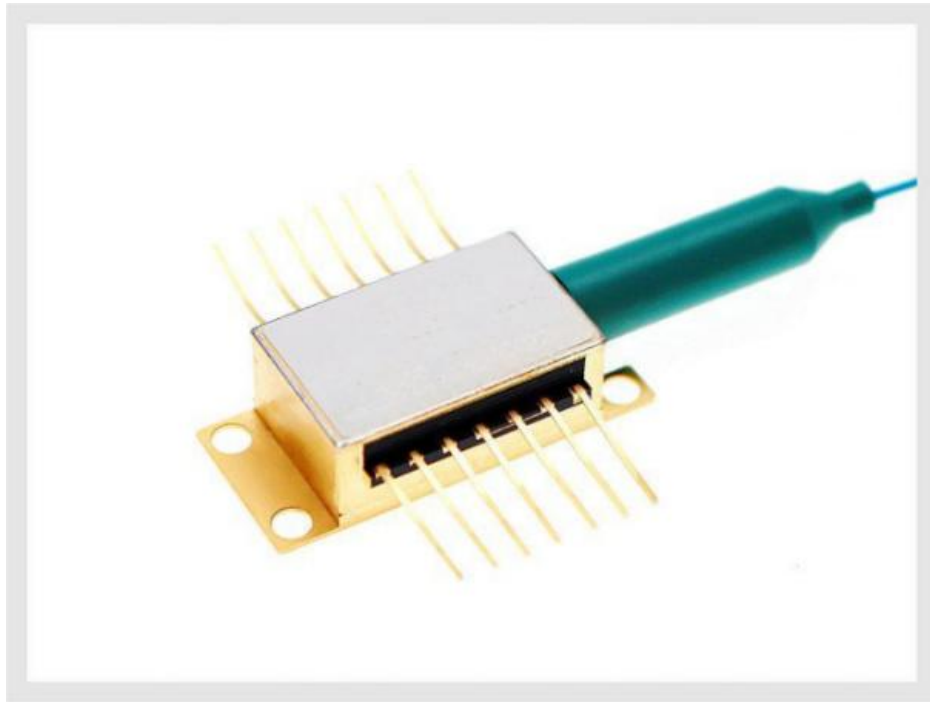


1962nm 5mW DFB Laser Diode for HBr Sensing



● Product Description

1962nm Distributed Feedback (DFB) laser diode module, manufactured by idealphotonics, is a cost-effective and high-coherence laser source. The DFB laser diode chip is packaged in an industry-standard 14-pin butterfly package with a hermetically sealed structure. A Thermoelectric Cooler (TEC) and a Photodetector (PD) are integrated inside the package.



- **Product features**

Narrow linewidth: < 2 MHz ; Excellent wavelength control and stability ;

Industry-standard 14-pin butterfly package ; Mode-hop-free tuning ;

Outstanding reliability; Customizable wavelength available on request

- **Part Number**

MP-DFB-1962-5-A81-14BF-SA

- **Application area**

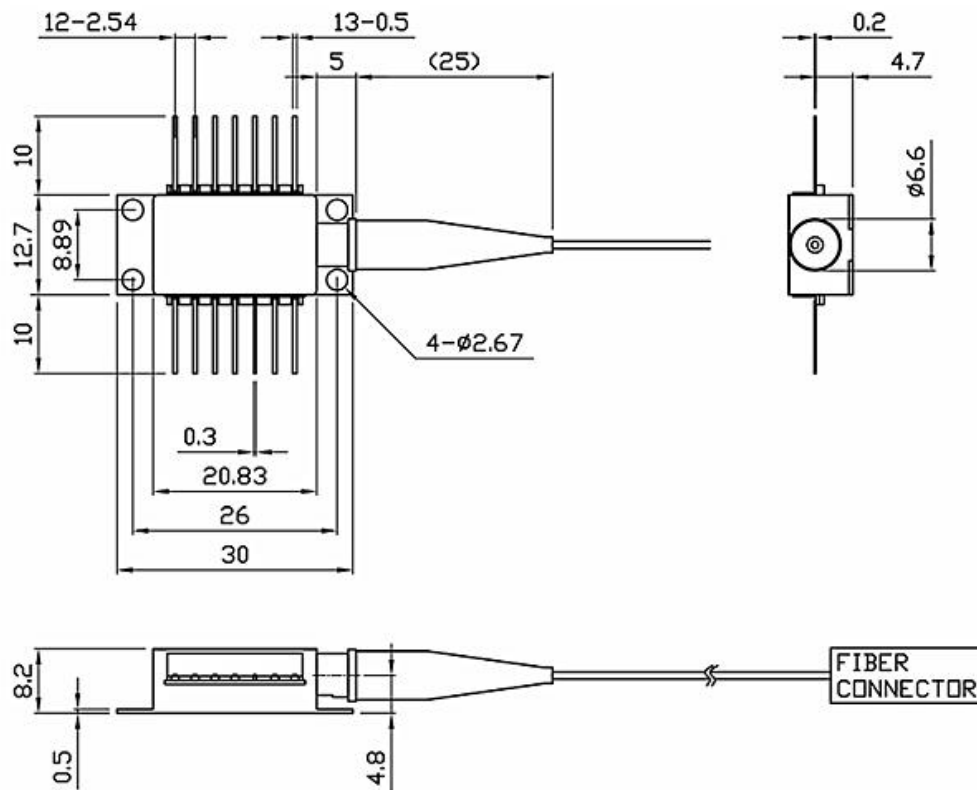
Tunable Diode Laser Absorption Spectroscopy (TDLAS) | Hydrogen Bromide

