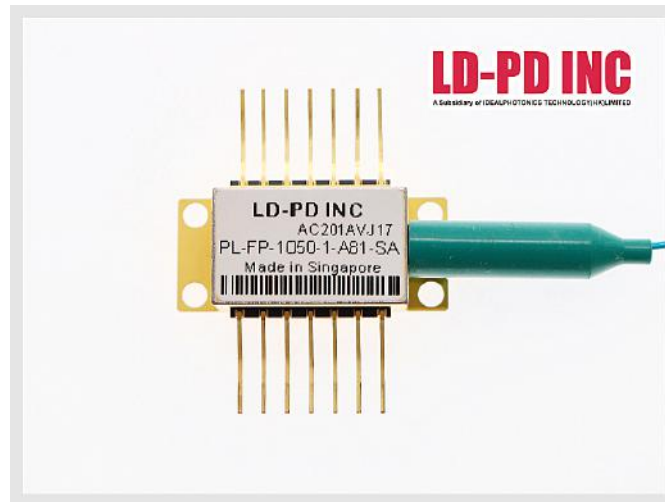


## 1050nm FP Single-Mode 14-Pin Butterfly Module Laser Diodes



### Description

The PL-FP-1050-1-A81-SA High brightness, high quality, and high reliability are the foundation of our single mode product line. LD-PD's 1050nm single mode laser modules are available with up to 50mW of continuous output power from a 14-pin butterfly packaged fiber. All chips are mounted on a 2.1mm COS within the package and come standard with an internal thermistor, TEC, and photodiode. LD-PD's trademark laser chip design offers un-measurable degradation and long lifetimes that make our chips among the most reliable in the industry today. Our 1050nm single mode line serves a broad range of applications including optical data storage, printing, laser ranging, illumination, defense, spectral analysis, and graphics.

### Features

- Optical output: 50mW
- FC-APC connector
- Efficient coupling into single mode fiber
- 14-pin butterfly package
- CW or pulsed operation
- Internal monitor PD and TEC
- SM or PM Fiber (ø0.9mm)

### Application

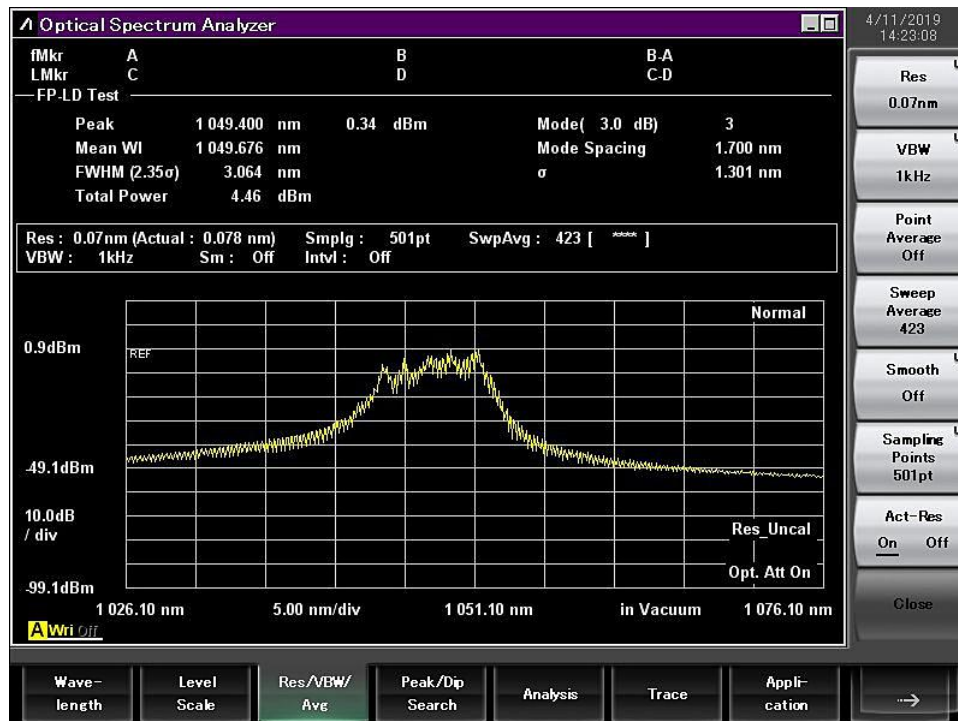
- Printing
- Optical Data Storage
- Spectral Analysis
- Graphics
- Laser Ranging
- Illumination
- Defense

