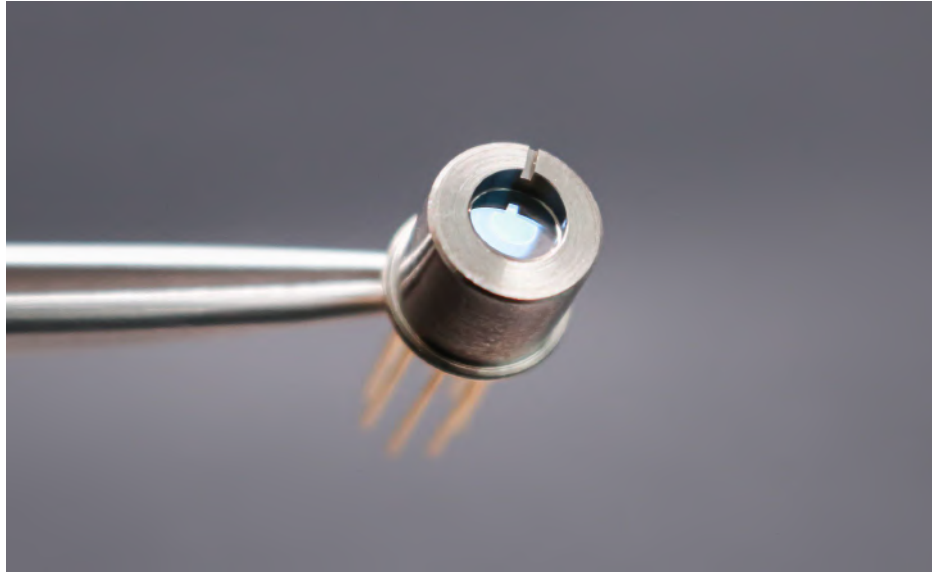


1950nm DFB Laser diode for HBr sensing (TO39 Package)



Description

The PL-DFB-1950-A-A81 1950nm 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 TO39 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
- HBr Monitoring

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

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	λ	1949	1950	1951	nm
Side Mode Suppression Ratio	SMSR	30	40		dB
Threshold Current	I _{th}		20	30	mA
Operating Current	I _{op}		80	120	mA
Chip output Power	P _f	2	3	5	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				

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<DFB-LD ANALYSIS>

QMSR: 44.71dB OSNR: 54.95dB (-0.10nm)
 PEAK WL: 1949.600nm PK LEVEL: -4.26dBm σ: 0.0909nm
 20.00dB WIDTH: 0.7635nm CTR WL: 1949.5945nm Kσ: 0.1818nm
 MODE OFFSET: -3.0000nm POWER: -4.10dBm

A:WRITE /DSP
 0:FIX /BLK
 0:FIX /BLK
 0:FIX /BLK
 0:FIX /BLK
 0:FIX /BLK

MEAS CONDITION: (EFFECTIVE)
 START: 1925.000nm STOP: 1975.000nm CENTER: 1950.000nm SPAN: 50.0nm

10.0 dBm/D RES: 0.3 nm SENS: HT /CHOP AVG: 1 SML: 1251 (AUTO)

