

1550nm DFB Laser Diode, PM Output, up to 30mW (TO39 Package)



Description:

The PL-DFB-1550-C-A81 1550nm 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:

- Polarization maintaining (PM) output
- Up to 30 mW output power
- Low RIN noise, -145 dB/Hz maximum
- Narrow linewidth, 2 MHz typ.
- Any Wavelengths to select: from 1210 nm - 2300nm
- Built-in TEC, Thermistor & Monitor PD

Application:

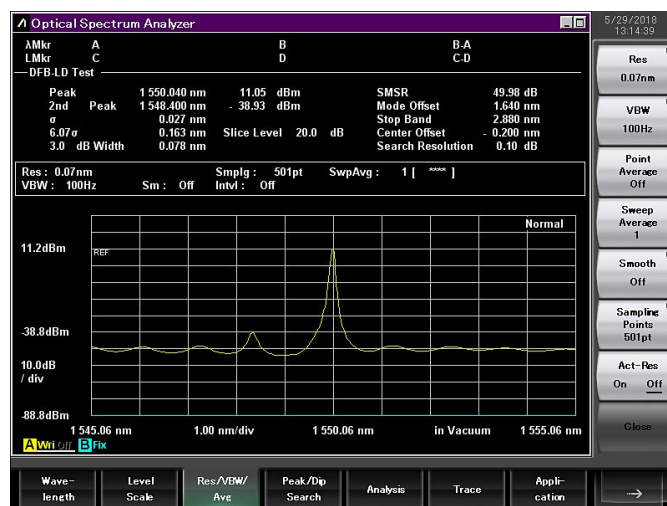
- Dense Wavelength Division Multiplex (DWDM)
- RF over Fiber (RFoF)
- Hybrid Fiber-Coaxial (HFC)
- General laboratory and research use

Laser Specifications:

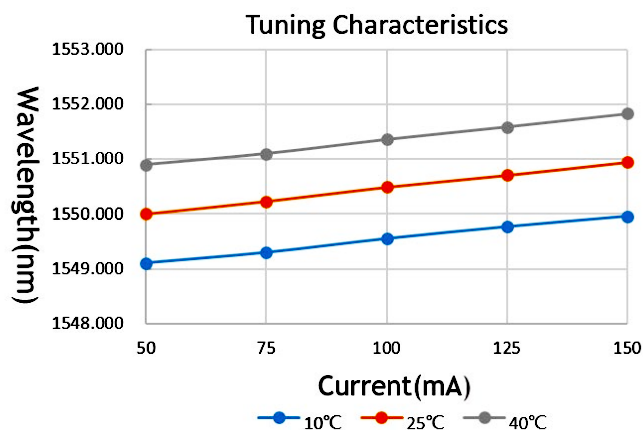
Tsub=25°C, CW bias unless stated otherwise

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	λ	1530	1550	1610	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	10	20	35	mW
Quantum Efficiency	η	0.15	0.25		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
Line width	LW	1	3	10	MHZ
Relative Intensity Noise	RIN	-135	-140	-145	dB/HZ

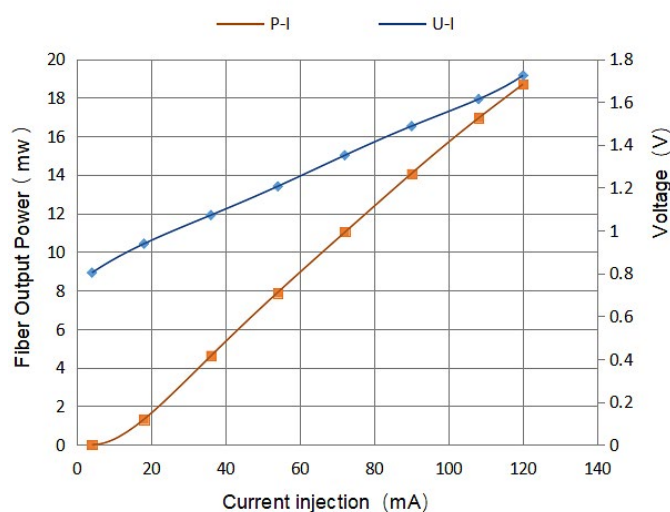
Spectrum:



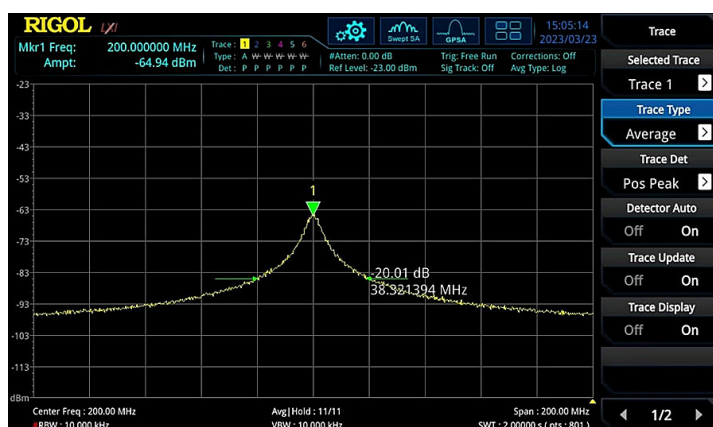
Tuning Characteristics:



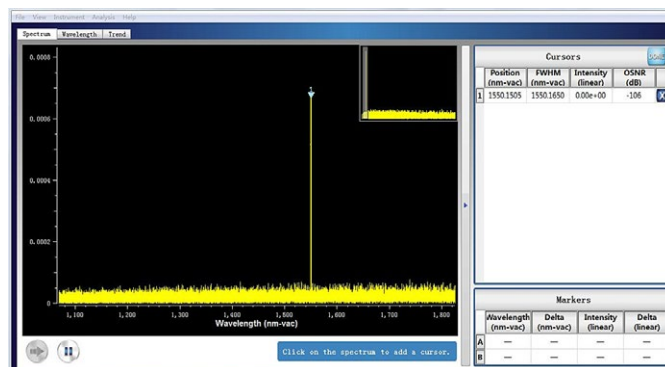
L-I Curve:



DFB Linewidth Testing Result:

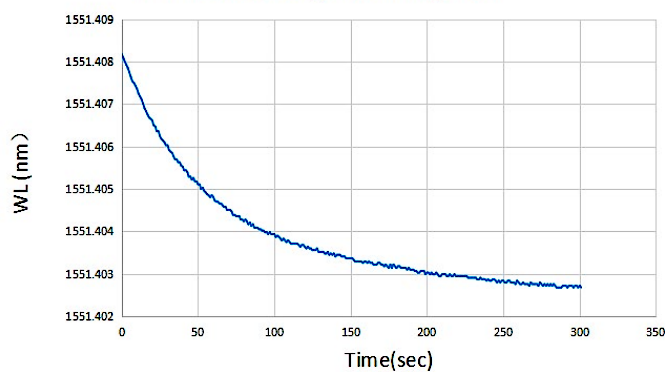


Central Wavelength:

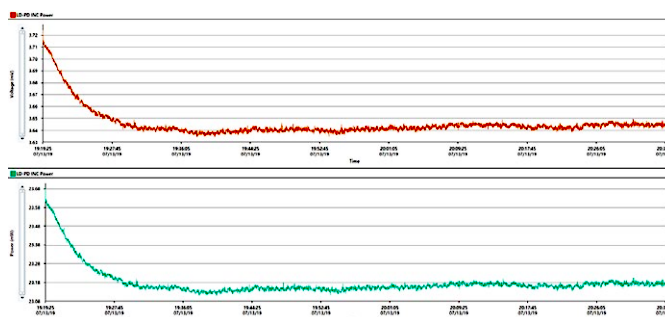


Wavelength Stability:

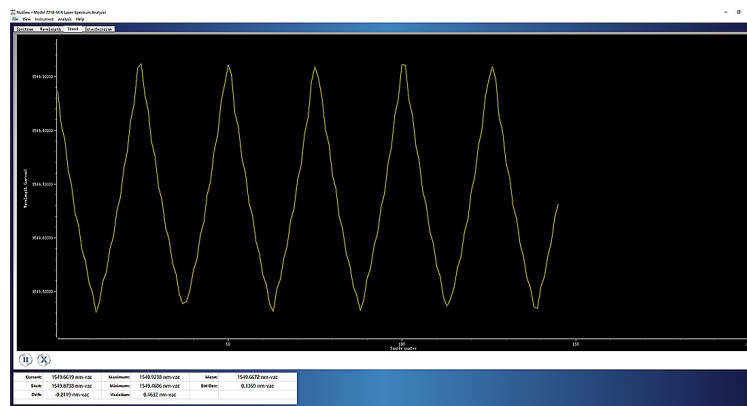
5mins Wavelength stability Test



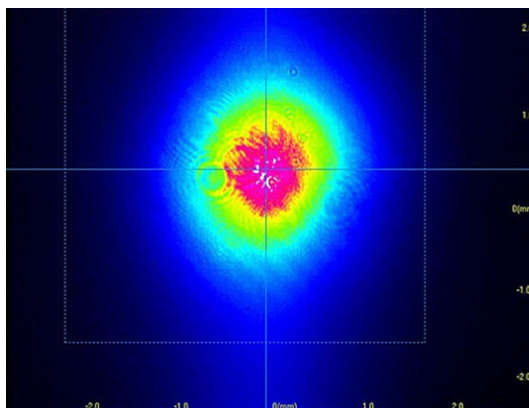
Power Stability:



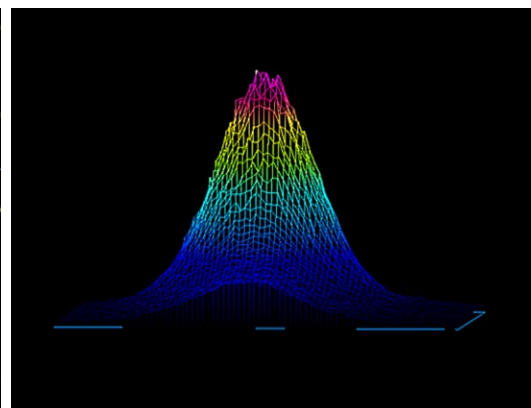
Mode hoppe tuning Range: 0.46nm:



Beam Quality:

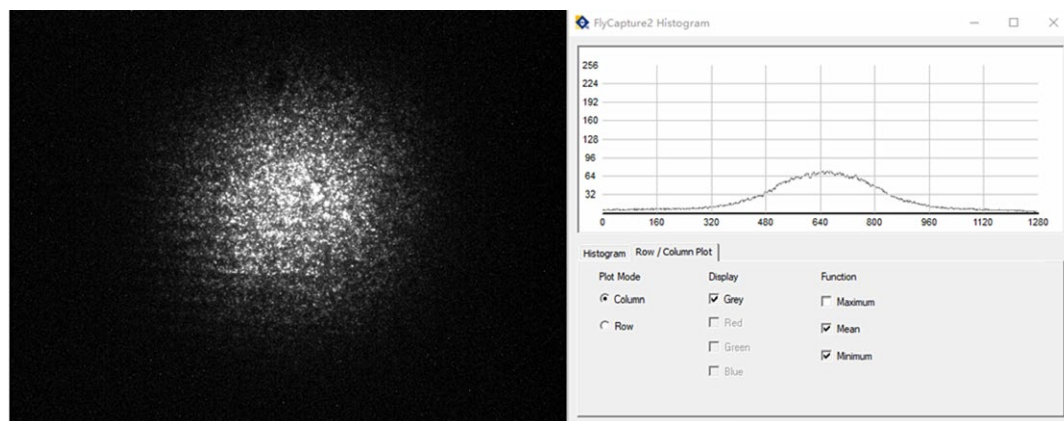


2D

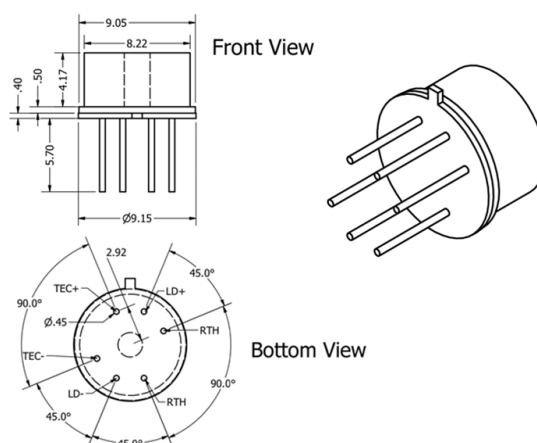


3D

Camera Analysis:



Dimensions and Pin definitions:



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▽-TO39

□□□□: Wavelength

1550: 1550nm

1653.7: 1653.7nm

☆: Output Power

A: 10mW

B: 20mW

C: 30mw

▽: Wavelength Tolerance

1: ±1nm

2: ±2nm