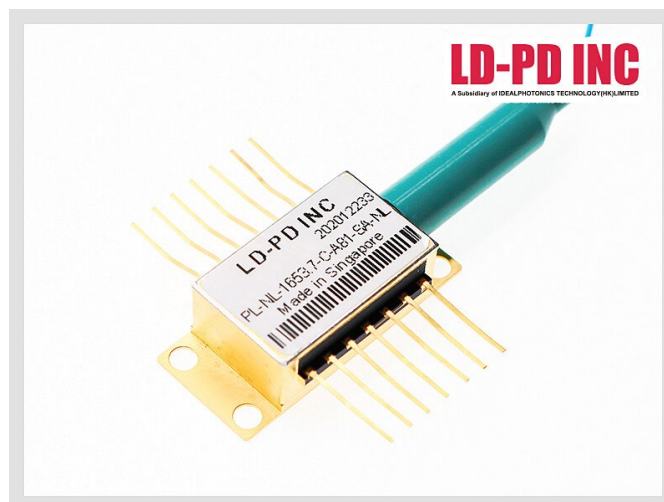


1653.7nm Ultra Narrow Linewidth High power DFB Laser diode for Fiber SENSING



Description:

The PL-DFB-C-A1-1653.7-NL 1653.7nm Ultra High power and Narrow linewidth DFB laser diode module made by LD-PD is a cost effective with output fiber up to 60mw, highly coherent laser source. Which typical narrow linewidth at 500KHZ. 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<500KHz
- Excellent wavelength control and stability
- Industry Standard 14 pin Butterfly package
- Mode-Hop free tuning
- Excellent reliability
- Customer specific wavelengths available

Application:

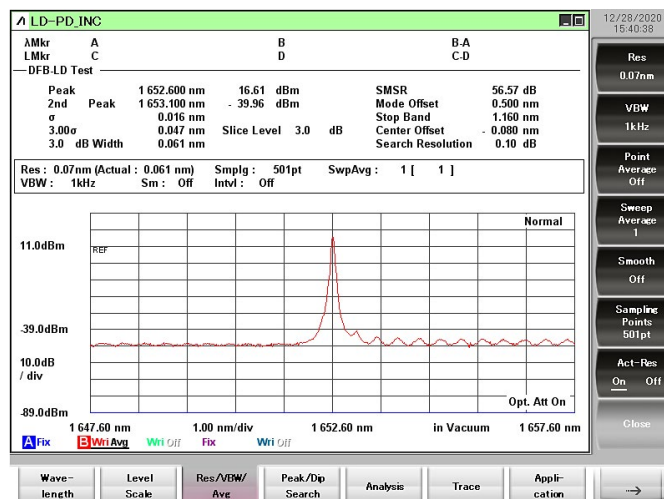
- Tunable diode laser absorption spectroscopy
- Lidar
- Long distance Fiber Communication

E/O Characteristics:

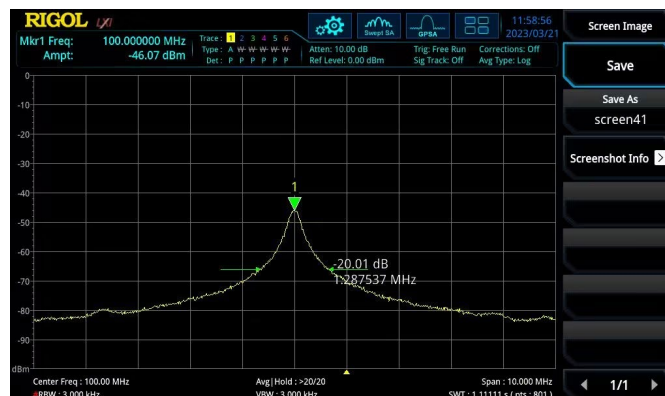
Electrical/Optical Characteristics(Tsub=25°C, CW bias unless stated otherwise)

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	λ	1650	1653.7	1656	nm
Side Mode Suppression Ratio	SMSR	30	40		dB
Threshold Current	I _{th}		20	30	mA
Operating Current	I _{op}		280	500	mA
Chip output Power	P _f	50	60	80	mW
Linewidth(3dB)	L	75	100	500	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	R _T	9.5	10	10.5	K Ω
Thermistor Temp. Coefficient			-4.4		%/°C
Connector	FC/APC				

