

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

Application

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

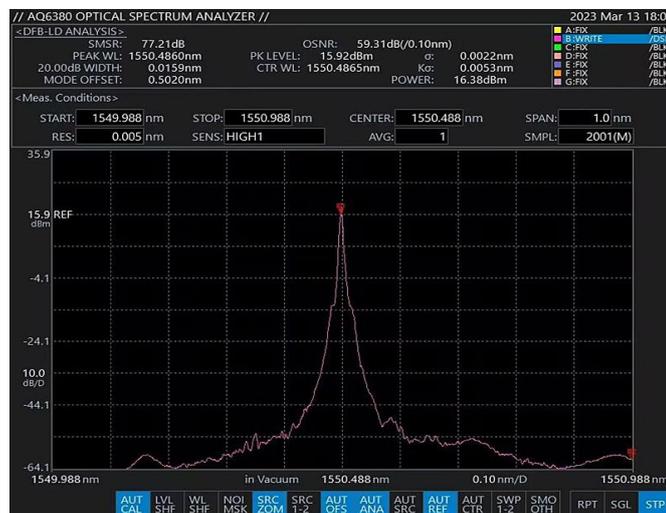
Laser Specifications

Index	Symbol	Min	Typ	Maximum	Unit	Condition
Output Power	Po	100	130		mW	CW
Center Wavelength	λ_c	$\lambda_l-0.5$	* λ_l	$\lambda_l+0.5$	nm	T=25°C

Spectral Linewidth (FWHM)	$\Delta\lambda$		50		KHz	Lorentz linewidth
Side Mode Suppression Ratio	SMSR	40			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	I _{th}		15	30	mA	@TTEC
LD Working Current.	I _b			800	mA	CW, Po
LD Working Voltage	V _f		1.5	1.8	V	CW, Po
PD Bias Voltage	V _R	4.75	5	5.25	V	Cathode to anode.
PD Current	I _{mc}			2	mA	@Po
PD Dark Current	I _{md}			1	nA	V _R =5V
Working Temperature	T _o	-40	25	80	°C	
Storage Temperature	T _s	-40		80	°C	

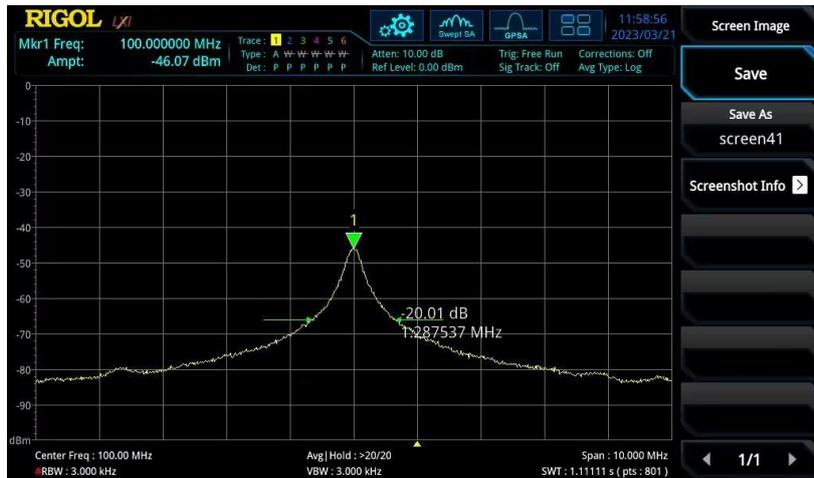
* λ I: c band ITU standard optional ITU-CXX (XX= 24, 28, 32 ,36, 44)

