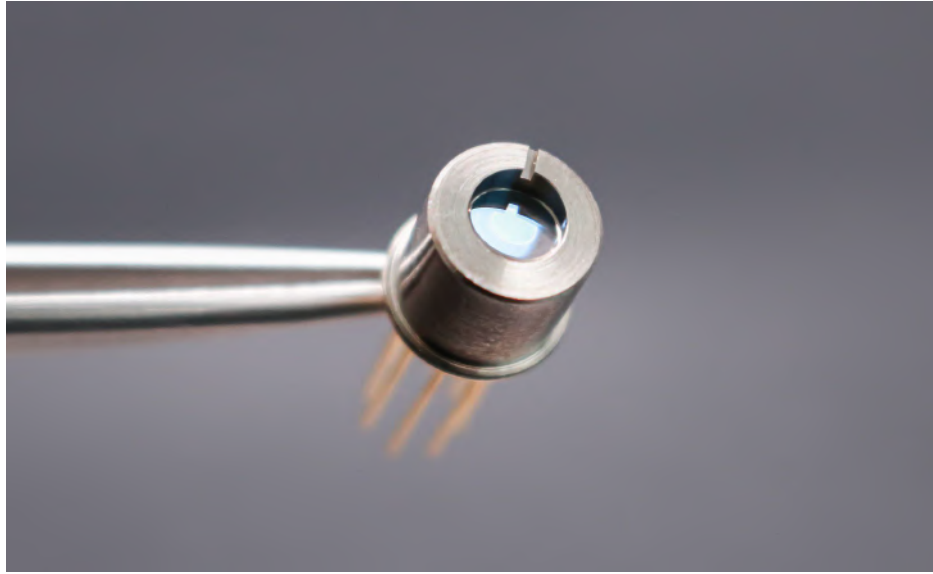


1947nm DFB Tunable Laser diode (TO39 Package)



Description

The PL-DFB-1947-A-A81 1947nm 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
- CH₄ Monitoring

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

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	λ	1946	1947	1948	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		%/ $^{\circ}$ C
Connector	FC/APC				

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(DFB-LD ANALYSIS)

SNR: 46.05dB OSNR: 54.51dB (0.10nm)
PEAK WL: 1947.1200nm PK LEVEL: -2.45dBm σ : 0.0523nm
3.00dB WIDTH: 0.2037nm CTR WL: 1947.1366nm λ : 0.1046nm
MODE OFFSET: -1.4000nm POWER: -1.98dBm

MEAS CONDITION: **RES: 0.2nm**
START: 1937.000nm STOP: 1957.000nm CENTER: 1947.000nm SPAN: 20.0nm

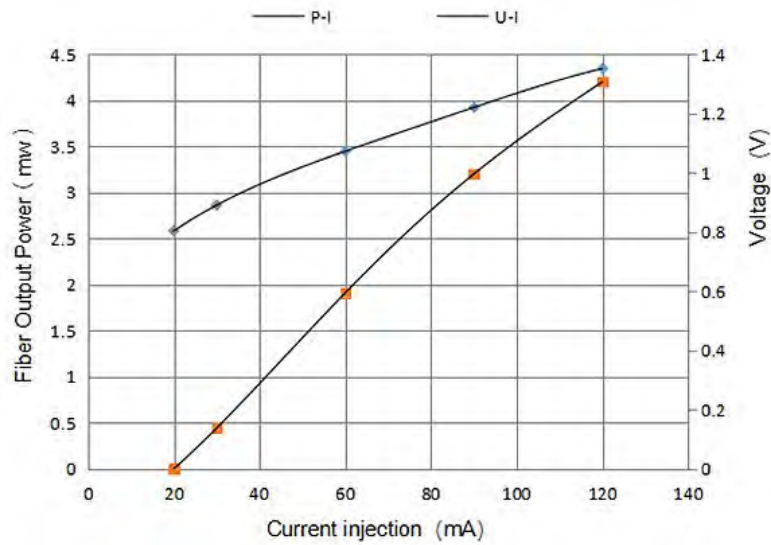
10.0 dB/D RES: 0.2 nm SENS: H1/CHOP AVG: 1 SMDL: 501 (AUTO)