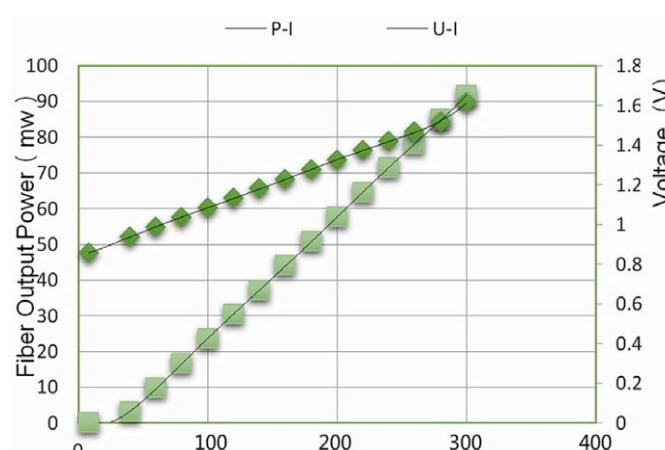
Spectrum:



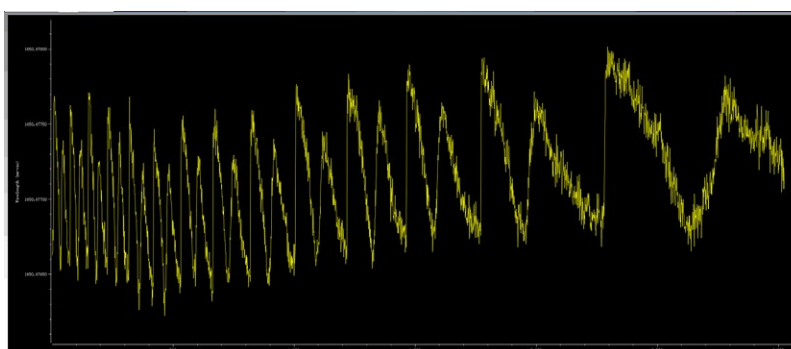
Inewidth Measurement (CW,25deg):



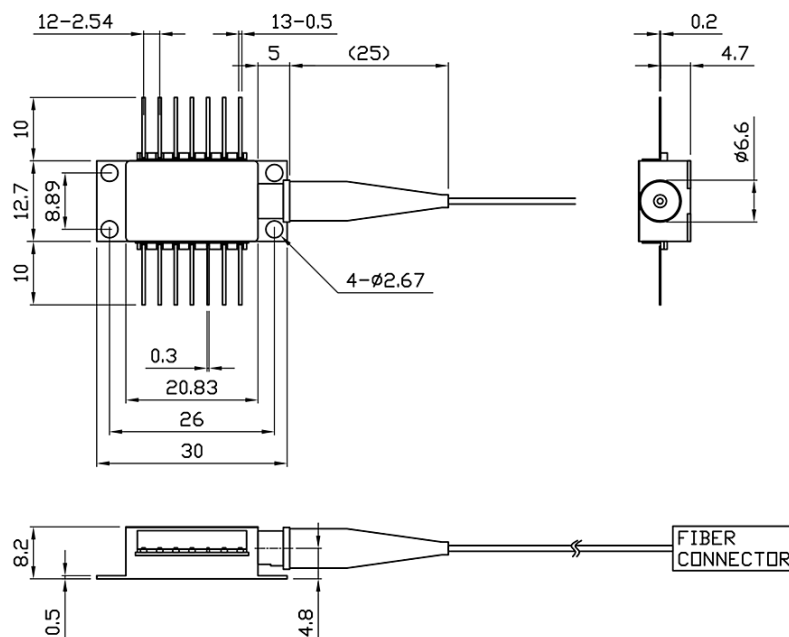
L-I Curve:



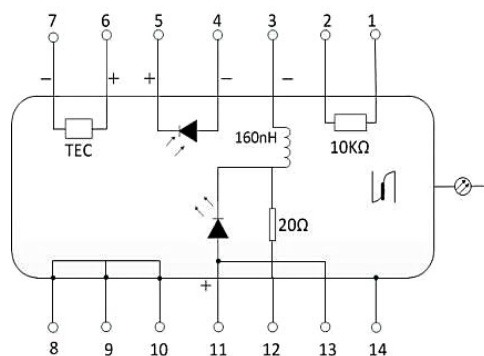
Wavelength Stability:



Package Size:



Pin definition:



PIN#	Function	PIN#	Function
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	Laser dc Bias (Cathode) (-)	10	Case Ground
4	PD Monitor Anode (-)	11	Laser Anode (+)
5	PD Monitor Cathode (+)	12	RF Laser Input Cathode (-)
6	Thermoelectric Cooler (+)	13	Laser Anode (+)
7	Thermoelectric Cooler (-)	14	Case Ground

Absolute Maximum Ratings:

Item	Unit	Min	Typ	Max
Case Temperature	°C	-5	25	70
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	400	500
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-NL-□□□□-☆-A8▽-XX-NL

□□□□: Wavelength

1392:1392nm

1512:1512nm

1653.7:1653.7nm

1653.7: 1653.7nm

☆ : Output Power

A: 10mW

B: 20mW

C: 60mW

▽ : 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@500KHZ