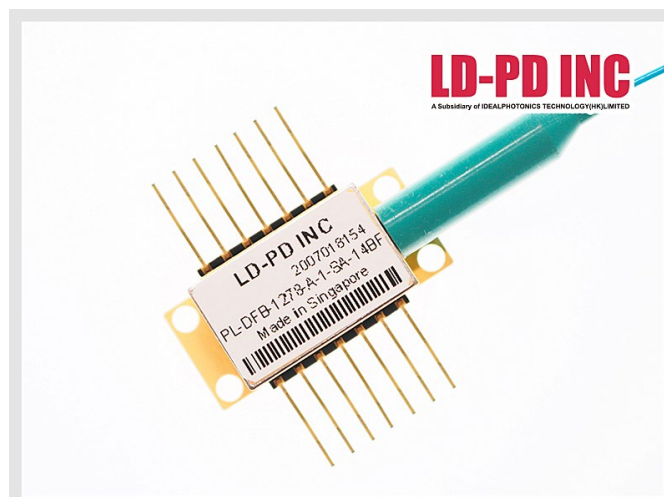


1278nm DFB Laser diode for HF Sensing



Description:

The PL-DFB-1278-A-A81-SA-14BF 1278nm 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:

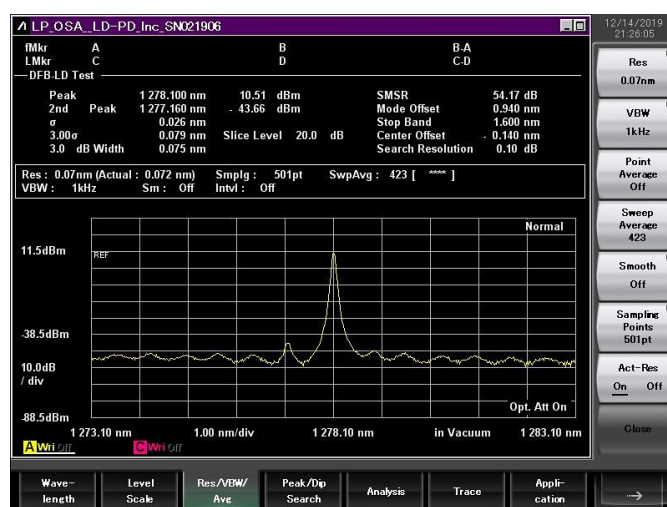
- Tunable diode laser absorption spectroscopy
- HF Monitoring

Laser Specifications:

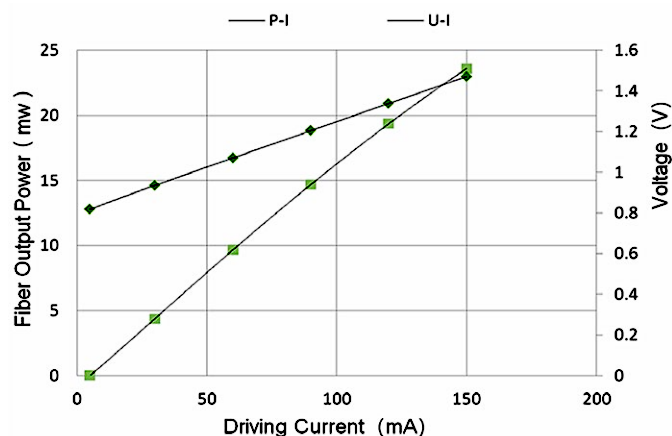
Tsub=25°C, CW bias unless stated otherwise

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	λ	1277.5	1278.0	1278.5	nm
Side Mode Suppression Ratio	SMSR	30	40		dB
Threshold Current	I _{th}		20	30	mA
Operating Current	I _{op}		80	150	mA
Chip output Power	P _f	10	15	30	mW
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				

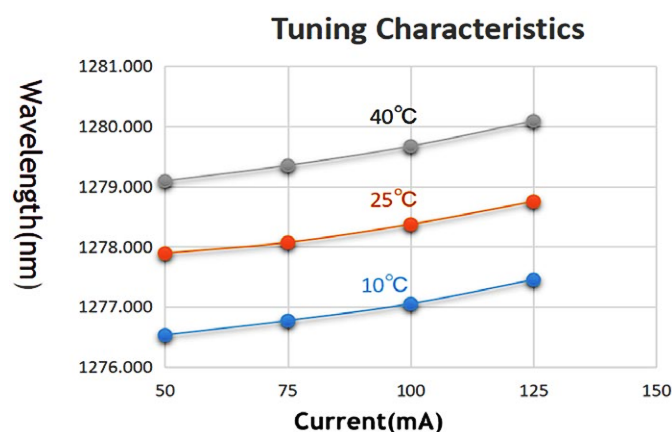
Spectrum:



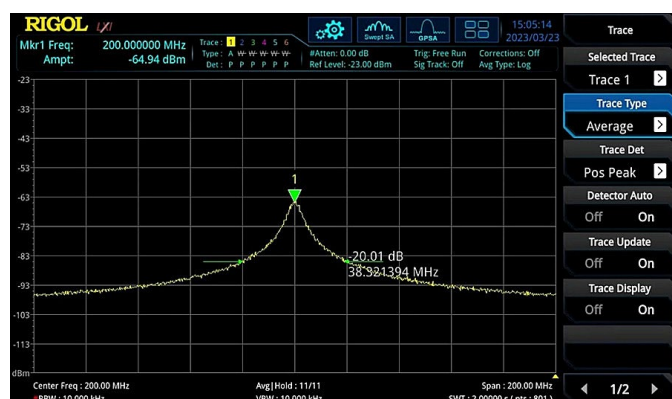
L-I Curve:



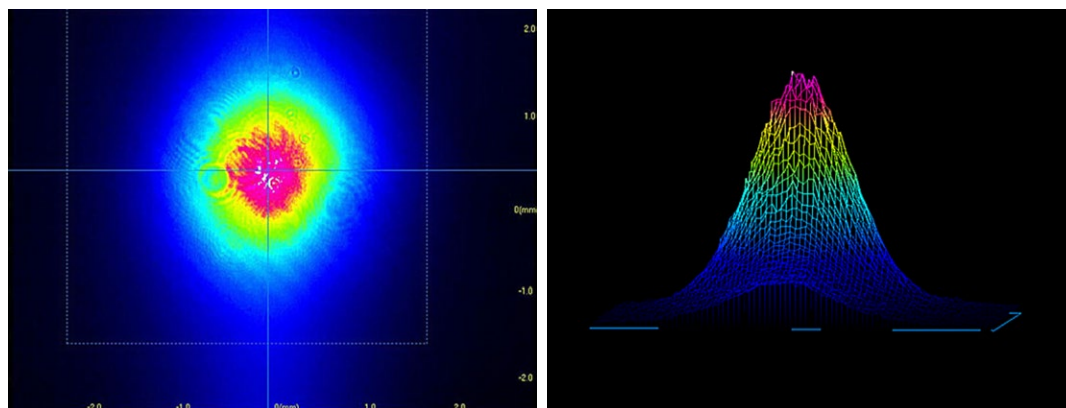
Tuning characteristics:



DFB Linewidth Testing Result:



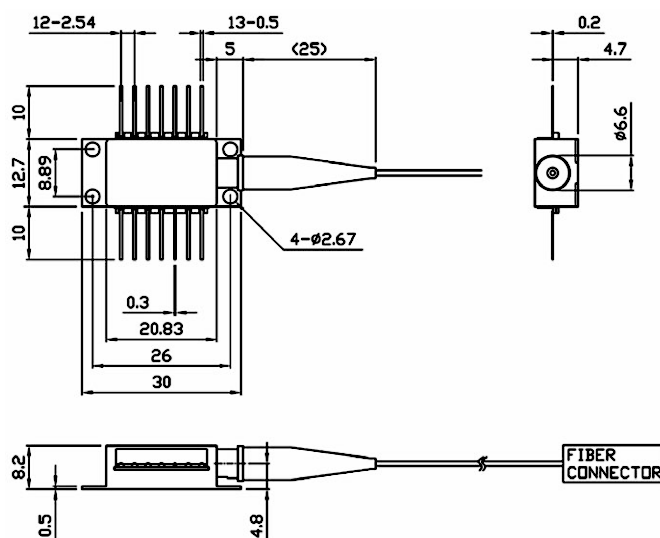
Beam Quality:



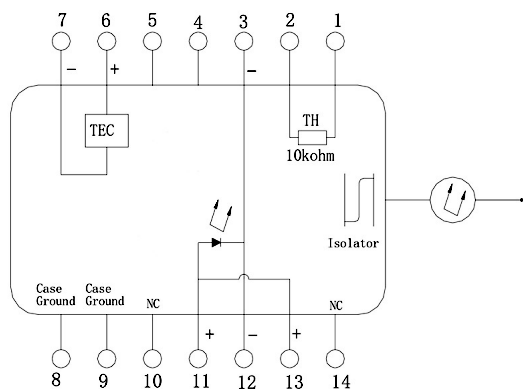
2D

3D

Package Size:



Pin definition:



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

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	150
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
operating case temperature (non-condensing)	TC °C	-20	+25	+55
storage temperature (non-condensing)	TS °C	-20	+20	+80

Ordering Info:

□□□□: Wavelength

1270: 1270nm

1532:1532nm

1392:1392nm

1512:1512nm

1567:1567nm

1653.7: 1653.7nm

☆ : Output Power

A: 10mW

B: 20mW

▽: Wavelength Tolerance

1: $\pm 1\text{nm}$

2: $\pm 2\text{nm}$

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