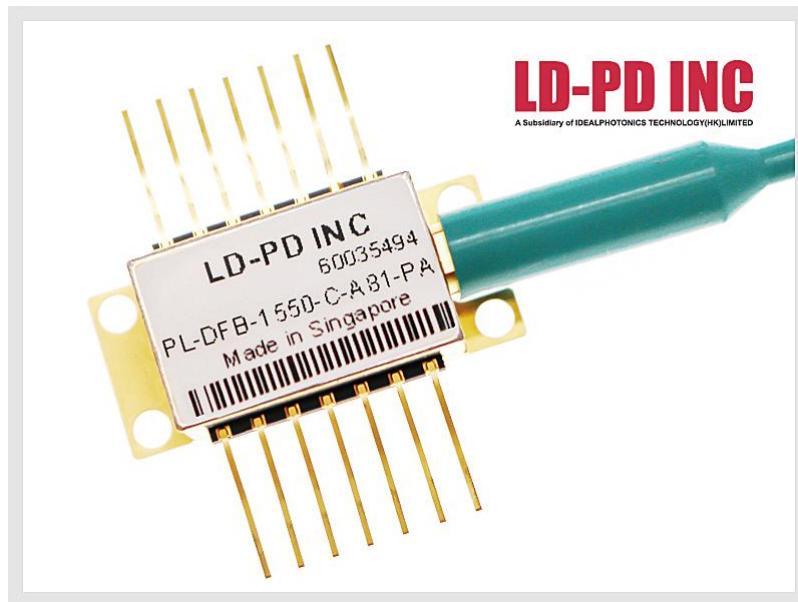


## 1550nm Ultra Narrow Linewidth Tunable Laser(100khz)



### Description

LD-PD has developed a narrow line-width tunable laser based on a hybridly integrated external cavity laser. The concept uses state-of-the-art Photonic Integrated Circuit (PIC) technology.

### Features

- Ultra narrow line width
- Broadband tuning
- Small footprint/size

### Application

- Tunable diode laser absorption spectroscopy Lidar
- Long distance Fiber Communication

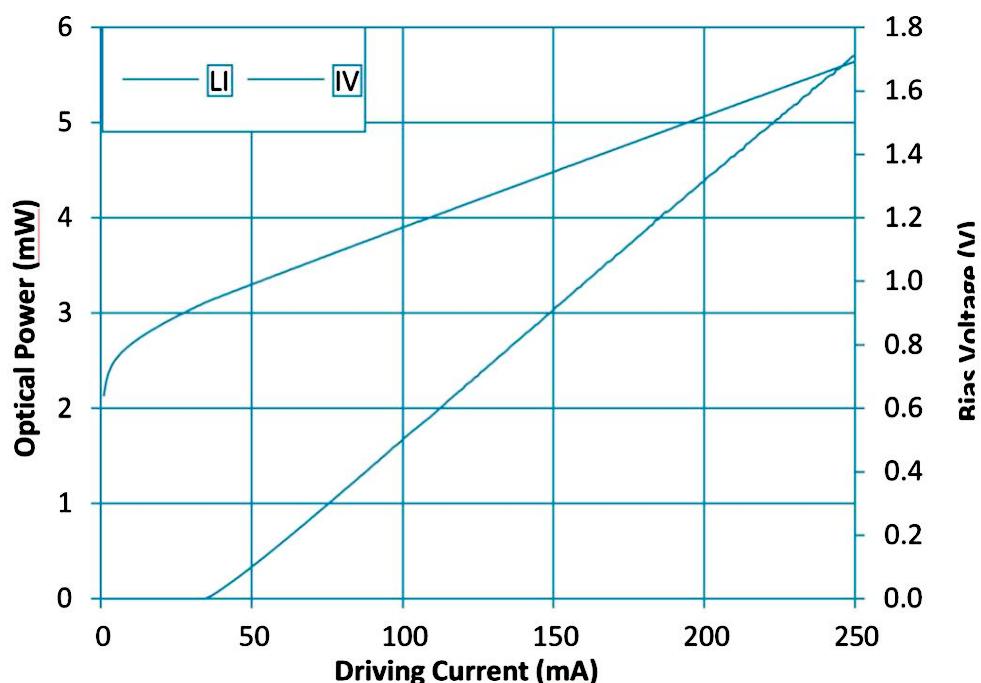
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## Laser Specifications

