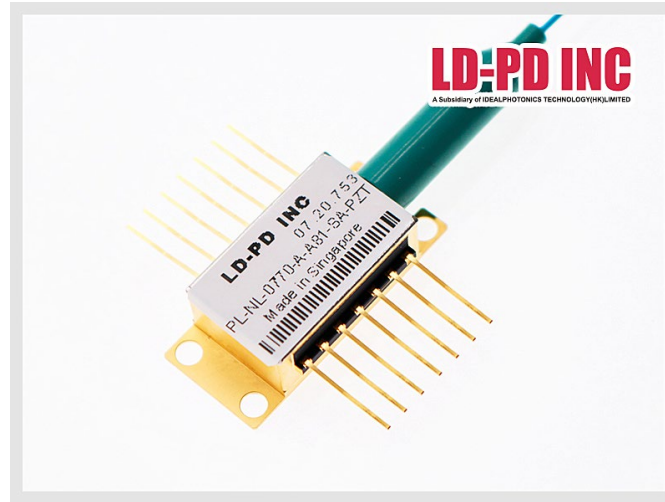


770nm single frequency Narrow Linewidth Laser Diode



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 thermo-electric cooler (TEC).

Features:

- Optical output: 20mW
- Narrow linewidth ($\Delta\nu < 1\text{MHz}$)
- Wavelength: 770nm @ 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

Application:

- Laser interference experiment
- Drop-side of DWDM long-haul transport equipment
- Optical Test and Instrumentation
- Microwave Photonics
- CATV networks
- Sensors

E/O Characteristics:

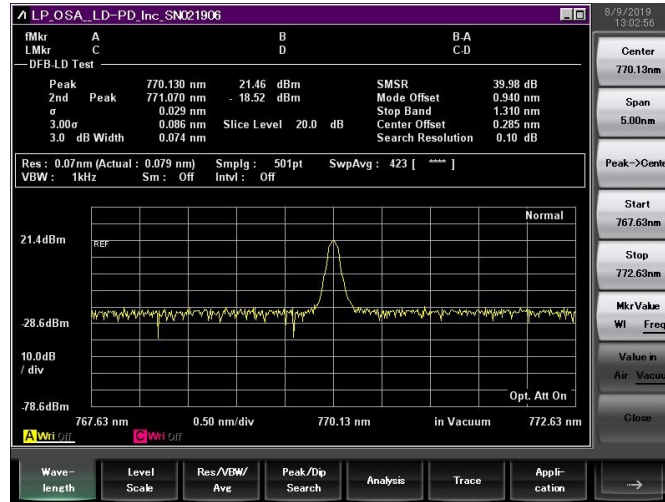
Tsub=25°C, CW bias unless stated otherwise

Parameter	Symbol	Condition	Min.	Typical	Max.	Unit
Center Wavelength	λ_c	TL=15~35 °C CW	769	770	771	nm
Peak Optical Output Power	PO	-		10	20	mW
Spectral linewidth	LW	-	-	1	10	MHz
Side-mode Suppression Ratio	SMSR	CW	30	40	-	dB
Optical Isolation	-	-10 < TC < +70 °C	30	-	-	dB
Polarization Extinction Ratio	ER	-	20	-	-	dB
Relative Intensity Noise	RIN	CW, output power 5mW	-	-	-135	dB
Wavelength drift with case (-10 to 70 °C) temperature	$\Delta\lambda$	TL=15~35 °C	-	-	±30	pm
Wavelength Temperature coefficient	$\Delta\lambda/\Delta T$	TL=15~35 °C	-	65	80	pm/°C
Wavelength Current coefficient	$\Delta\lambda/\Delta I$	-	-	1.0	2	pm/mA

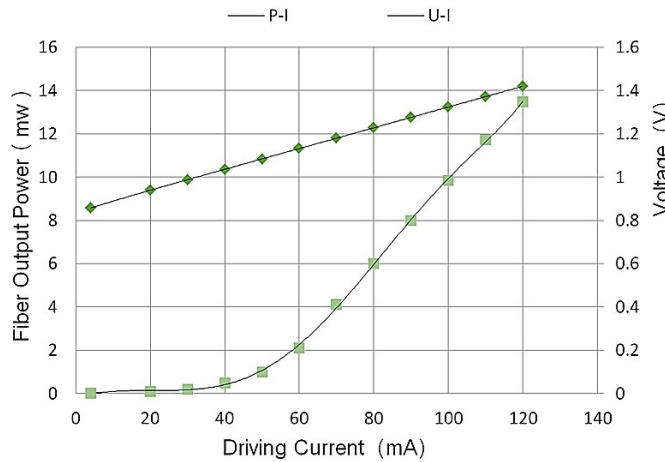
Electrical Characteristics (at 25 °C laser temperature)

Parameter	Symbol	Condition	Min.	Typical	Max.	Unit
Threshold Current	ITH	-	-	45	65	mA
Operating Current	Iop	CW	-	100	150	mA
TEC set temperature	Ts	-	15	-	35	°C
Laser Forward Voltage	VF	CW output power@15 mW	-	1.3	2.5	V
Monitor Dark Current	ID	Pf=15mw, VRD=5V	-	-	0.1	μA
Thermistor Current	ITC	-	10	-	100	μA
Thermistor Resistance	RTH	TLD=25°C, B=3900±100K	9.5	10	10.5	KΩ
TEC Current	ITEC	IF=EOL, TC=70°C	-	-	1.4	A
TEC Voltage	VTEC	IF=EOL, TC=70°C	-	-	2.8	V

Spectrum:

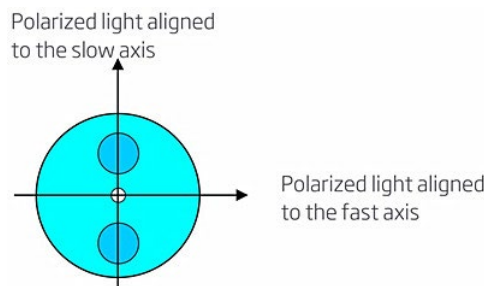


L-I Curve:



Fiber Pigtail Specifications:

Parameters	Description
Fiber Type	PM fiber
Jacket Type	900µm loose tube
Pigtail Length	1.0±0.1m
Connector Type	FC/APC
PM fiber Connector Orientation	Please see the right figure



Note: The PM fiber and the connector key are aligned to the slow axis,fast axis is blocked

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

0770: 770nm

1550: 1550nm

1555: 1555nm

1560: 1560nm

☆: Output Power

A: 10mW

B: 30mW

▽: Linewidth

1: <10MHZ

XX: Fiber and Connector Type

SA=HI780+ FC/APC

SP=HI780+ FC/PC

PP=PM850 Fiber+ FC/PC

PA=PM850 Fiber+ FC/AP

☆

No PZT: Leave it Blank

PZT: Version please use PZT to replace