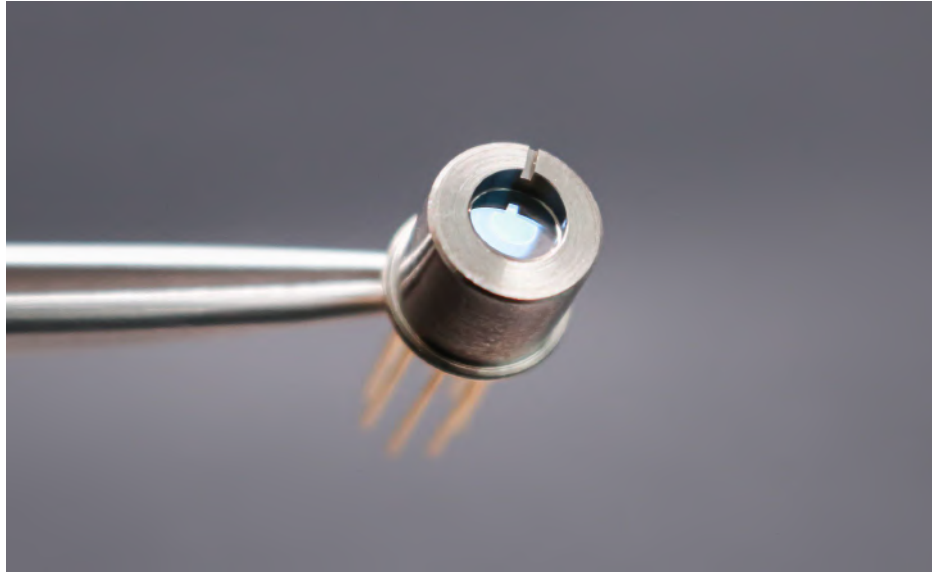


1980nm DFB Tunable Laser diode (TO39 Package)



Description

The PL-DFB-1980-A-A81 1980nm 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
- Gas Monitoring

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

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	λ	1979	1980	1981	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				

YOKOGAWA AQ6377 OPTICAL SPECTRUM ANALYZER

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<DFB-LD ANALYSIS>

SNR: 45.56dB	OSNR: 56.12dB (0.10nm)	A:WRITE /DSP
PEAK WL: 1980.4420nm	PK LEVEL: -3.99dBm	B:WRITE /DSP
3.00dB WIDTH: 0.2174nm	σ : 0.0528nm	C:WRITE /DSP
MODE OFFSET: -1.5620nm	CTR WL: 1980.4448nm	D:WRITE /DSP
	K ₂ : 0.1057nm	E:WRITE /DSP
	POWER: -3.39dBm	G:WRITE /DSP

<MEAS CONDITION>

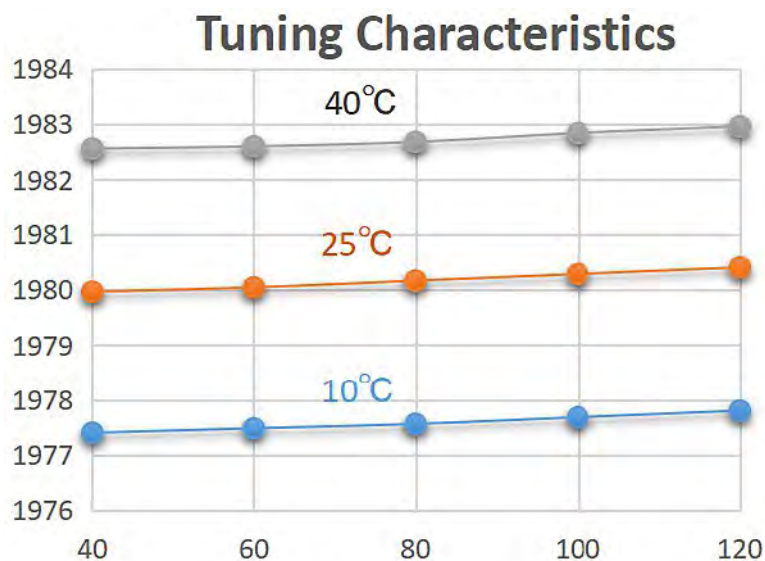
START: 1970.000nm STOP: 1990.000nm CENTER: 1980.000nm SPAN: 20.0nm

