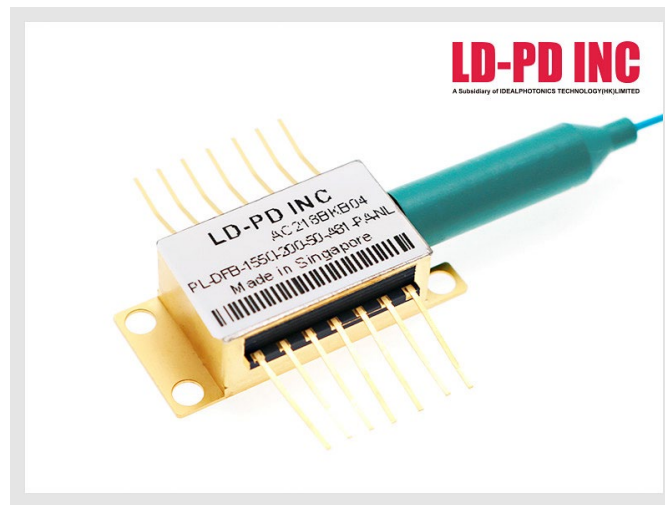


## 1550nm 100mW high power DFB Narrow linewidth laser diode



### Description:

LD-PD INC DFB laser has the characteristics of ultra-low RIN noise, ultra-narrow linewidth and high output optical power. It is widely used in vehicle-mounted laser radar, optical fiber sensing detection system and high-precision measurement. We can provide customized services and corresponding technical support according to customers' needs.

### Features:

- Width: 70KHz -100KHz
- Optical power: 150mW
- RIN noise: -163dBc/Hz@100KHz

### Applications:

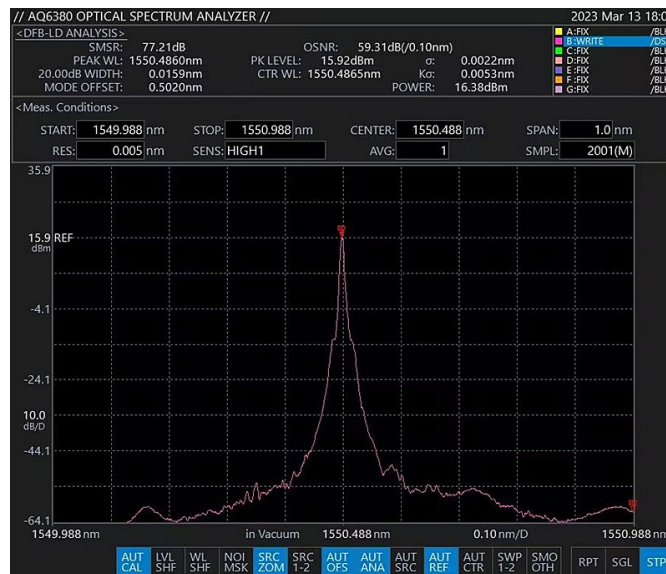
- Tunable diode laser absorption spectroscopy
- Lidar
- Long distance Fiber Communication

## Laser Specifications:

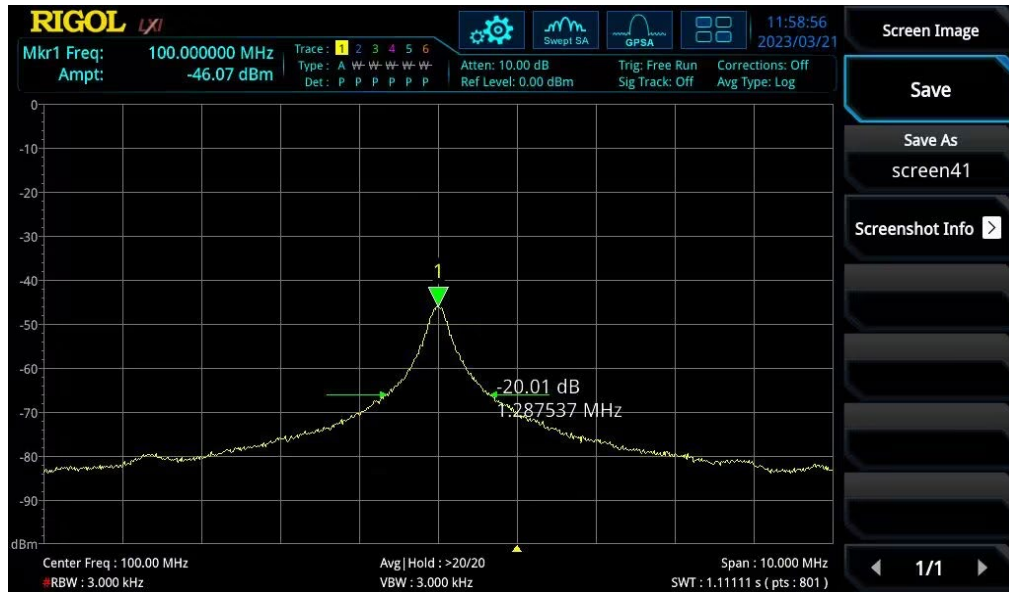
Index	Symbol	Min	Typ	Max	Unit	Condition
Output Power	Po	100	130		mW	CW
Center Wavelength	$\lambda_c$	$\lambda I - 0.5$	*	$\lambda I + 0.5$	nm	T=25°C
Spectral Linewidth (FWHM)	$\Delta\nu_L$		$\lambda I$	100	KHz	Lorentz linewidth
Side Mode Suppression Ratio	SMSR	40	200		dB	CW, @Po
Polarization Extinction Ratio	PER	20			dB	Applicable to polarization maintaining, along the slow axis
Relative Intensity Noise	RIN		-163	-155	dB/Hz	
Optical Isolation Ratio	ISO	40			dB	
TEC Set Temperature	TTEC	15		40	°C	
Threshold Current	Ith			30	mA	@TTEC
LD Working Current.	Ib		15	800	mA	CW, Po
LD Working Voltage	Vf			1.8	V	CW, Po
PD Bias Voltage	VR	4.75	1.5	5.25	V	Cathode to anode.
PD Current	I <sub>mc</sub>		5	2	mA	@Po
PD Dark Current	I <sub>md</sub>			1	nA	VR=5V
Working Temperature	To	-40		80	°C	
Storage Temperature	Ts	-40	25	80	°C	

