1540-1560nm 8nm tunable bandwidth DBR laser diode



Description:

LD-PD' s PL-DBR-1550-30-1-SA-14BF Distributed Bragg Reflector (DBR) laser is a single-frequency laser diode that is well-suited for low-noise pump applications, second harmonic generation and time-resolved fluorescence spectroscopy, and fiber optic sensor.

The PLDBR1550PA includes an integrated optical isolator, thermo-electric cooler (TEC), thermistor, and monitor photo-diode. It is packaged in a 14-pin butterfly package with SMF-28E single mode optical fiber and an FC/APC connector.

Features:

- high output power
- Center wavelength can be customized
- Fast wavelength tuning
- Wavelength tuning range can cover 20-25 / 40-50 ITU channels
- High side mode suppression ratio
- 14pin butterfly package & 7pin RF package
- Integrated Thermoelectric Cooler (TEC), Thermistor, and Monitor Photodiode
- Narrow 3MHz Typical Linewidth
- SM or PM Fiber Output with 2.0 mm Narrow Key FC/APC Connector

Application:

- Optical Communication Access Network Application
- Optical Sensing
- High-Resolution Spectroscopy
- Optical Metrology and Sensors
- Fiber Amplifier Seeding
- Nonlinear Frequency Conversion
- Laser Cooling and Trapping
- Free-Space Optical Communications

Laser Specifications:

Laser Characteristics (CW,T=25°C)

Parameter	Min	Type	Max	Unit
Optical output power*a	30	40	-	mW
Center wavelength (customized)		1550	-	nm
Wavelength tuning range	6	8		nm
Wavelength tuning rate	-	-	10	ms
Spectral width	-	3	--	MHz
RF direct modulation rate	-	10	-	Gb/s
Threshold current	-	40	-	mA
Polarization extinction ratio	20	-	-	dB
Side mode suppression ratio	40	50	-	dB
Relative intensity noise	-	-	-135	dB/Hz
Chip temperature	10	25	40	°C
Operating temperature	-5	-	+75	°C
Storage temperature	-40	-	+85	°C