10.0
-10.0
-30.0
-50.0
-70.0
-90.0

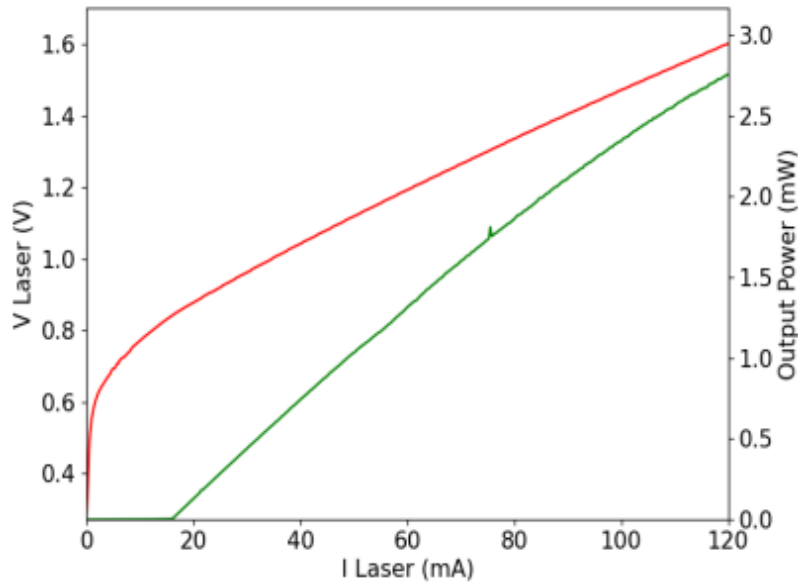
REF

1925.000nm 1950.000nm 1975.000nm

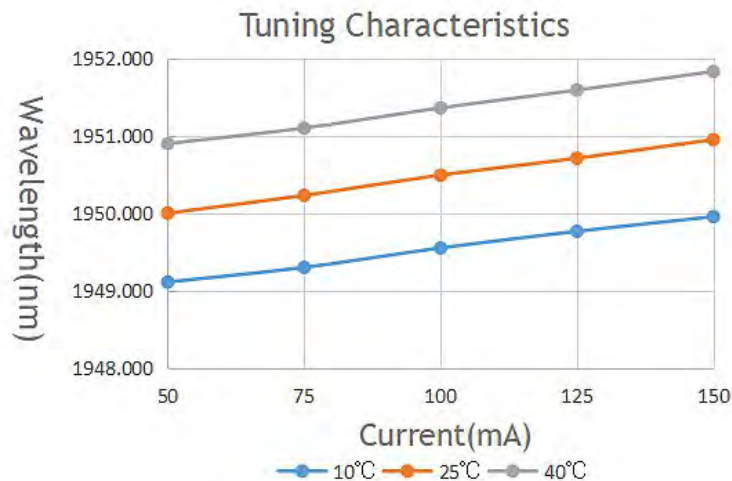
5.00 nm/D

LVL WL NOT SRC SRC VAC AUT ALT AUT AUT AUT SWP SMO RPT BGL ST

