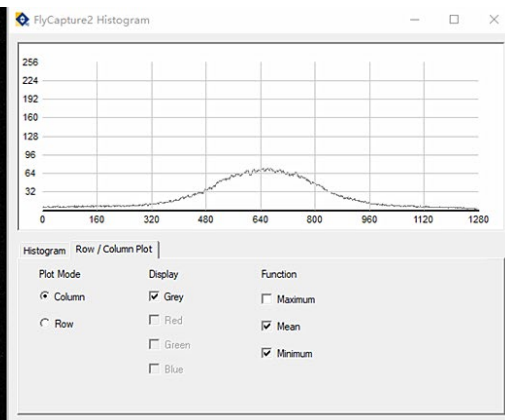
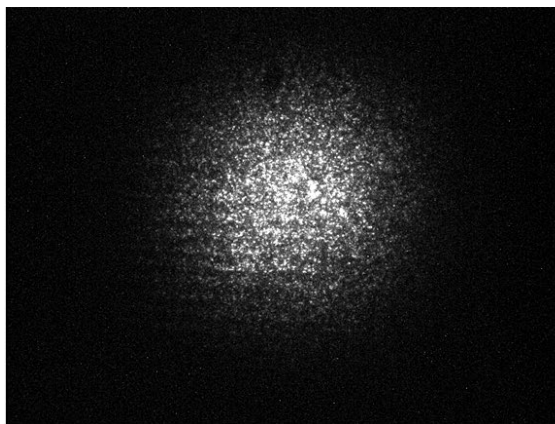


2D

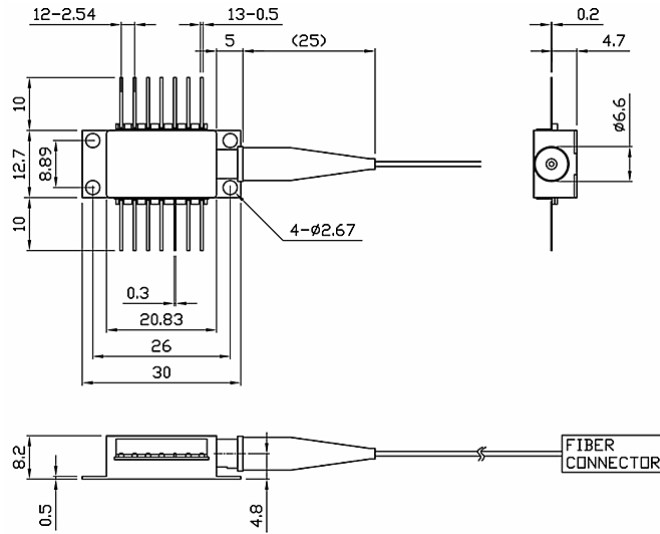


3D

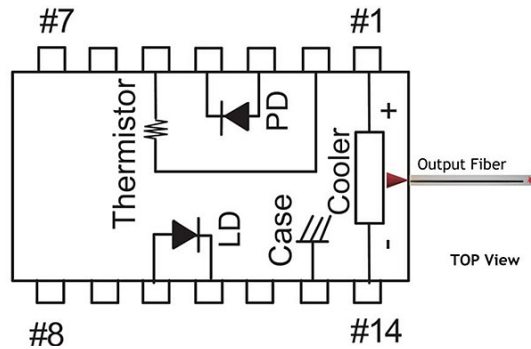
**Camera Analysis:**



**Package Size:**



**Pin definition:**



PIN#	Function	PIN#	Function
1	Thermoelectric Cooler (+)	8	N/C
2	Thermistor	9	Laser Cathode (-)
3	PD Monitor Anode (-)	10	laser Anode (+)
4	PD Monitor Cathode (+)	11	N/C
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	100	120
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

1512: 1512nm

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1653.7: 1653.7nm

2122: 2122nm

☆: Output Power

A: 5mW

B: 10mW

▽: 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