10.0 dBm REF

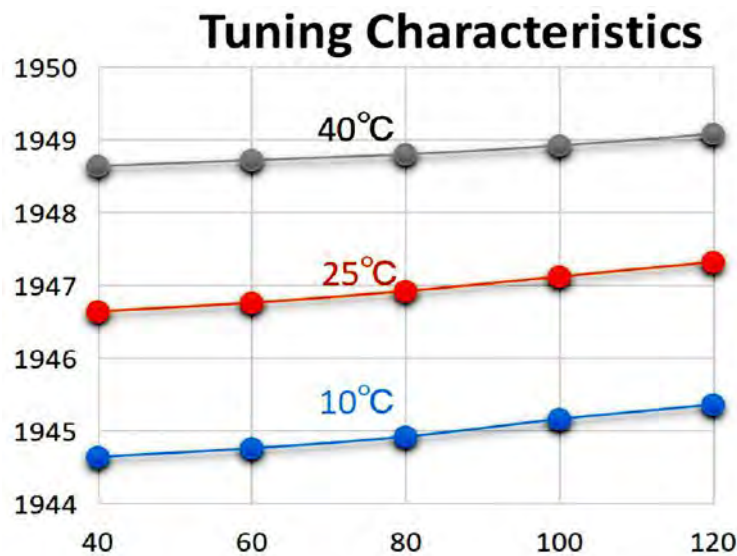
1947.000 nm 2.00 nm/D 1957.000 nm

EVG LDF NO1 SRC SRC VAC AUT AUT AUT AUT AUT AUT SUP SKO RPT SGL STR

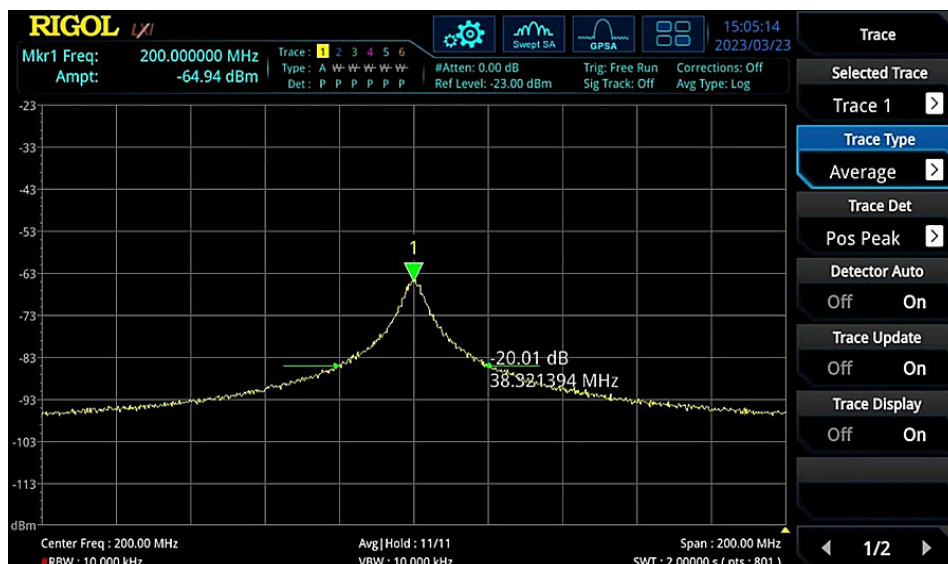
L-I Curve



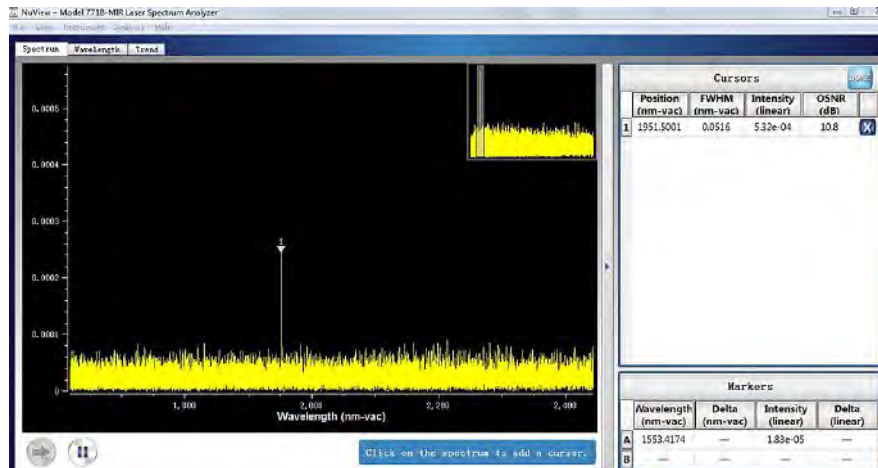