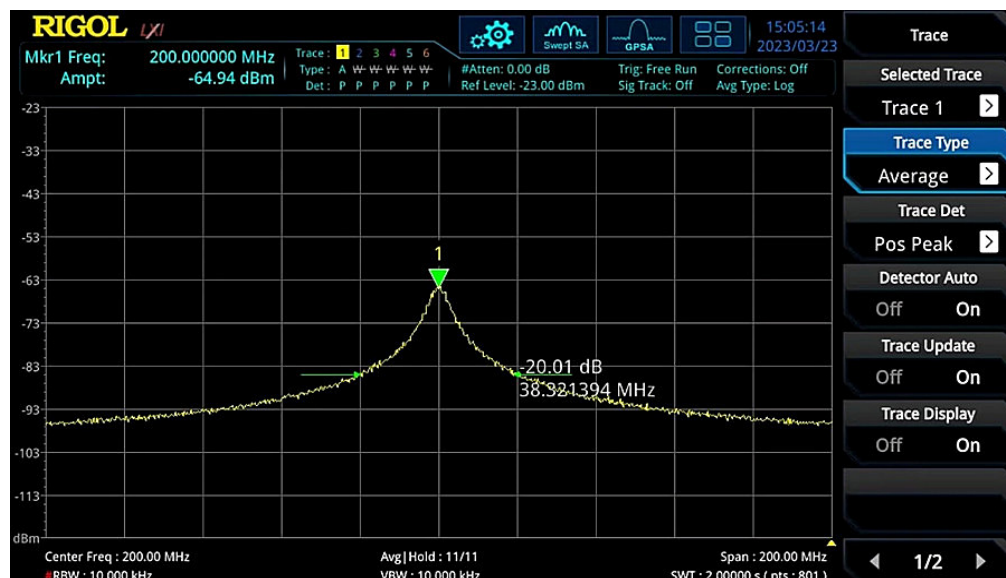
L-I Curve



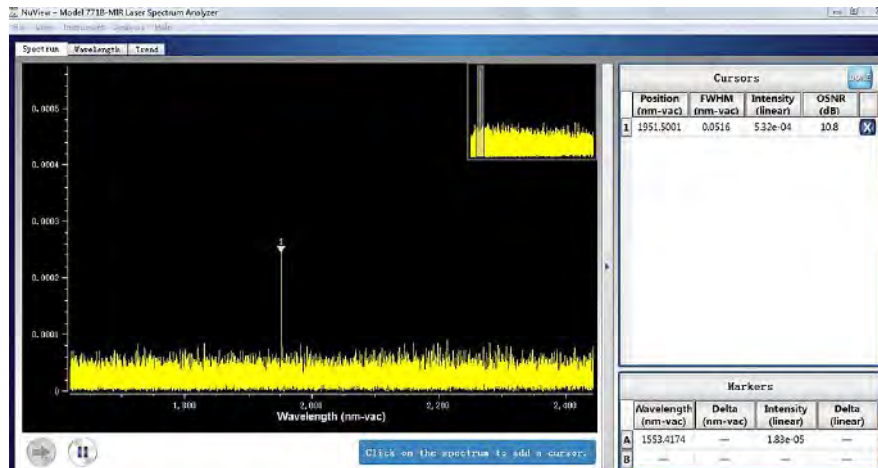
Tuning Characteristics



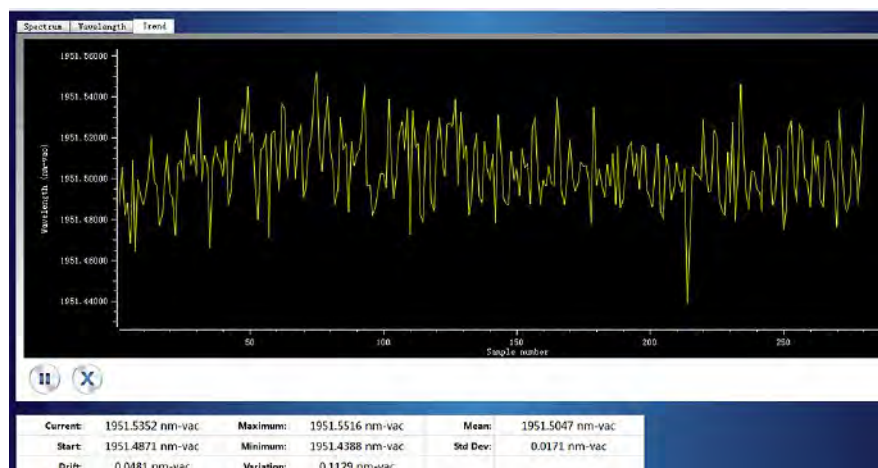
DFB Linewidth Testing Result



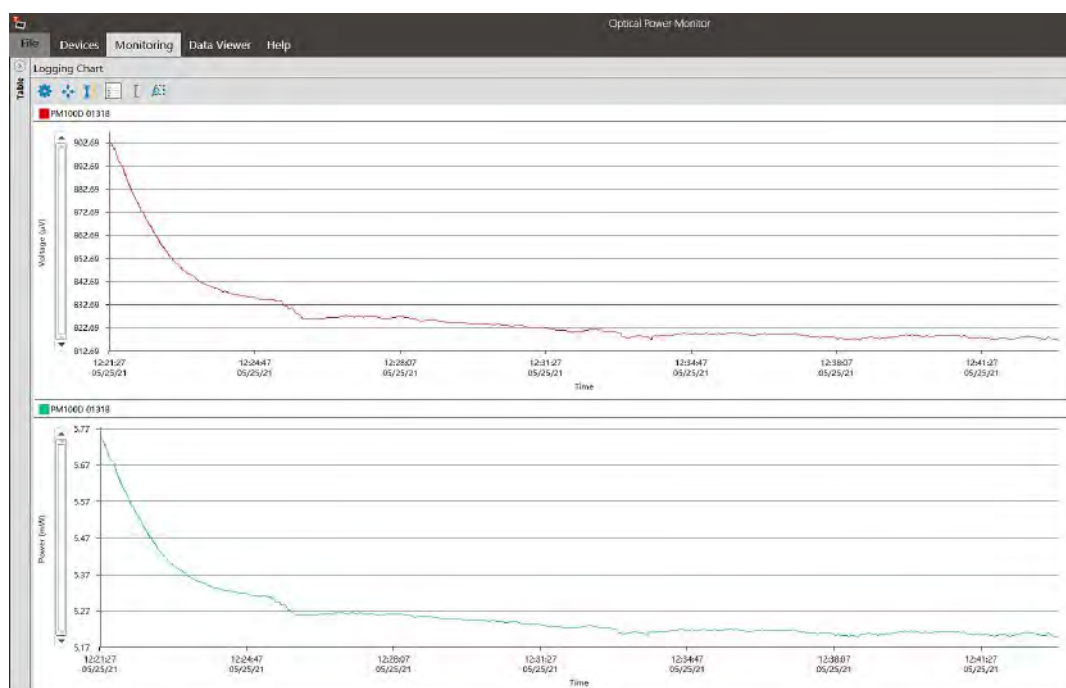