**Laser Specifications**

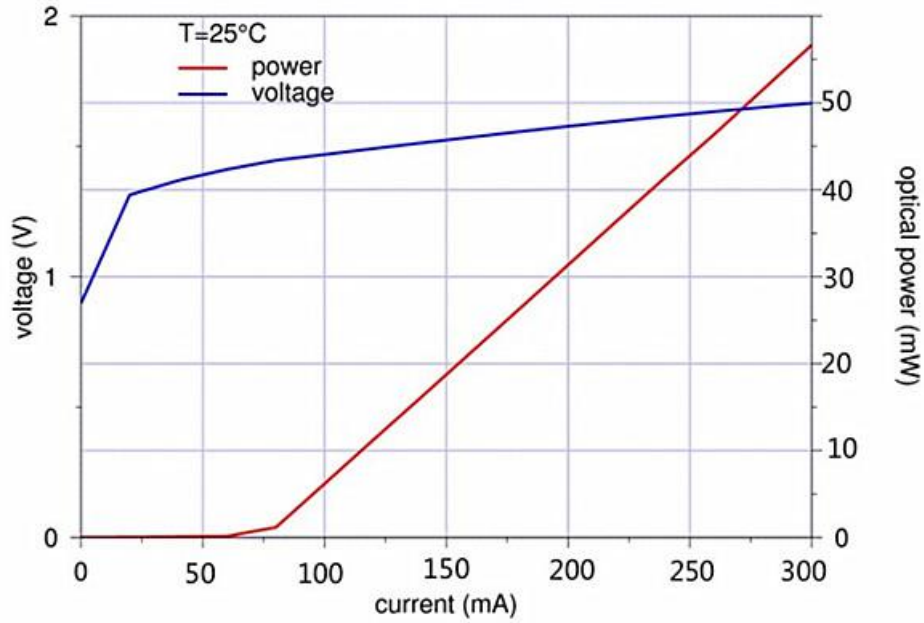
Tsub=25°C, CW bias unless stated otherwise

Parameter	Symbol	Min	Typ	Max	Unit
Centre Wavelength	$\lambda$	1049	1050	1051	nm
Spectral Width	$\Delta\lambda$	1	1.5	2.0	dB
Threshold Current	I <sub>th</sub>		30	40	mA
Rise/fall time	ns		0.2/0.2	0.2/0.2	mA
Operating Current	I <sub>op</sub>		200	300	mW
Fiber output Power	P <sub>f</sub>	40	50	80	mW/mA
PD Dark Current (VRD=5V)	I <sub>d</sub>			0.1	nm/mA
Extinction Ratio (PM VERSION)	PER	17	20		nm/K
Coupled Fiber Type	HI1060				
Forward Voltage	V <sub>f</sub>		1.8	2.5	K $\Omega$
Thermistor Resistance	R <sub>T</sub>	9.5	10	10.5	%/°C
Thermistor Temp. Coefficient			-4.4		
Connector	FC/APC				