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

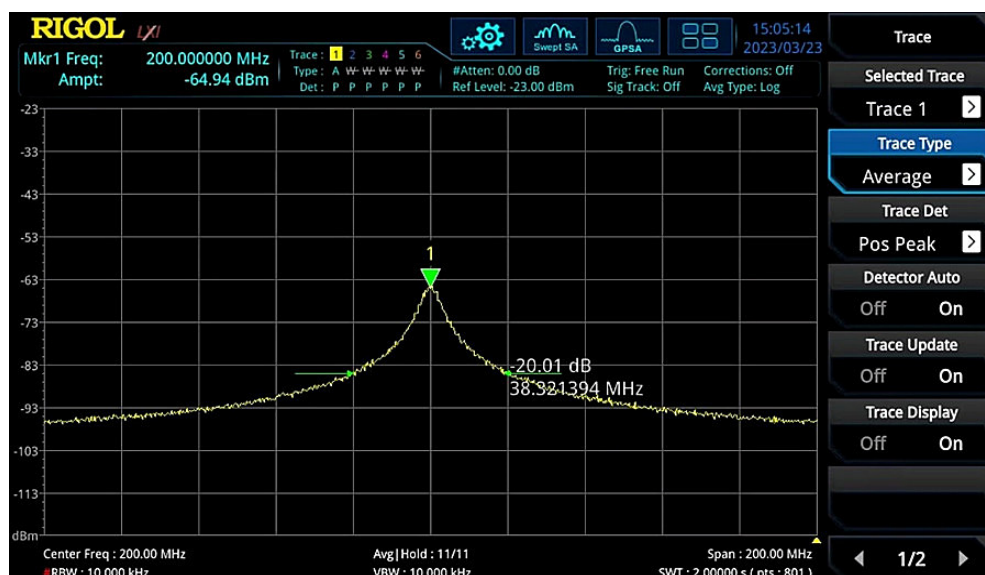
1970.000 nm 1980.000 nm 2.00 nm/D 1990.000 nm

