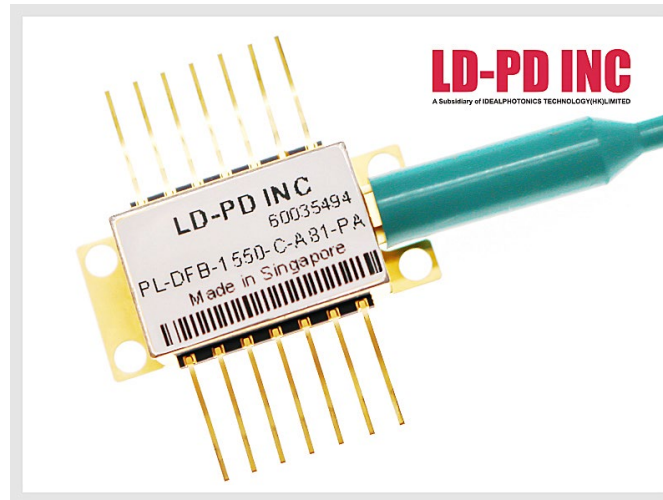


1550nm Lower power DFB Laser diode (Large Current Wavelength tuning Tuning coefficient)



Description:

The LD-PD'S PL-DFB-C-A81-W1550-PA is a Distributed FeedBack Laser designed for Continuous Wave (C.W) operation. It is mostly utilized in combination with an external optical modulator, such as a Mach-Zehnder Interferometer (MZI) modulator. The MQW DFB laser features up to 30 mW of output optical power, high side mode suppression ratio, low RIN noise, and a narrow linewidth. The PL-DFB-C-A81-W1550-PA is housed in an industry standard 14-pin butterfly package, with a built-in thermoelectric cooler, thermistor, a back-facet monitor photodiode for conventional power monitoring, and an optional second photodiode for wavelength reference monitoring. Available in a wide variety of C-band wavelengths, the PL-DFB-C-A81-W1550-PA can be temperature tuned to ITU frequencies to allow for Dense Wavelength Division Multiplexing (DWDM) applications.

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:

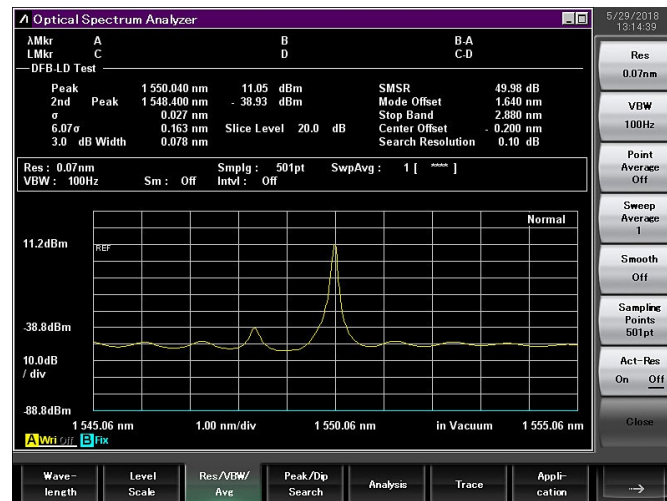
- Dense Wavelength Division Multiplex (DWDM)
- RF over Fiber (RFoF)
- Hybrid Fiber-Coaxial (HFC)
- General laboratory and research use

E/O Characteristics:

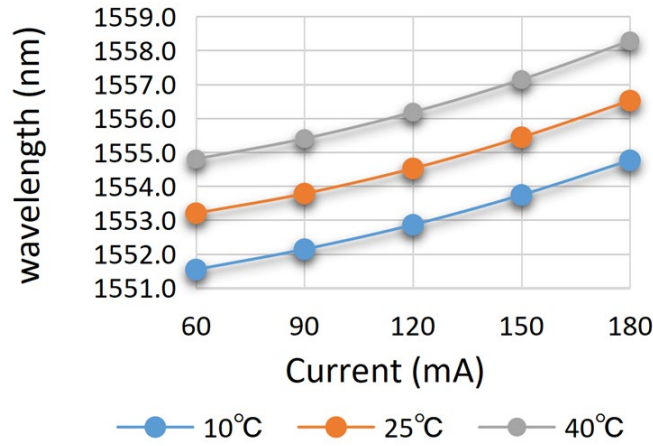
Tsub=25°C, CW bias unless stated otherwise.