Electrical/Optical Characteristics(T<sub>sub</sub>=25°C, CW bias unless stated otherwise)

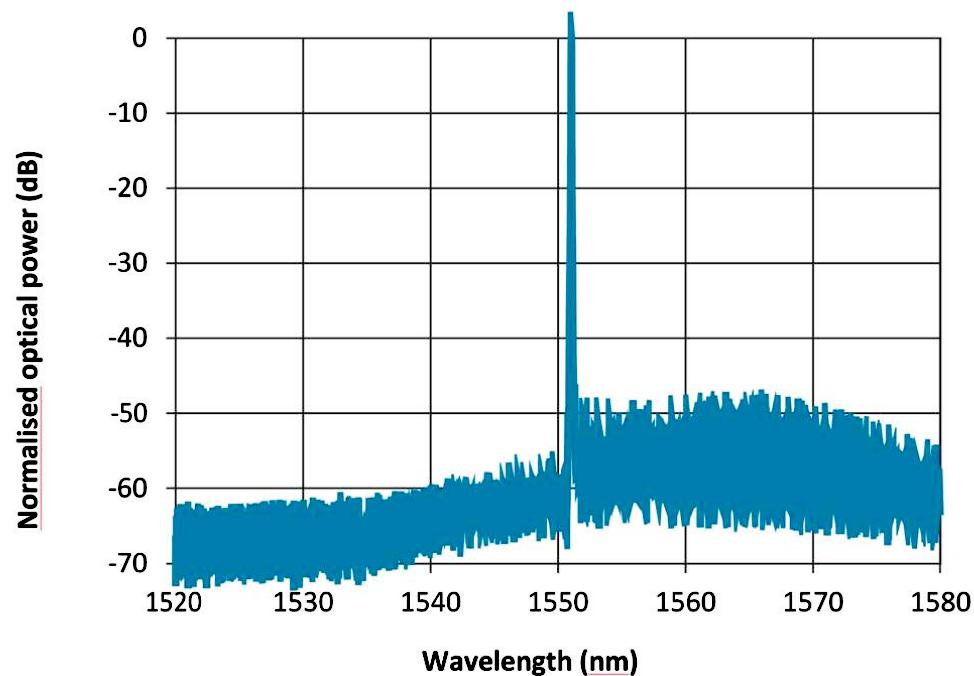
Parameter	Specification
Fiber output	> 10 dBm
Wavelength	1530-1565nm
Lorentz linewidth	< 100 kHz
SMSR	50 dB
Frequency stability short term(1 hour)	< 10MHz
Frequency stability long term(24 hours)	< 50 MHz
Mode hop free tuning range	0.25 nm
Power config	12V, 2A power supply
Package	14 pins butterfly