Tuning Characteristics



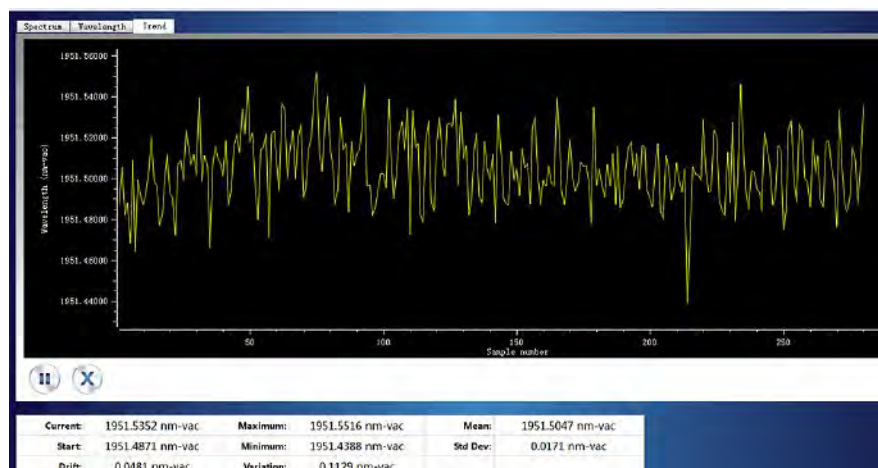
DFB Linewidth Testing Result



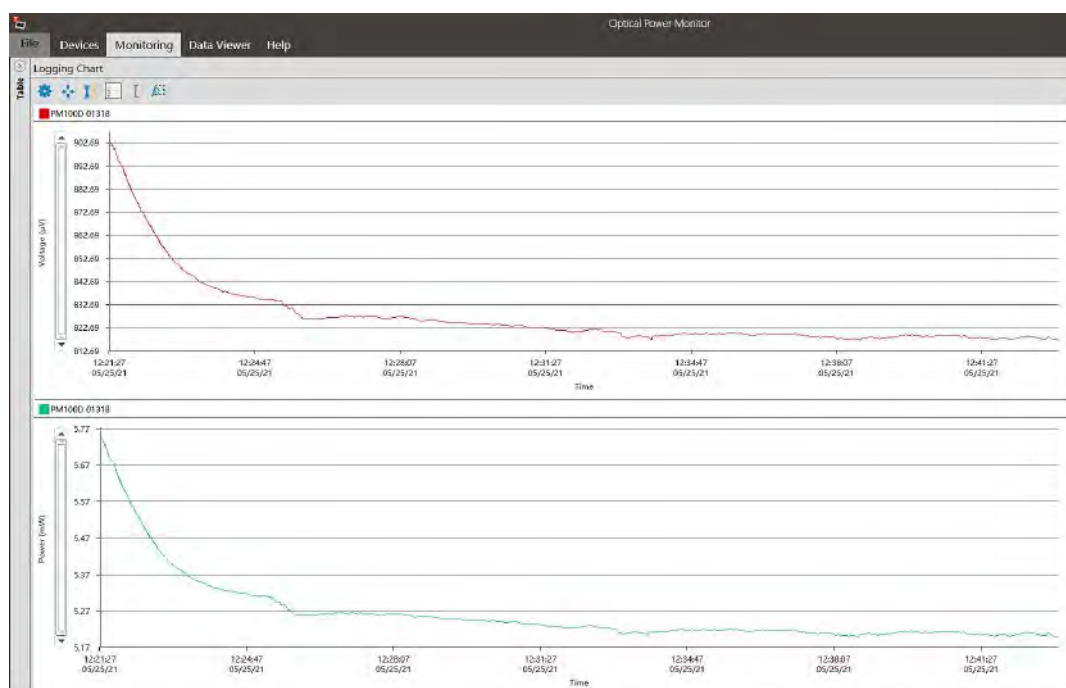
Central Wavelength



Wavelength Stability

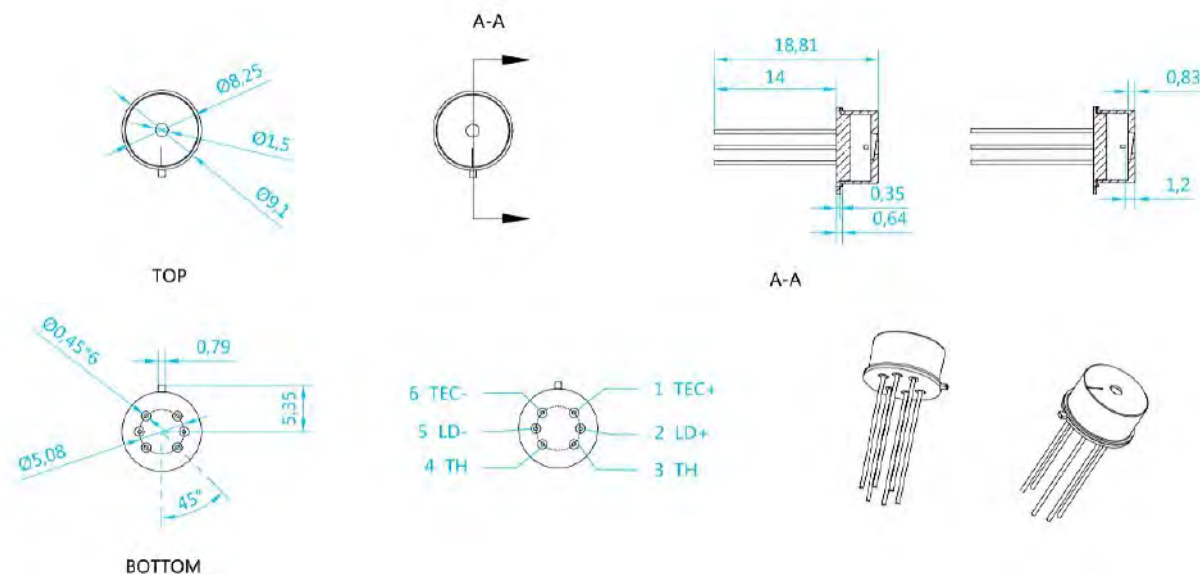