Spectrum

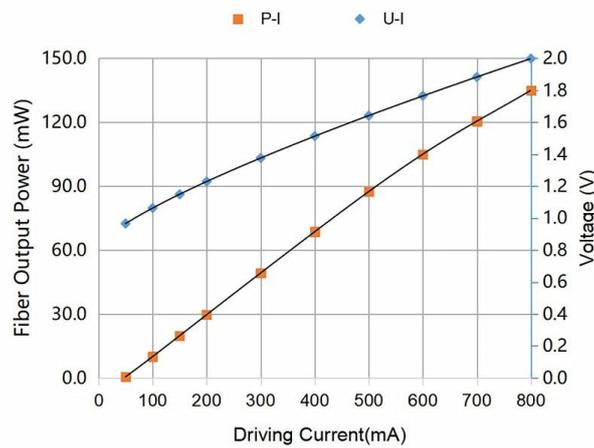


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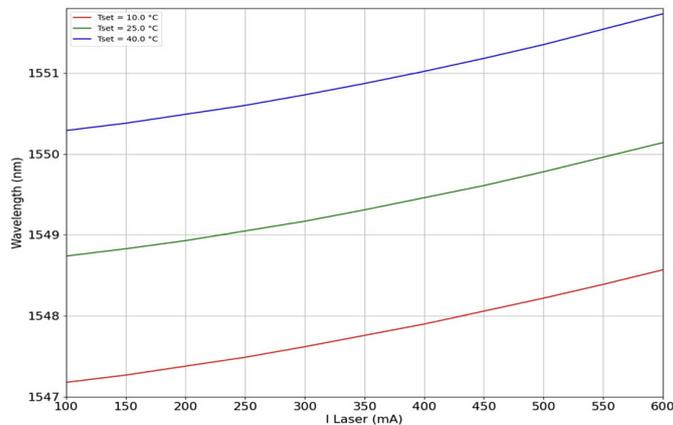
Linewidth Measurement (CW,25deg)



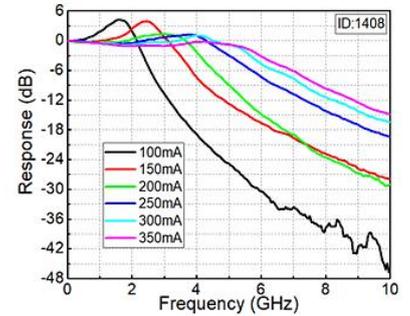
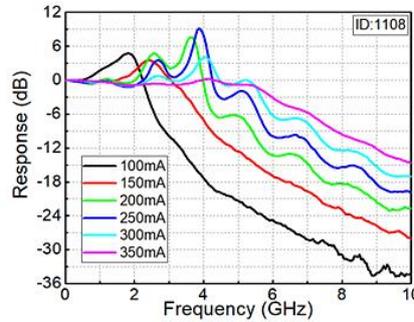
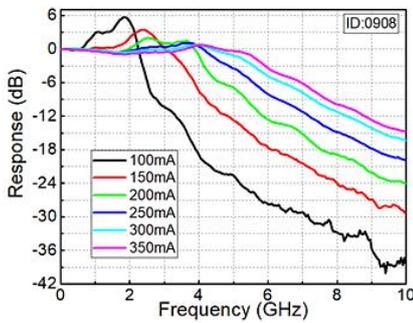
L-I Curve



Tuning Characteristics

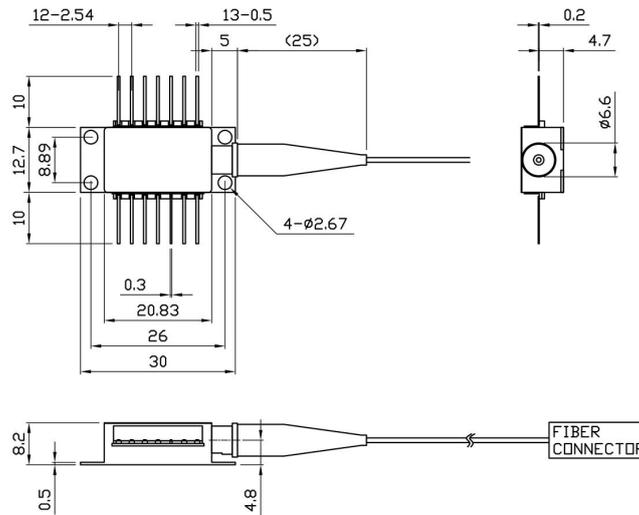


1500um Long Cavity length Narrow linewidth DFB Laser Modulation Bandwidth Test



-3dB(GHz)	100mA	150mA	200mA	250mA	300mA	350mA
0908	2.369	3.569	4.169	4.849	5.609	5.929
1108	2.409	3.529	4.089	4.449	5.689	6.008
1408	2.369	3.489	4.089	5.009	5.689	5.969

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

50: 50KHz

100: 200KHz

200: 200KHz

☆: 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@200KHZ