## L-I-V Curve



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## Spectrum



## Linewidth Measure

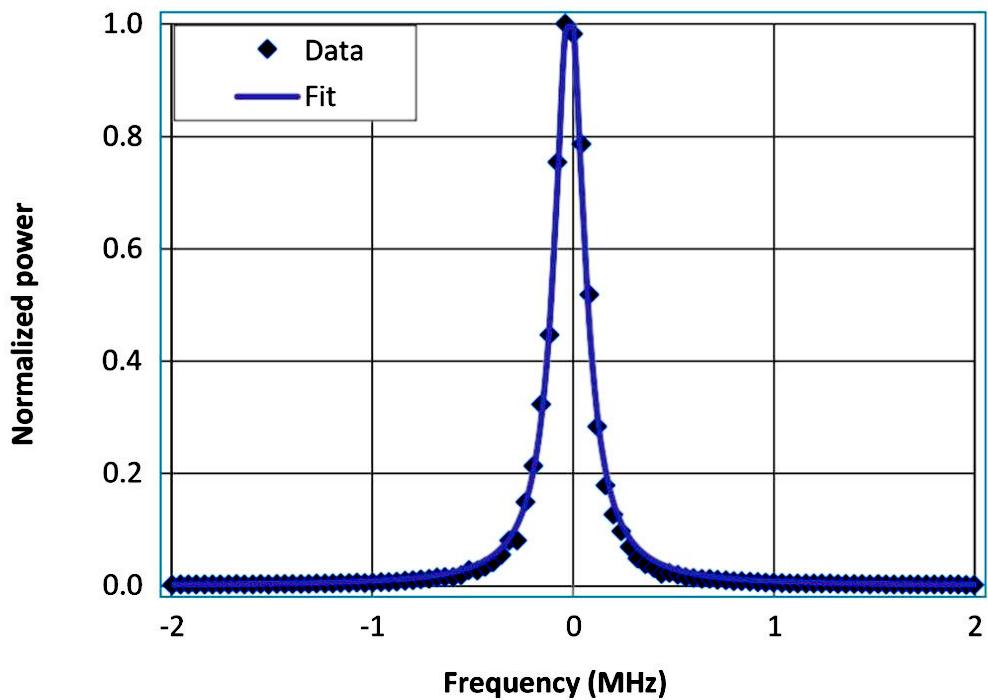


Figure 3. Linewidth spectrum with Lorentzian fit



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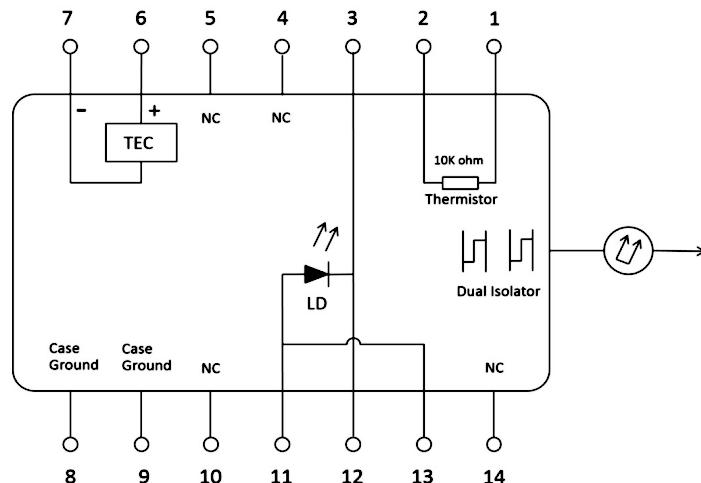
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## DFB Linewidth Testing Result



## Pin Definitions



## Max ratings Value

Parameter	Symbol	Min	Max	Units	Condition
Laser diode bias current	ILD	-	250	mA	T <sub>sub</sub> = 25°C
Laser diode bias voltage	V <sub>f</sub>	-	1.792	V	T <sub>sub</sub> = 25°C
Laser diode reverse voltage	V <sub>r</sub>	-	2	V	-
TEC Current	I <sub>TEC</sub>	-	1	A	-
TEC Voltage	V <sub>TEC</sub>	-	3.3	V	-
Fiber bend radius	-	30	-	mm	-
Submount operating temp.	T <sub>sub</sub>	0	50	°C	-
Storage temp.	T <sub>storage</sub>	-40	85	°C	-
Themistor Resistance	R <sub>t</sub>	9.5	10	kΩ	-

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Pin No.	Pin Information
1	Thermistor
2	Thermistor
3	Laser Cathode
4	NC
5	NC
6	Thermoelectric cooler +
7	Thermoelectric cooler -
8	Case Ground
9	Case Ground
10	NC
11	Laser anode
12	Laser cathode
13	Laser anode
14	NC

### Ordering Info

PL-DFB-□□□□-☆-A8▽-XX-NL

□□□□: Wavelength

1550: 1550nm

\*\*\*\*\*

ITU

☆: Output Power

A: 10mW

▽: Linewidth

1: <100KHZ

2: <200KHZ

....

5:<500KHZ

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

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