Central Wavelength



Wavelength Stability

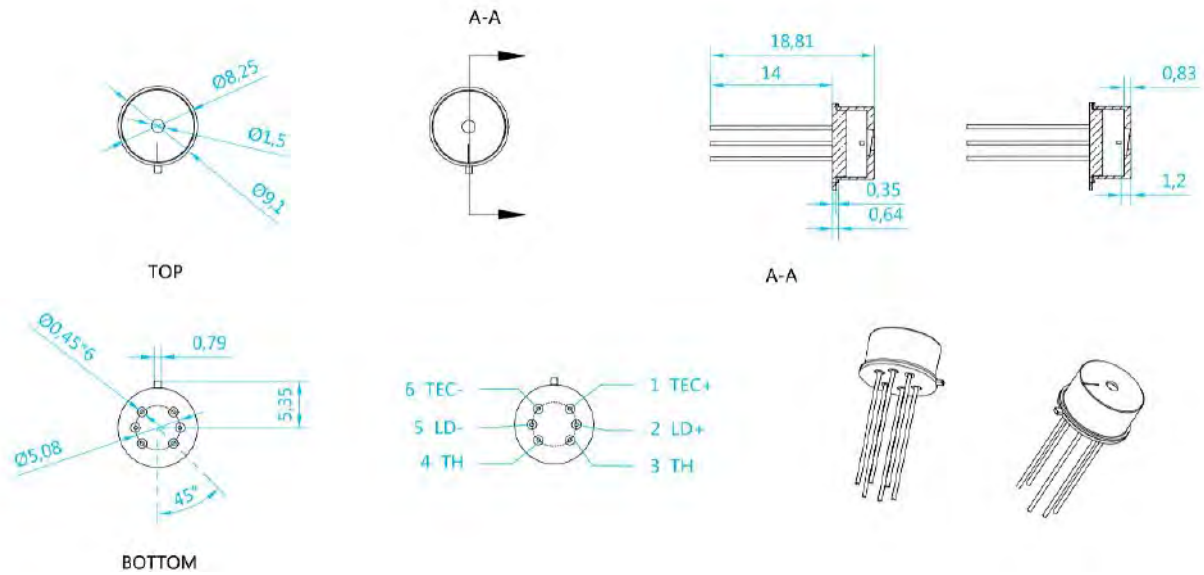


Power Stability

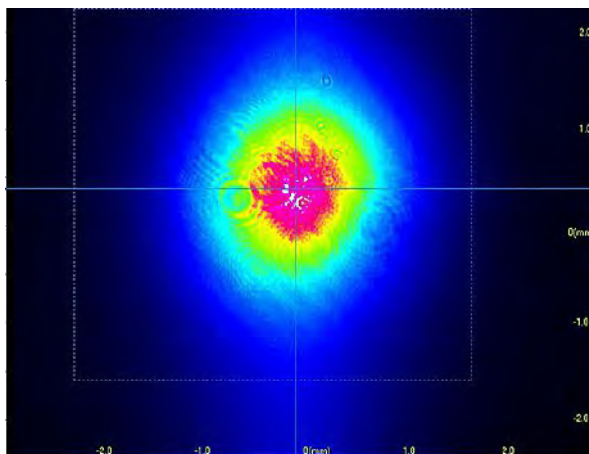


Dimensions and Pin definitions

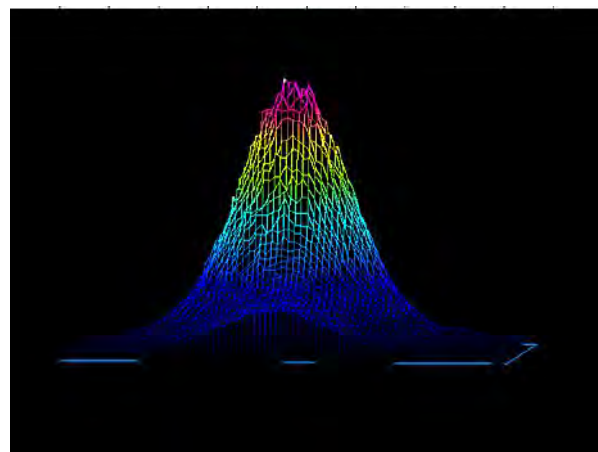
Uinte (mm)