\*  $\lambda I$ : c band ITU standard optional ITU-CXX (XX= 24, 28, 32, 36, 44)

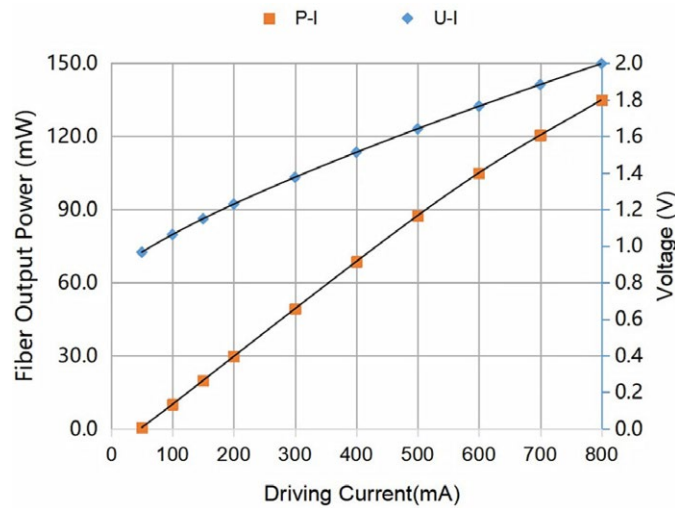
## Spectrum:



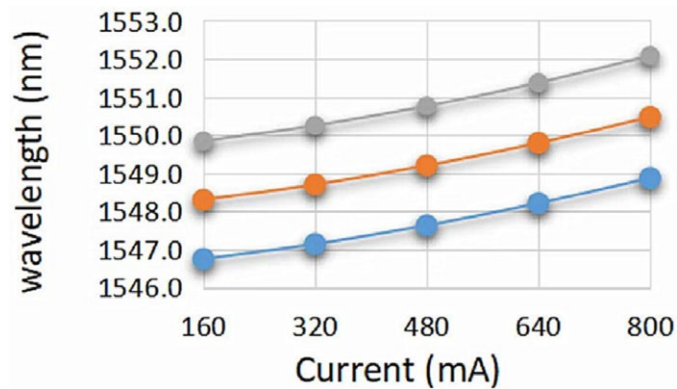
**Linewidth Measurement (CW,25deg):**



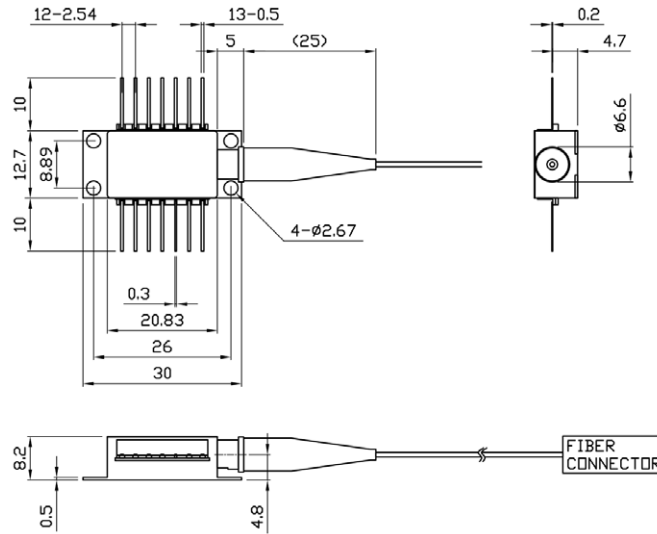
**L-I Curve:**



**Tuning Characteristics:**



**Dimensions and Pin definitions:**



Pin	Description	Pin	Description
1	Thermistor	8	NC
2	Thermistor	9	NC
3	LD cathode (-)	10	NC
4	PD anode (-)	11	LD anode (+)
5	PD cathode (+)	12	NC
6	TEC anode (+)	13	LD anode (+)
7	TEC cathode (-)	14	NC

**Ordering Info:**

PL-DFB-□□□□-△-☆-A8▽-XX-NL

□□□□: Wavelength

1550: 1550nm

\*\*\*\*\*

1560: 1560nm

△: Narrow linewidth

100: 100KHz

☆: Output Power

50: 50mW

100: 100mW

▽: 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

NL: Narrow Linewidth@100KHZ