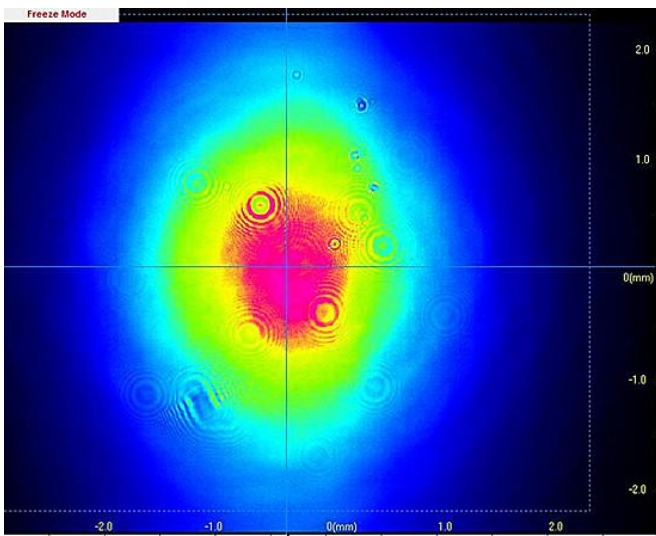
**Spectrum**



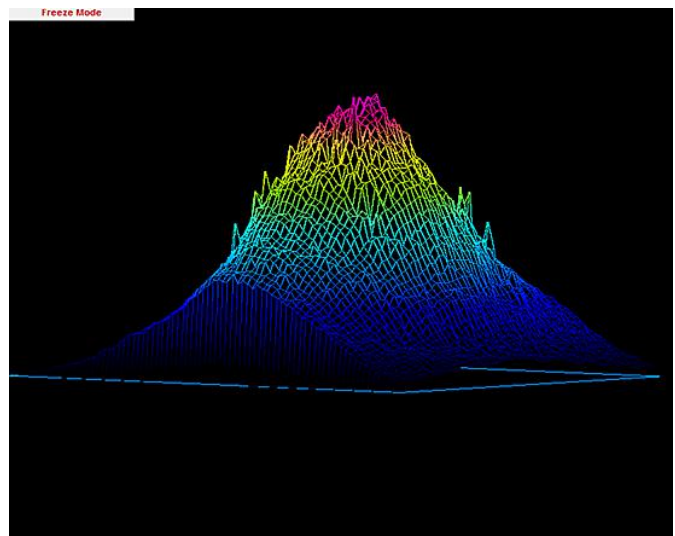
**L-I Curve**



**Beam Quality**

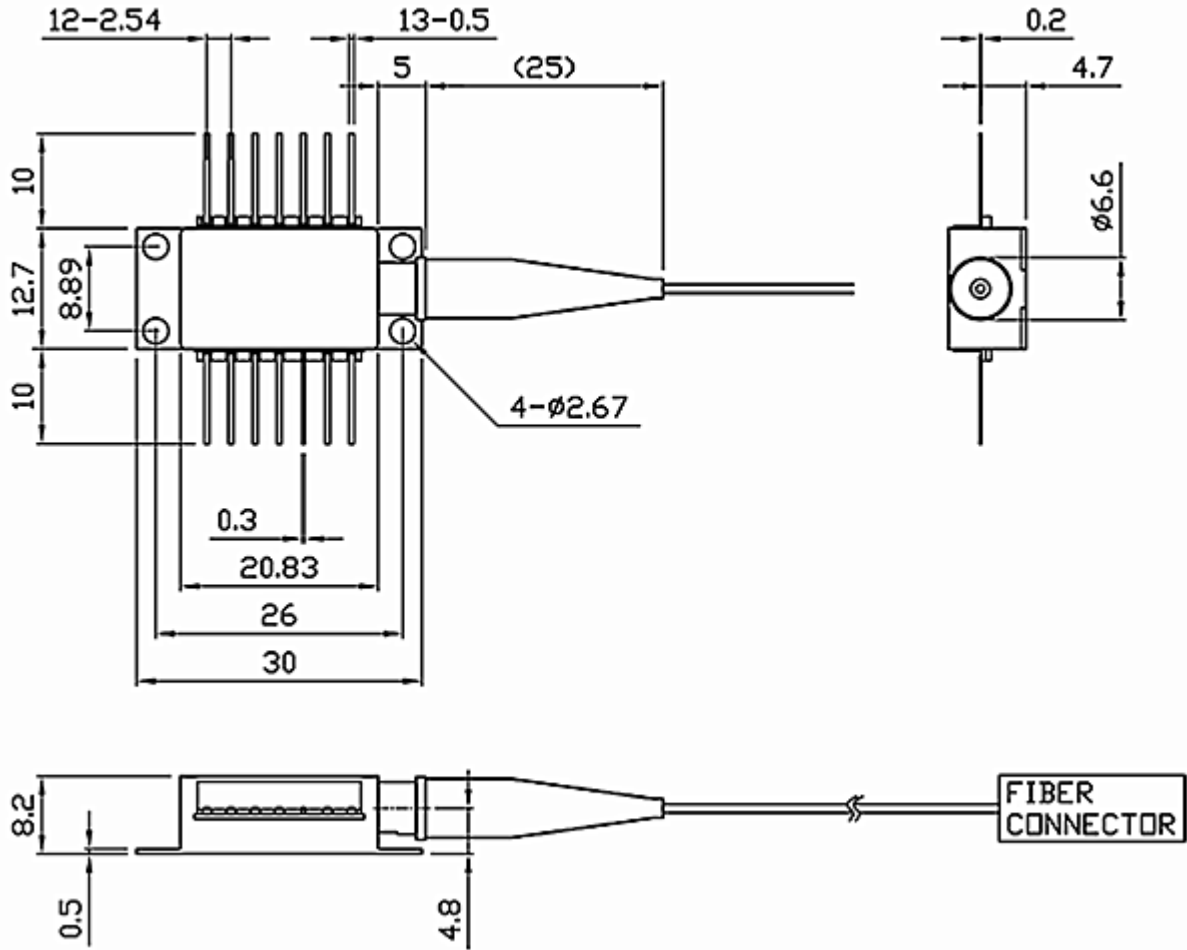


2D

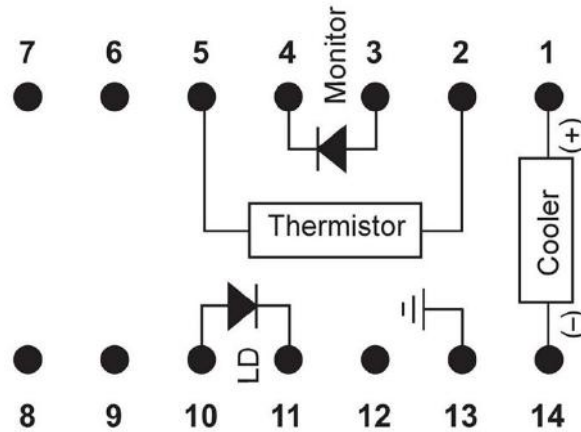


3D

**Package Size**



**Pin Definition**



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	-5	25	70
Chip Temperature	°C	+10	25	40
Operating Current	mA	0	300	400
Forward Voltage	V	0.8	1.2	1.8
TEC Current	A	-	1.2	1.4
Reverse Voltage(LD)	V	-	-	1.8
Reverse Voltage(PD)	V	-	-	10

### Ordering Info

**PL-FP-□□□□-☆-A8▽-XX**

□□□□:Wavelength

405:405nm

633:633nm

680:680nm

850:850nm

1050:1050nm

1064:1064nm

\*\*\*\*\*

1550:1550nm

☆ :Output Power

1:50mW

2:100mW

▽:Wavelength Tolerance

1:±1nm

2:±2nm

XX: Fiber and Connector Type

SA=HI1060+ FC/APC

SP=HI1060+ FC/PC

PP=PM Fiber+ FC/PC

PA=PM Fiber+ FC/APC