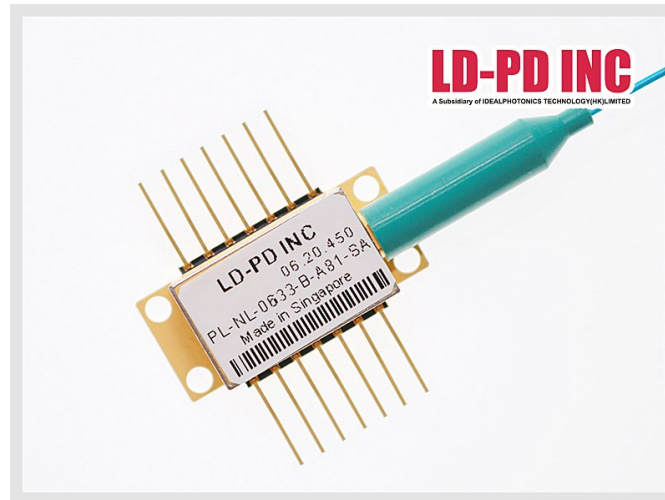


633nm Narrow Linewidth Laser Diodes



Description:

The PL-NL series Fiber Bragg Grating laser is single frequency laser diode module designed for optical measurement and communication. The laser is packaged in 14-pin standard butterfly package with monitor photodiode and

Features:

- Optical output: 30mW
- Narrow linewidth ($\Delta\nu < 1\text{MHz}$)
- Wavelength: 633nm @ 25 C
- SM or PM Fiber ($\varnothing 0.9\text{mm}$)
- FC-APC connector
- 14-pin butterfly package
- Internal monitor PD and TEC
- Low power consumption

Optional:

- Laser interference experiment
- Optical Test and Instrumentation
- Sensors

Laser Specifications:

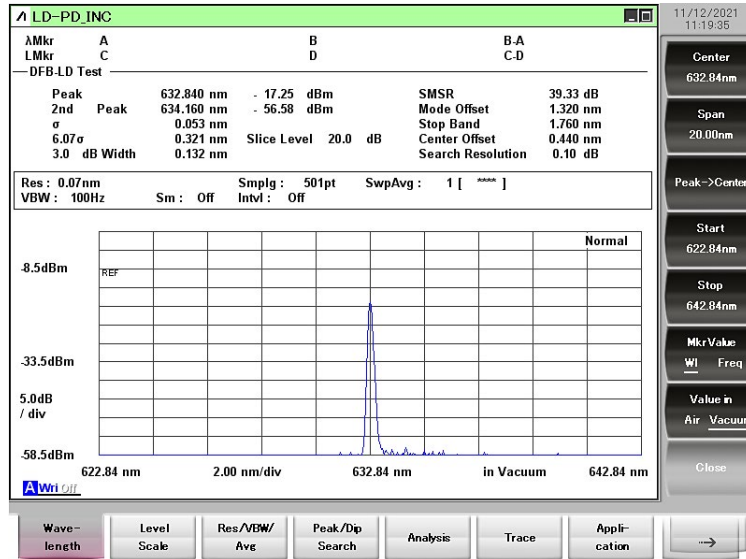
Optical Characteristics (at 25°C laser temperature)

Parameter	Symbol	Condition	Min.	Typical	Max.	Unit
Center Wavelength	λ_c	TL=15~35°C CW	631.5	632.5	633	nm
Peak Optical Output Power	PO	-	10	-	30	mW
Spectral linewidth	LW	-	-	1	10	MHZ
Relative Intensity Noise	RIN			-145		db/HZ
SMSR	SMSR	CW	40	50	-	dB
PER	ER	-	20	-	-	dB
Wavelength drift with case (-10 to 70°C) temperature	$\Delta\lambda$	TL=15~35°C	-	-	± 1	pm
Wavelength Temperature coefficient	$\Delta\lambda/\Delta T$	TL=15~35°C	-	80		pm/°C
Wavelength Current coefficient	$\Delta\lambda/\Delta I$	-	-	1		pm/mA
Mode Hop free Range	ΔI			30		mA

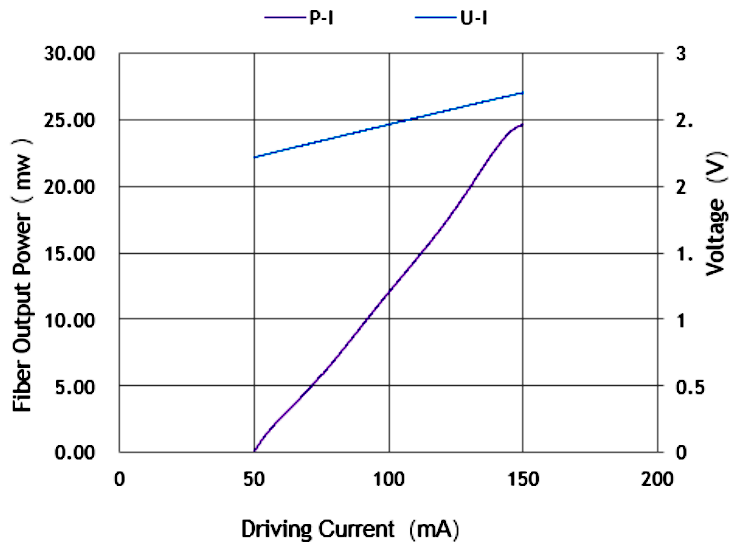
Electrical Characteristics (at 25°C laser temperature)