Beam Quality

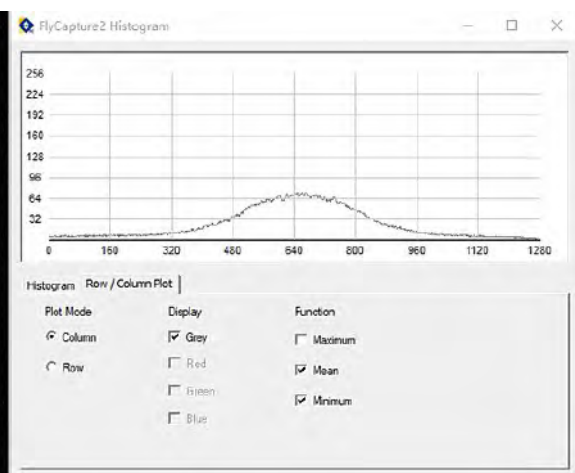
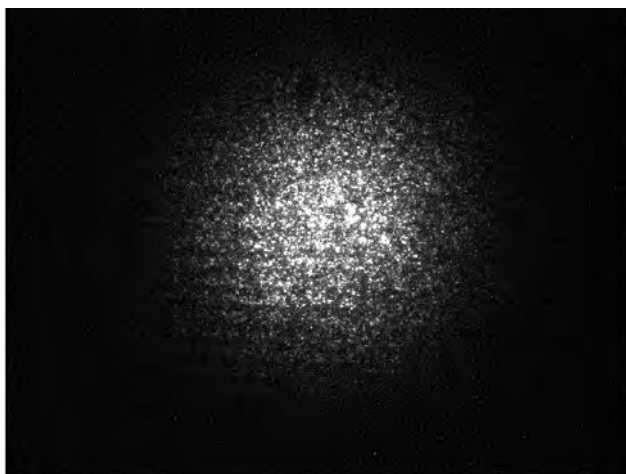


2D



3D

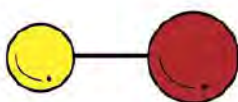
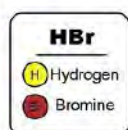
Camera Analysis



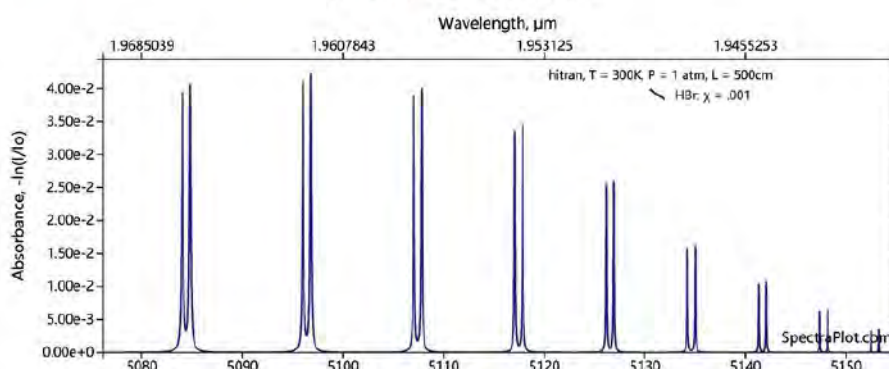
Absolute Maximum Ratings

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

HBr



TDLAS: 1950/1962nm



Ordering Info

PL-DFB-□□□□-☆-A8▽-TO39

□□□□: Wavelength

1530: 1530nm

1653.7: 1653.7nm

1950: 1950nm

☆ : Output Power

A: 2mW

B: 5mW

▽ : Wavelength Tolerance

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

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