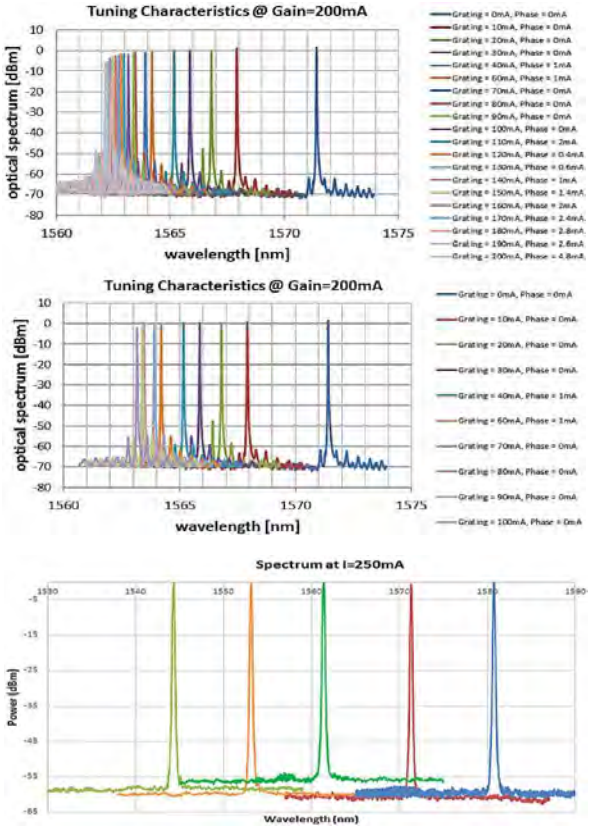
A,The testing driving Current@250mA

B,Test driving current@150mA,Selfheterodyne time-delay optical fiber @25km

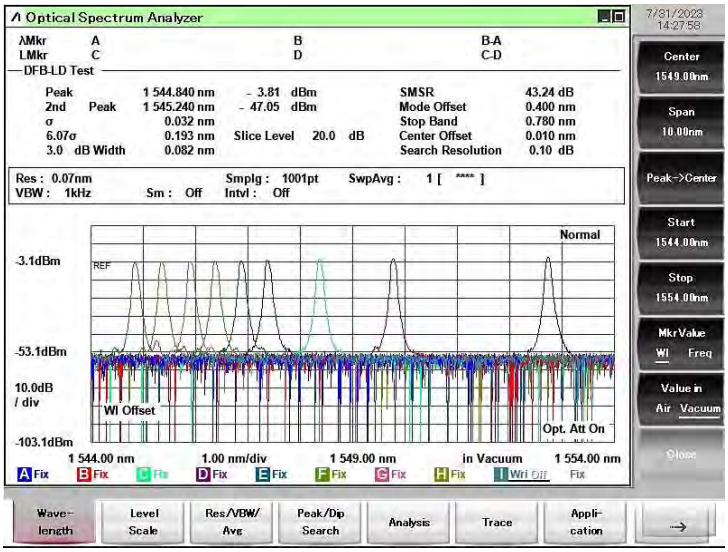
Absolute Maximum Ratings:

Laser section	Current Operation	Absolute Maximum Ratings	
	Range, C.W. (mA)	Current (mA)	Voltage (V)
Gain	100-250	350	2.0
Rear Grating	0-90	120	2.0
Phase Tuning	0-5	10	2.0

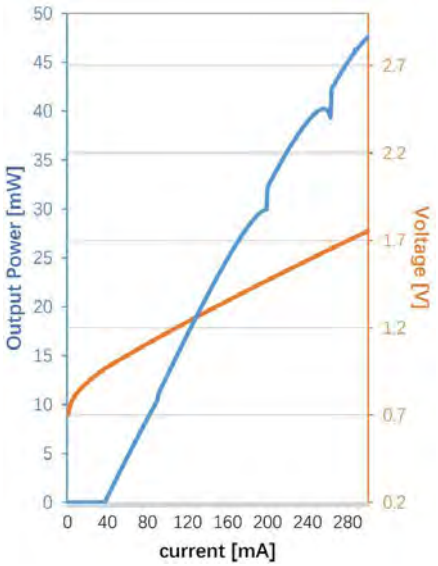
Tuning Characteristics graph(tuning range 8.5-10nm):



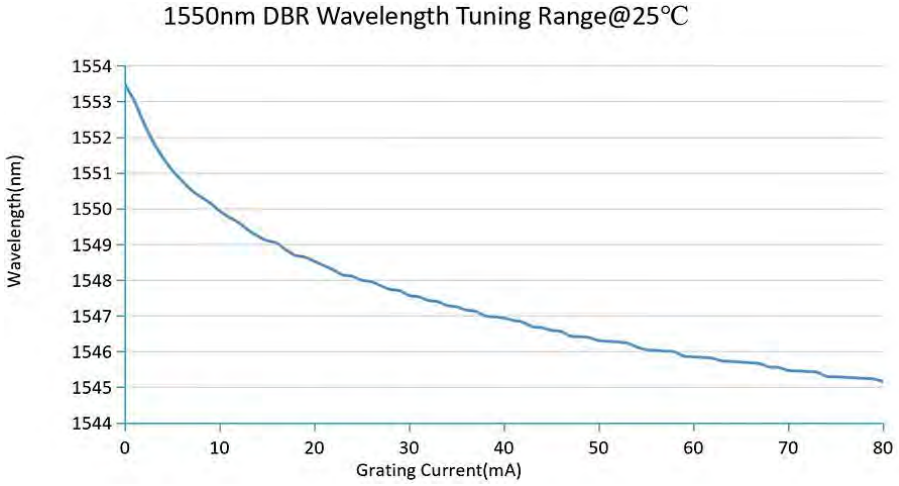
Spectrum:



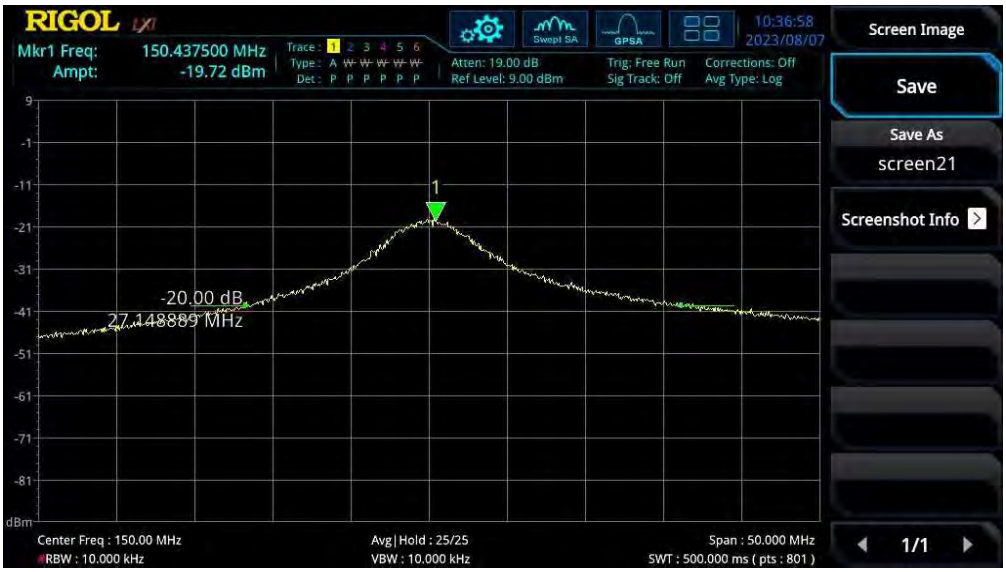
LIV:



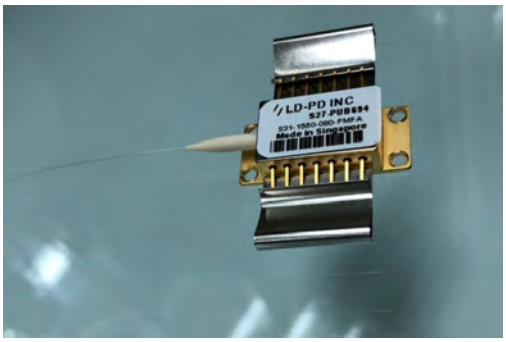
Grating Current Toward Wavelength:



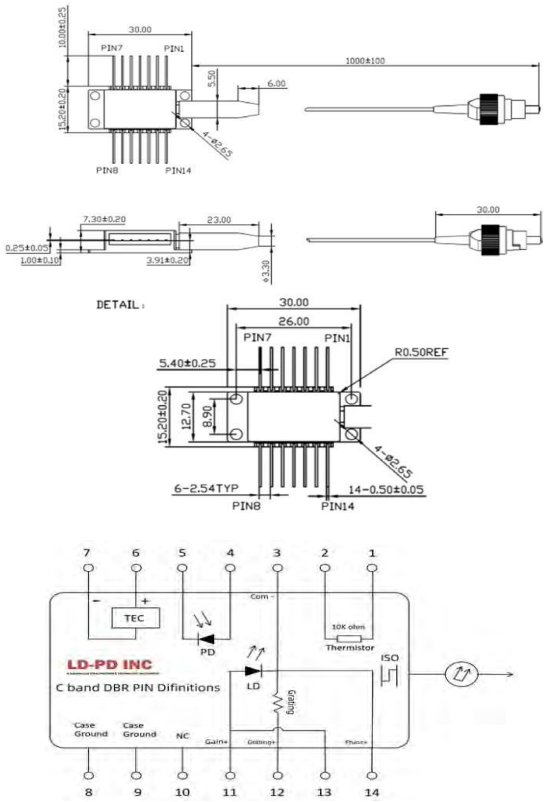
DBR Linewidth Testing Result:



Package Size:



14 pin butterfly package:



Pin definition:

Pin	Function	Pin	Function
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	LD Cathode (-)	10	NC
4	MPD Anode	11	Gain
5	MPD Cathode	12	Grating
6	TEC (+)	13	Gain
7	TEC (-)	14	Phase

Ordering Info:

PL-DBR-□□□□-☆-▽-XX

□□□□:Wavelength

1540:1540nm

*****

1560:1560nm

☆:Output Power

30:30mW

50:50mW

▽: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