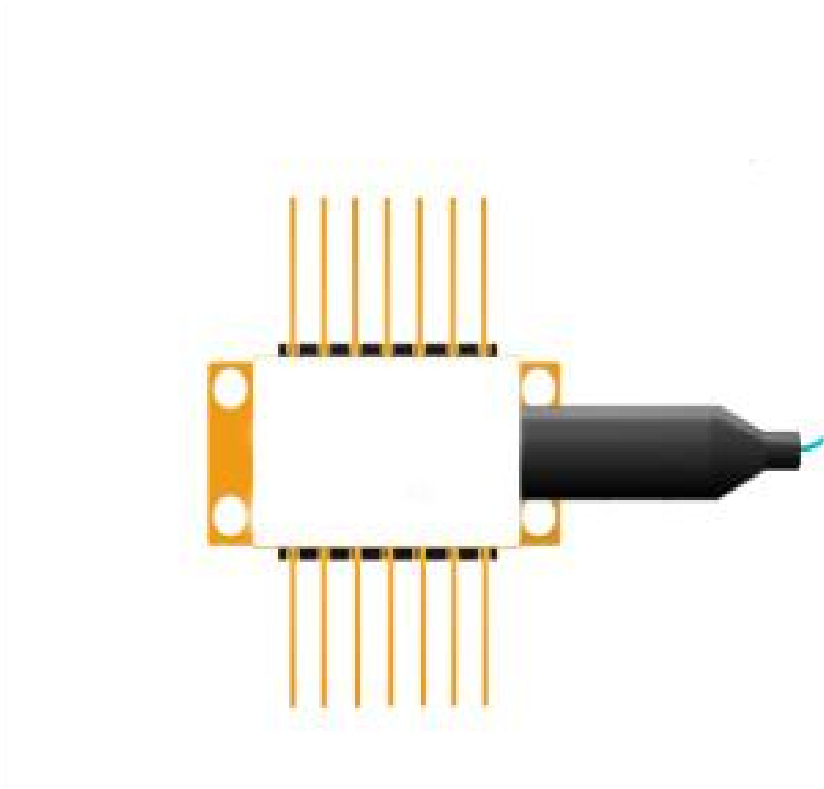


1572nm 30mW SM Narrow Linewidth Laser

Diodes



● Product Description

The 1572nm 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)

● Product features

Optical output 30mW; with TEC; SMSR 40dB; Optical Isolation 30dB; Pigtail

Length $1.0 \pm 0.1\text{m}$; SM fiber; FC/APC

● Part Number

MP-NL-1572-A-A81-SA

● Application area

Metro and Long Haul DWDM, 100 GHz spaced networks | SONET/SDH

OC-48/STM16 ring and meshed applications | Drop-side of DWDM long-haul

transport equipment | Optical Test and Instrumentation | Microwave Photonics |

CATV networks | Sensors

● Core parameters

Wavelength	Output Power	Fiber Type
1572nm	30mW	SM

● General Parameters

Optical Characteristics

Parameter	Symbol	Condition	Min.	Typical	Max.	Unit
Center Wavelength	λ_c	TL=15~35°C CW	1569.5	1572.0	1572.5	nm
Peak Optical Output Power	PO	-	10	-	30	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	-	-	-150	dB/Hz
Wavelength drift with case (-10 to 70 °C) temperature	$\Delta\lambda$	TL=15~35°C	-	-	±30	pm
Single-Frequency Continuous Tuning Range	Δf			3		GHz