Parameter	Symbol	Condition	Min.	Typical	Max.	Unit
Threshold Current	ITH	-	-	45	65	mA
Operating Current	I _{op}	CW	-	120	150	mA
TEC set temperature	T _s	-	15	-	35	°C
Laser Forward Voltage	V _F	CW output power@15 mW	-	1.3	2.5	V
Monitor Dark Current	I _D	P _f =15mw ; V _{RD} =5V	-	-	0.1	μA
Thermistor Current	I _{TC}	-	10	-	100	μA
Thermistor Resistance	R _{TH}	T _{LD} =25°C, B=3900±100K	9.5	10	10.5	KΩ
TEC Current	I _{TEC}	I _F =EOL, T _C =70°C	-	-	1.4	A
TEC Voltage	V _{TEC}	I _F =EOL, T _C =70°C	-	-	2.8	V

Spectrum:

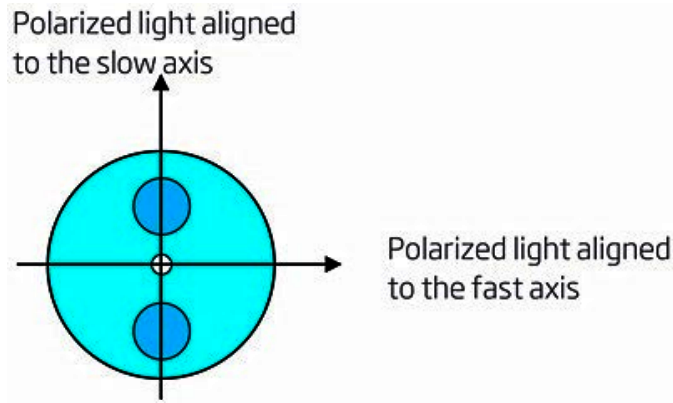


L-I Curve:

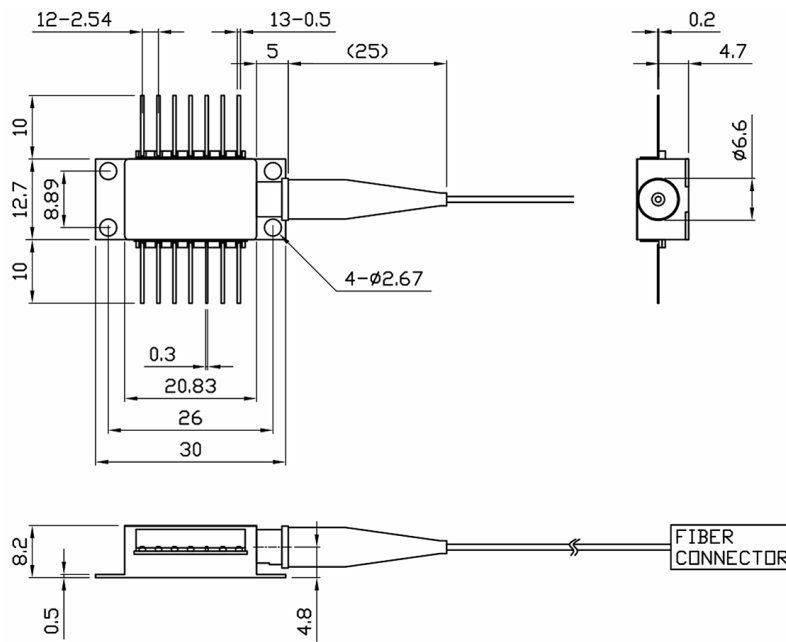


Fiber Pigtail Specifications:

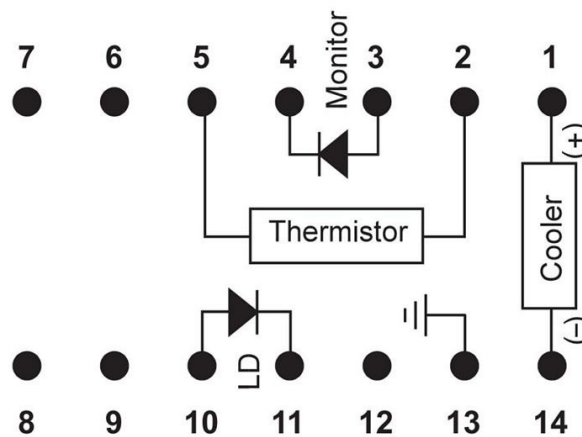
Parameters	Description
Fiber Type	SM600/PM630 fiber
Jacket Type	900 μ m loose tube
Pigtail Length	1.0 \pm 0.1m
Connector Type	FC/APC
PM fiber Connector Orientation	Please see the right figure



Package Size:



Pin definition:



None PZT Bulit inside:

1	Thermoelectric Cooler (+)	8	N/C
2	Thermistor	9	N/C
3	PD Monitor Anode (-)	10	Laser Anode (+)
4	PD Monitor Cathode (+)	11	Laser Cathode (-)
5	Thermistor	12	N/C
6	N/C	13	Case Ground
7	N/C	14	Thermoelectric Cooler (-)

Absolute Maximum Ratings:

Item	Unit	Min	Typ	Max
Case Temperature	°C	-40	25	70
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	150	170
Forward Voltage	V	0.8	1.2	1.8
TEC Current	A	-	1.2	1.4
Reverse Voltage (LD)	V	-	-	1.8

OEM Info:

PL-NL-□□□□-☆-A8▽-XX-☆

□□□□: Wavelength

0633: 633nm

1550: 1550nm

1555: 1555nm

1560: 1560nm

☆: Output Power

A: 10mW

B: 30mW

▽: Linewidth

1: <10MHZ

XX: Fiber and Connector Type

SA=SM600+ FC/APC, SP=SM600+ FC/PC

PP=PM630 Fiber+ FC/PC, PA=PM630 Fiber+ FC/APC

☆

No PZT: Leave it Blank

PZT: Version please use PZT to replace