LVL LBL NOI SRC SRC VAC AUT ALT AUT AUT AUT AUT SMD SMO RPT BSL ST

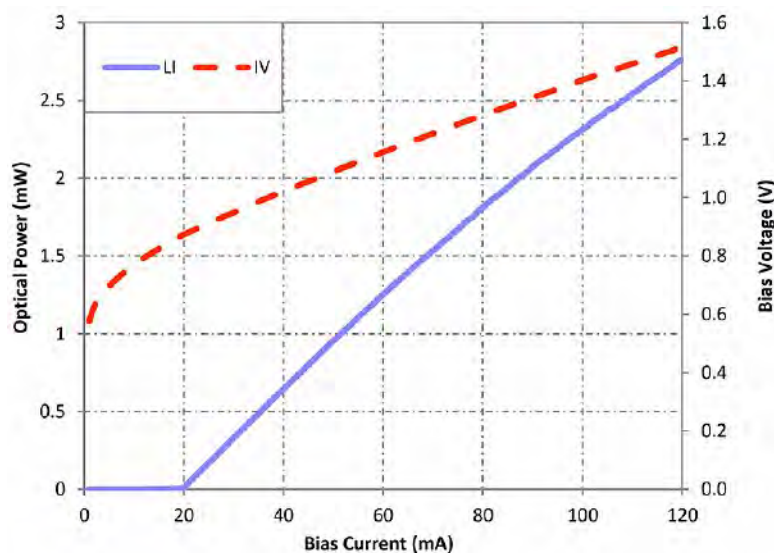
Tuning Characteristics



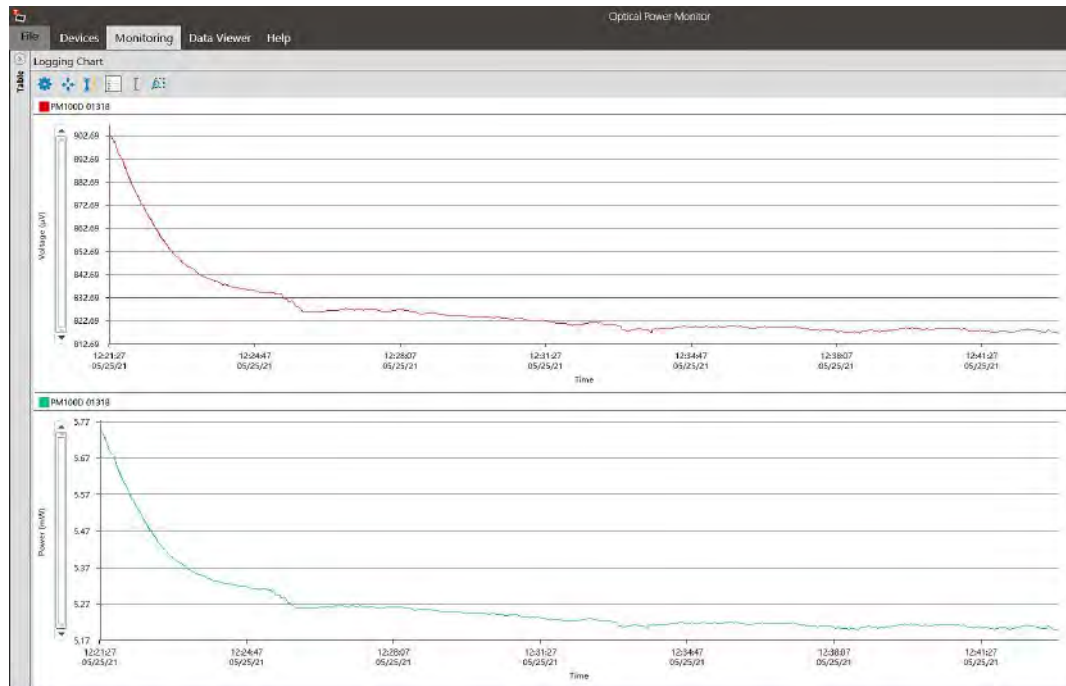
DFB Linewidth Testing Result



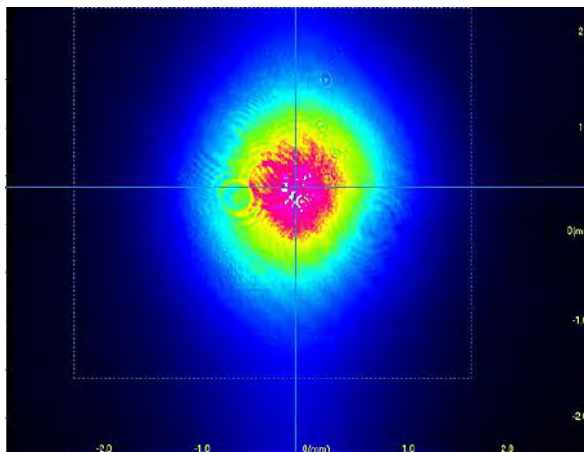
L-I Curve



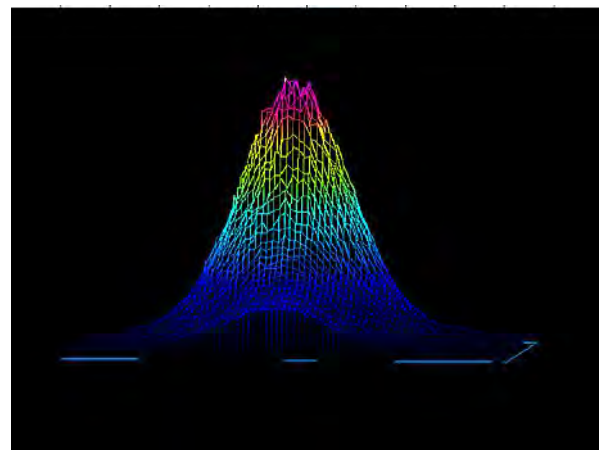
Power Stability



Beam Quality

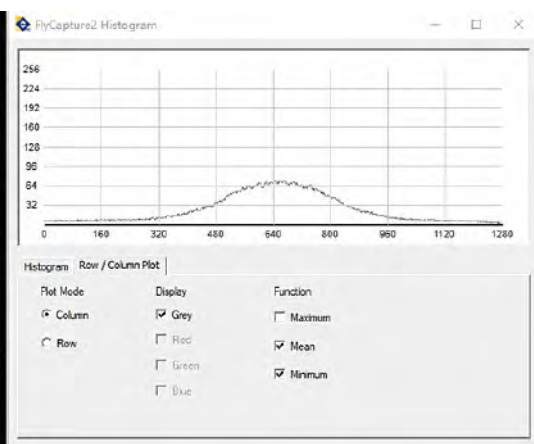
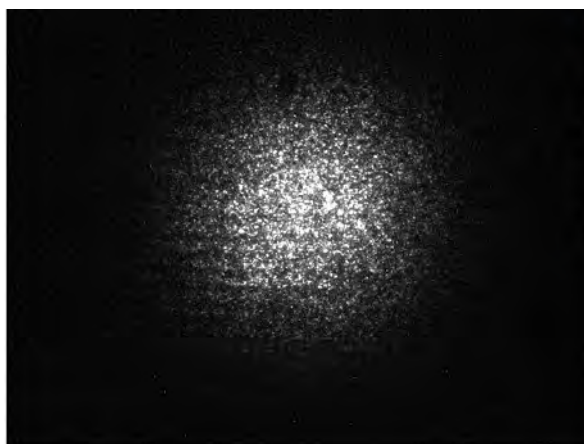


2D