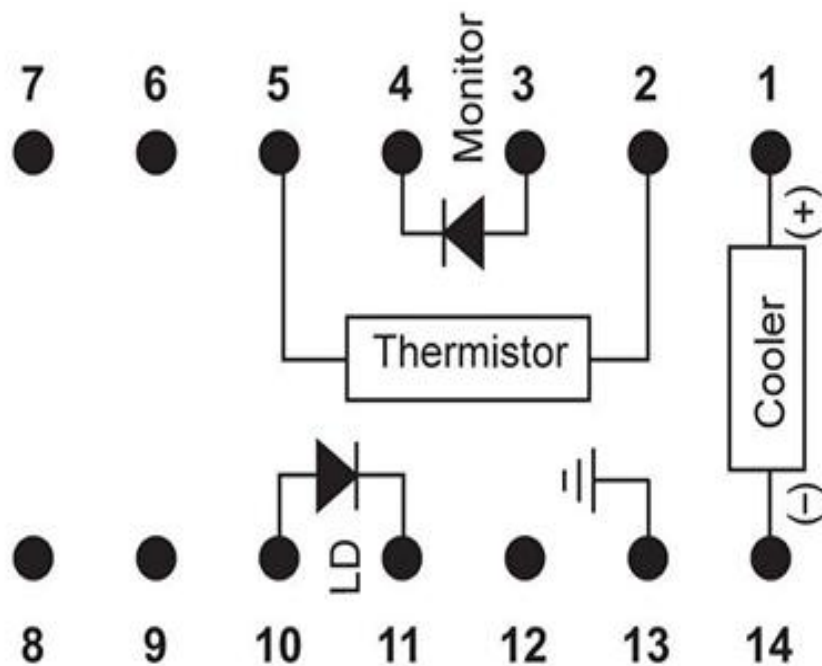
Electrical Characteristics

Parameter	Symbol	Condition	Min.	Typical	Max.	Unit
Threshold Current	ITH	-	-	45	65	mA
Slope Efficiency	η	CW output power 30 mW	0.064	0.1	-	mW/mA
Operating current	Iop	CW	-	250	300	mA
TEC set temperature	Ts	-	15	-	35	°C
Laser Forward Voltage	VF	CW output power 5 mW	-	1.3	1.8	V
Monitor Dark Current	ID	-	-	-	0.1	μ A
Input Impedance	ZIN	-	22	25	28	Ω
Thermistor Current	ITC	-	10	-	100	μ A
Thermistor Resistance	RTH	TL = 25 °C	9.5	10	10.5	K Ω
TEC Current	ITEC	TL = 25 °C, TC = 70 °C	-	-	1.8	A
TEC Voltage	VTEC	TL = 25 °C, TC = 70 °C	-	-	3.5	V
TEC capacity	ΔT	Tc = 70°C	-	-	50	°C

Absolute maximum ratings:

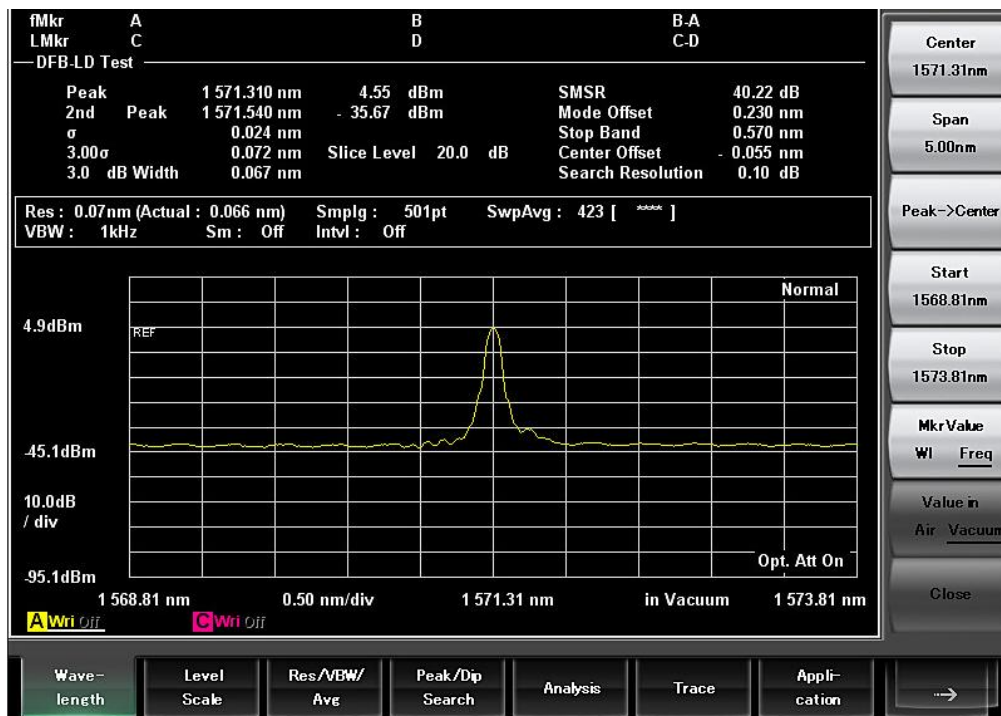
Parameter	Symbol	Min.	Typical	Max.	Unit
Storage temperature	Ts	-40	-	85	°C
Operating case temperature	Top	-15	-	75	°C
Forward Current	If	-	-	300	mA
Reverse Voltage	VR	-	-	2	V
Photodiode Forward Current	IFPD	-	-	2	mA
Photodiode Reverse Voltage	VRPD	-	-	10	V
TEC current	ITEC	-	0.8	1.5	A
TEC voltage	VTEC	-	1.5	3.5	V