Power Stability

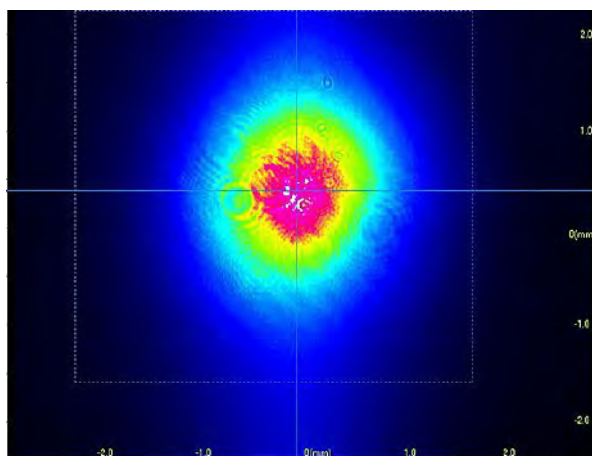


Dimensions and Pin definitions

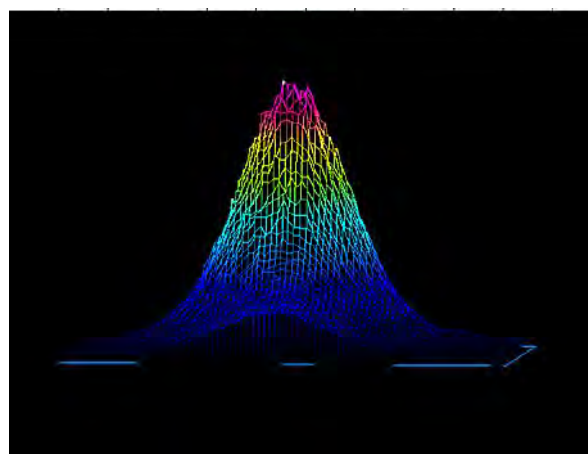
Uinte (mm)



Beam Quality

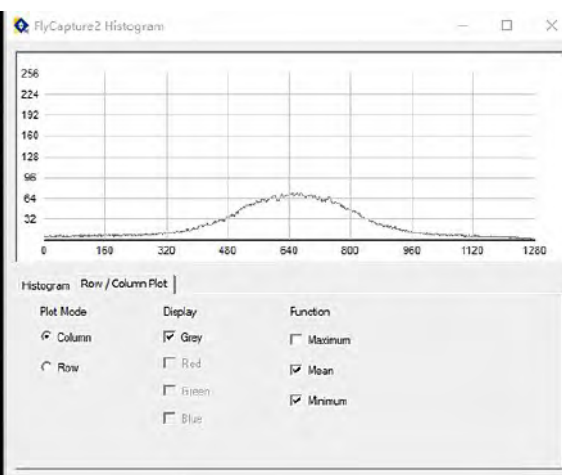
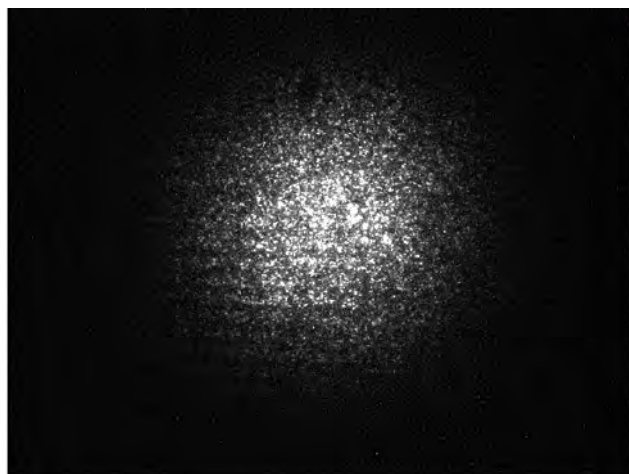


2D



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

Ordering Info

PL-DFB-□□□□-☆-A8▽-T039

□□□□:Wavelength

1530: 1530nm

1653.7: 1653.7nm

1950: 1950nm

☆ :Output Power

A:2mW

B:5mW

▽:Wavelength Tolerance

1:±1nm

2:±2nm