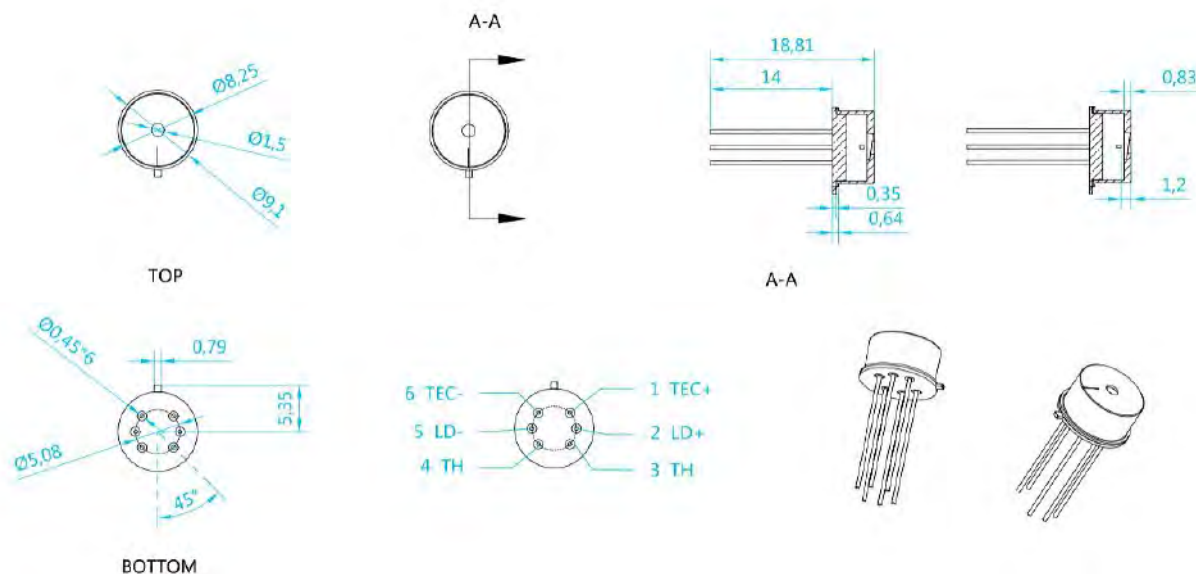
3D

Camera Analysis



Dimensions and Pin definitions

Uinte (mm)



Absolute Maximum Ratings

Item	Unit	Min	Typ	Max
Case Temperature	$^{\circ}\text{C}$	-5	25	70
Chip Temperature	$^{\circ}\text{C}$	+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▽-TO39

□□□□:Wavelength

1530: 1530nm

1653.7: 1653.7nm

1980: 1980nm

☆ :Output Power

A:2mW

B:5mW

▽:Wavelength Tolerance

1: $\pm 1\text{nm}$ 2: $\pm 2\text{nm}$