Pin definition

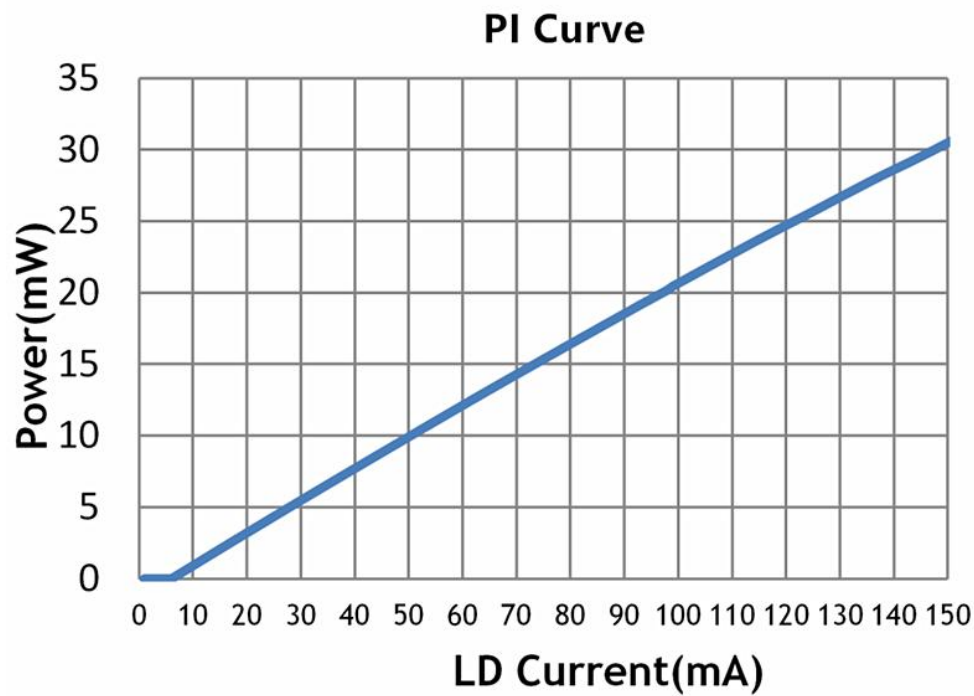


None PZT Bulit inside			
NO	Parameter	NO	Parameter
1	Cooler anode+	8	NC
2	Thermistor	9	NC
3	PD anode-	10	LD anode+
4	PD cathode+	11	LD cathode-
5	Thermistor	12	NC
6	NC	13	Case
7	NC	14	Cooler cathode-

Spectrum



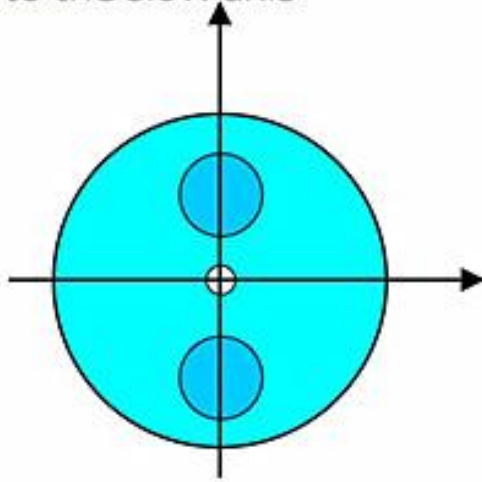
L-I-V Curve



Fiber Pigtail Specifications

Parameters	Description
Fiber Type	SM 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

Polarized light aligned
to the slow axis



Polarized light aligned
to the fast axis

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