

Tunable 1550nm DFB Laser (14Pin Butterfly Free space Collimated output)



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 14Pin Butterfly Free space Collimated output package with TEC and PD Built in.

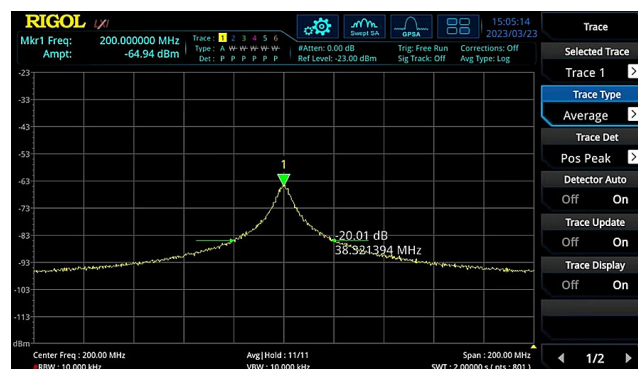
Features:

- with hermetic 14 Pin-Butterfly Housing (RoHS compliant)
- with integrated Beam Collimation
- including Monitor Diode, Thermoelectric Cooler and Thermistor

Application:

- Metrology
- Magnetometer

DFB Linewidth Testing Result

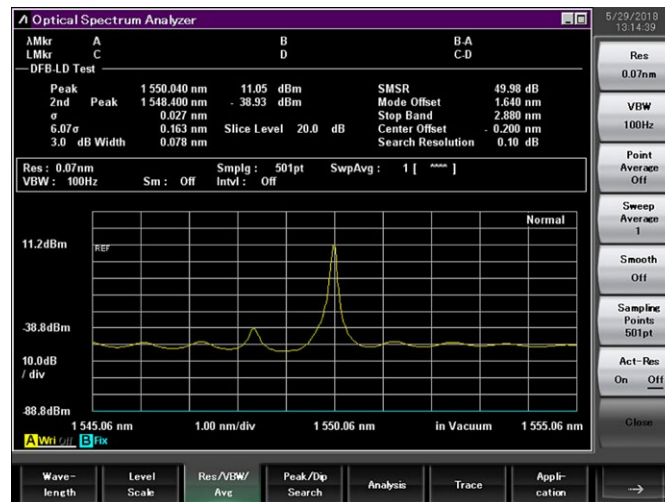


Laser Specifications:

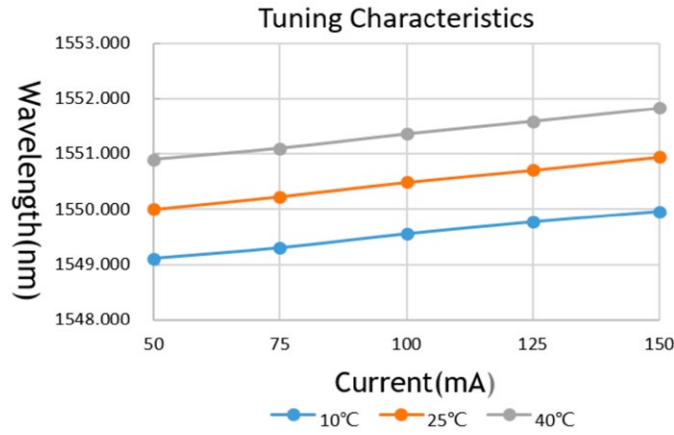
Tsub=25°C, CW bias unless stated otherwise

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

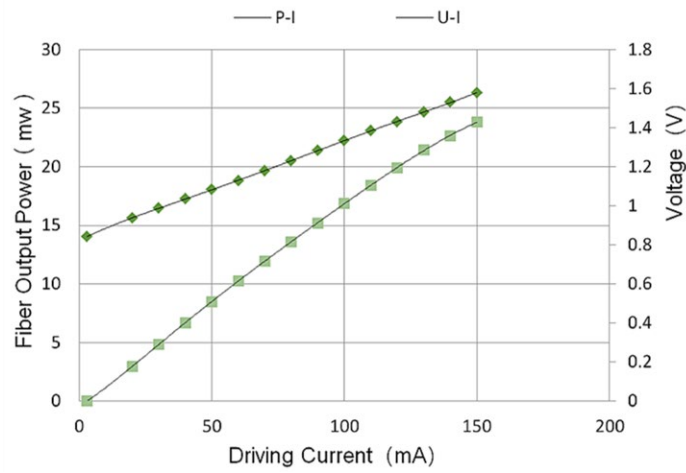
Spectrum:



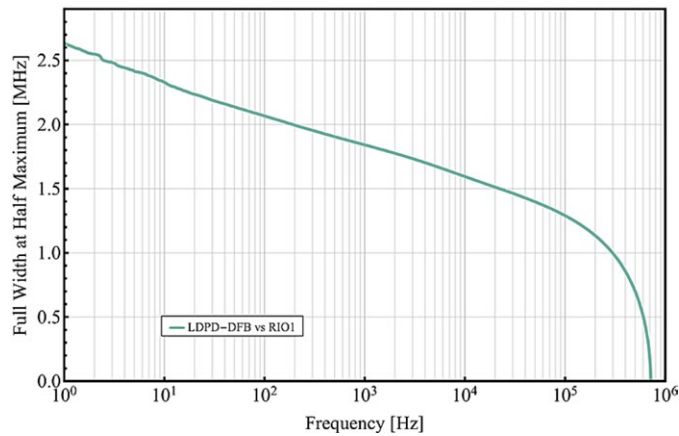
Tuning Characteristics:



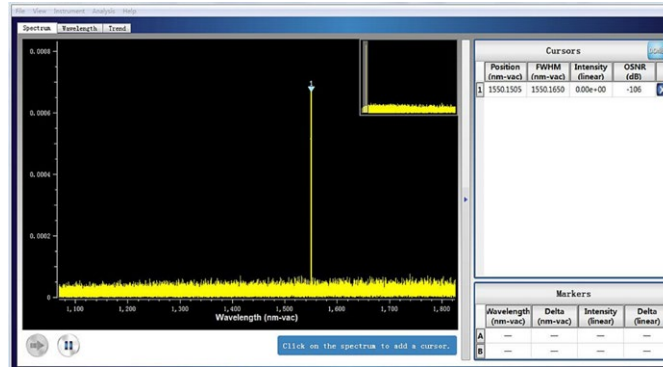
L-I Curve:



DFB Linewidth Testing Result:

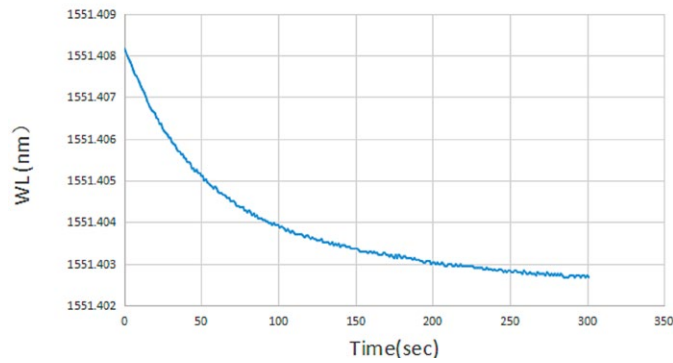


Central Wavelength:

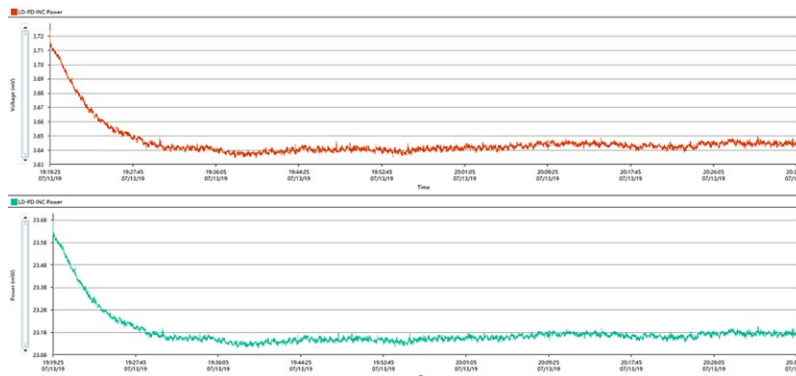


Wavelength Stability:

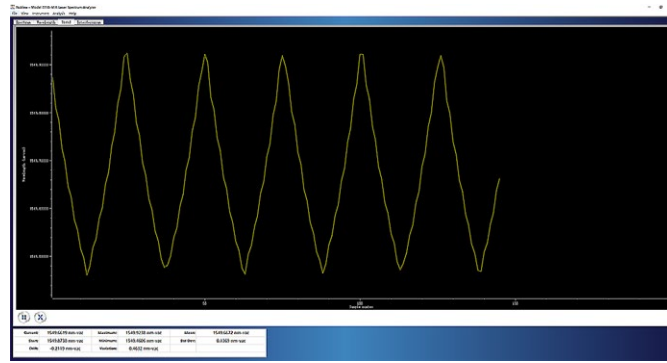
5mins Wavelength stability Test



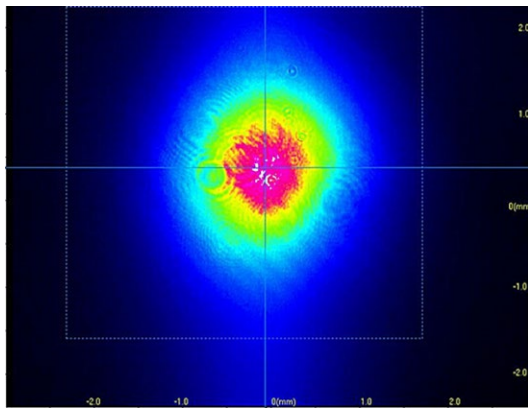
Power Stability:



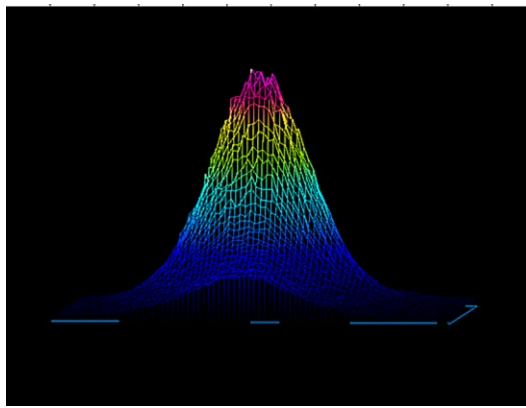
Mode-Hop Free Wavelength Tuning



Beam Quality:

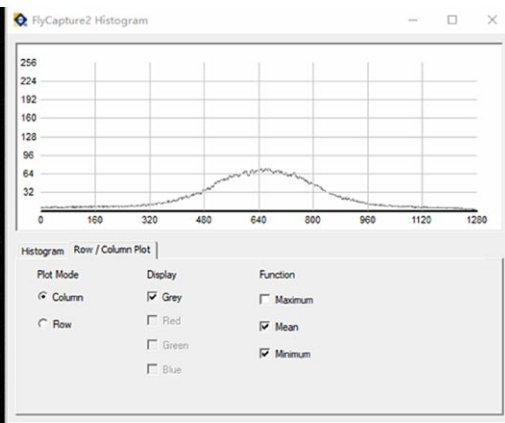
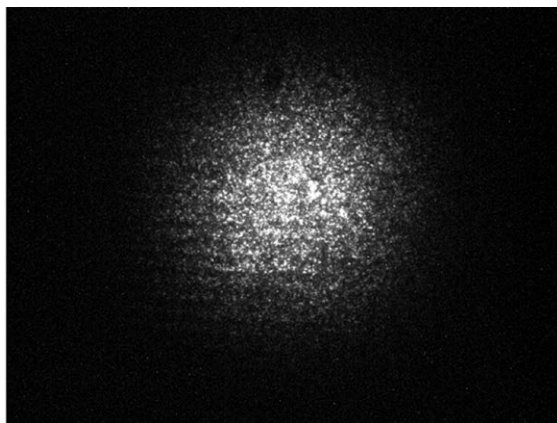


2D

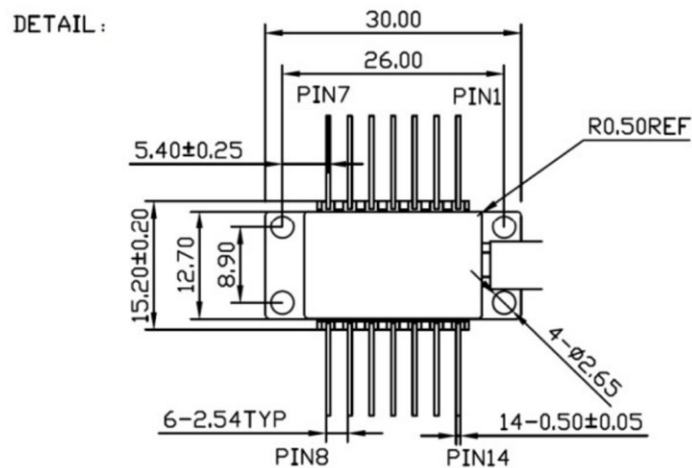


3D

Camera Analysis:



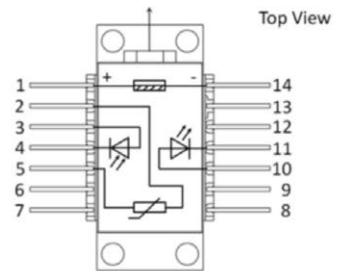
Package Dimension and Pin definitions:



Pin Assignment

1	Thermoelectric Cooler (+)	14	Thermoelectric Cooler (-)
2	Thermistor	13	Case
3	Photodiode (Anode)	12	not connected
4	Photodiode (Cathode)	11	Laser Diode (Cathode)
5	Thermistor	10	Laser Diode (Anode)
6	not connected	9	not connected
7	not connected	8	not connected

Pins are isolated from case unless noted otherwise.



Ordering Info:

PL-DFB-□□□□-☆-A8▽-14FSCO

□□□□: Wavelength

1550: 1550nm

1653.7: 1653.7nm

☆: Output Power

A: 10mW

B: 20mW

C: 30mw

▽: Wavelength Tolerance

1: ±1nm

2: ±2nm