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
Optical Isolation	ISO	30	35	40	dB
Fiber Type	PM1550 or SMF-28E				
Connector	FC/APC				

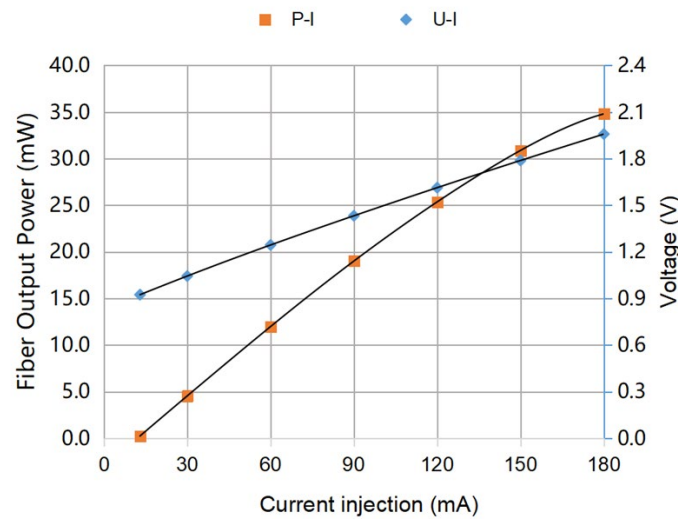
Spectrum:



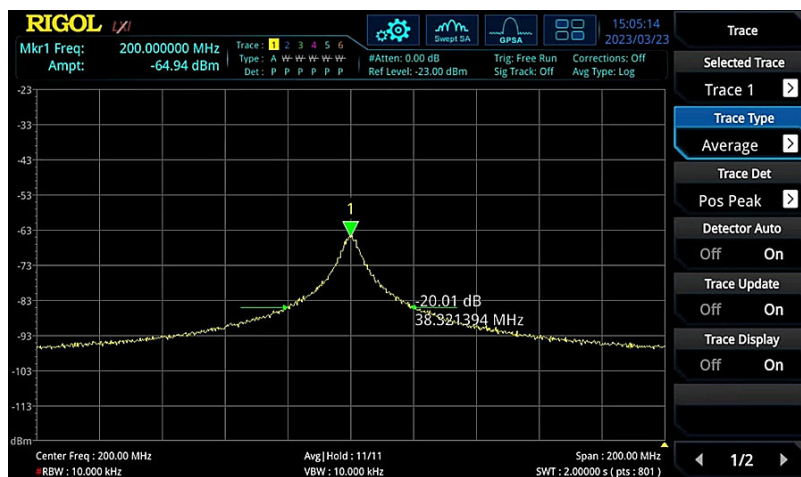
Tuning Characteristics:



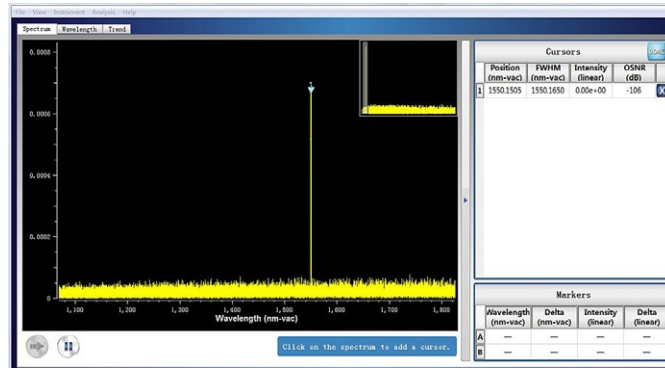
L-I Curve:



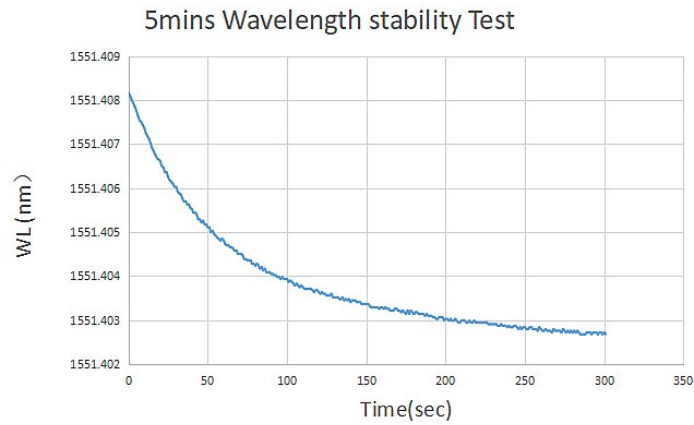
DFB Linewidth Testing Result:



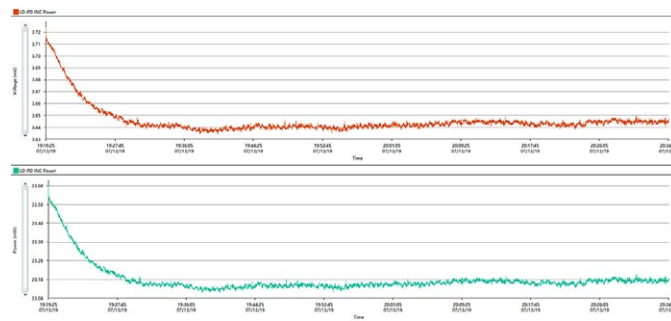
Central Wavelength:



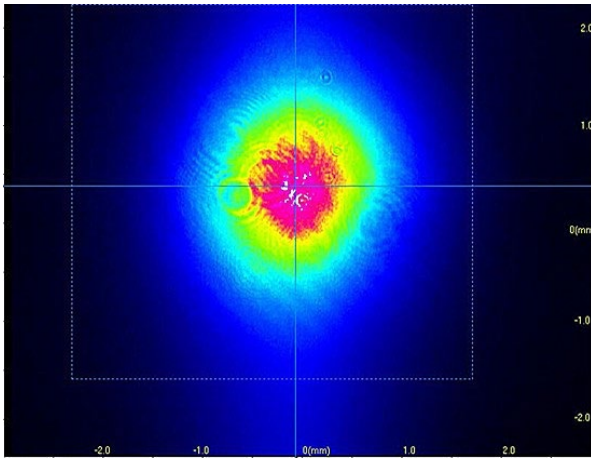
Wavelength Stability:



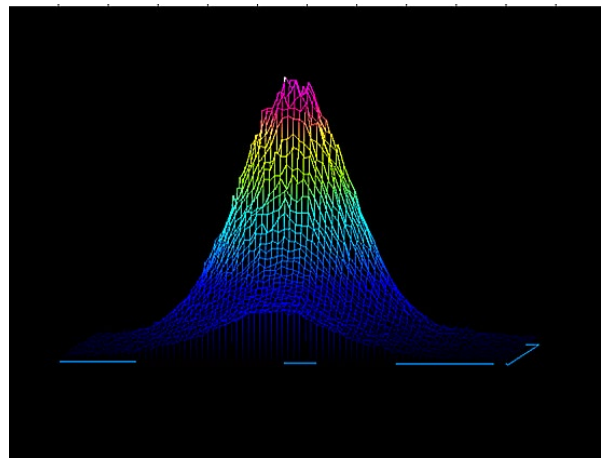
Power Stability:



Beam Quality:

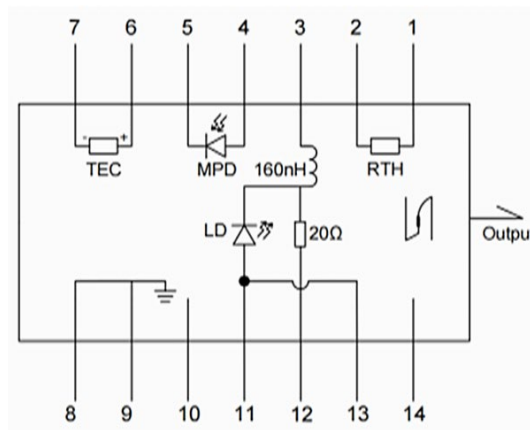


2D



3D

Dimensions and Fiber definitions:



Pin	Function	Pin	Function
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	LD(-)	10	NC
4	Detector(+)	11	LD(+)
5	Detector(-)	12	LD(-),RF
6	Thermoelectric Cooler (+)	13	LD(+)
7	Thermoelectric Cooler (-)	14	NC

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	150
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-□□□□-☆-▽-XX-14BF

□□□□:Wavelength

1512:1512nm

1653.7:1653.7nm

☆ :Output Power

A:10mW

B:20mw

C: 30mw

▽:Wavelength Tolerance

1: ±1nm

2: ±2nm

XX: Fiber and Connector Type

SA=SMF-28E+ FC/APC

SP=SMF-28E+ FC/PC

PP=PM Fiber+ FC/PC

PA=PM Fiber+ FC/APC