(HBr) Monitoring

- **Core parameters**

Central Wavelength	Output Power
1962nm	5mW

● Dimension Drawing



● General Parameters

Detailed Parameters

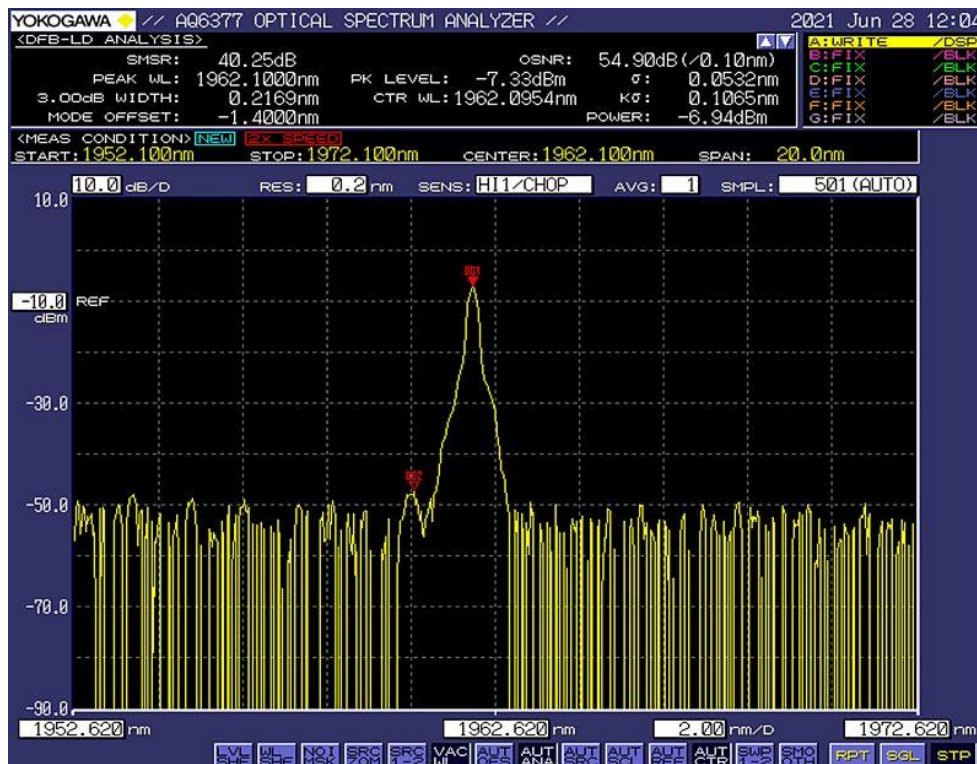
Technical Specifications

Parameter	Symbol	Min.	Typical	Max.	Unit
Central Wavelength	λ	1961	1962	1963	nm
Side Mode Suppression Ratio (SMSR)	SMSR	30	40	-	dB
Threshold Current	I_{th}	-	20	30	mA
Operating Current	I_{op}	-	80	120	mA
Chip Output Power	Pf	4	5	6	mW

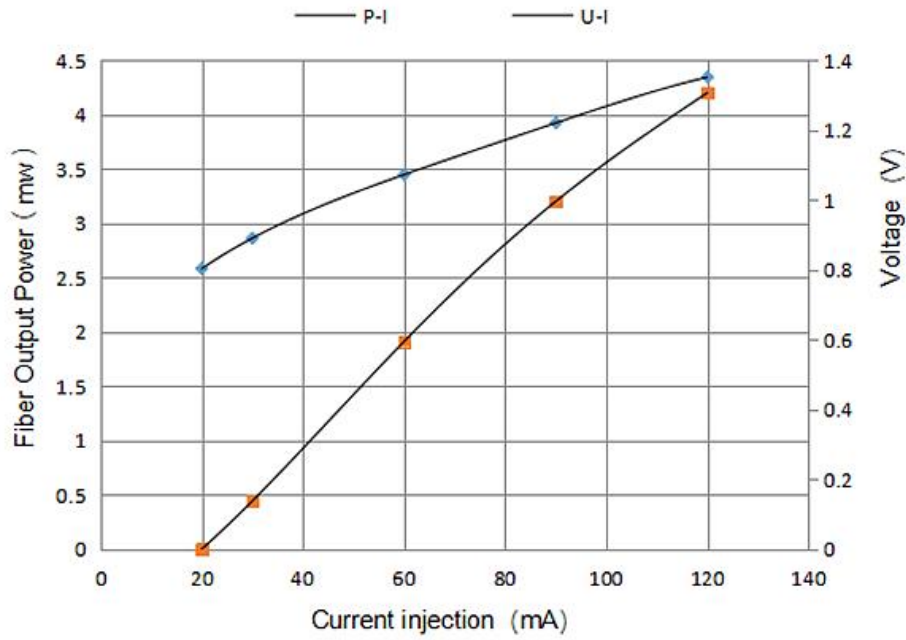


Parameter	Symbol	Min.	Typical	Max.	Unit
Quantum Efficiency	η	0.08	0.12	-	mW/mA
Current Tuning Coefficient	$\Delta\lambda/\Delta I$	-	0.015	-	nm/mA
Temperature Tuning Coefficient	$\Delta\lambda/\Delta T$	-	0.12	-	nm/K
Forward Voltage	Vf	-	1.3	2	V
Thermistor Resistance	RT	9.5	10	10.5	k Ω
Thermistor Temperature Coefficient	-	-	-4.4	-	%/ $^{\circ}$ C
Fiber Connector	-	FC/APC			

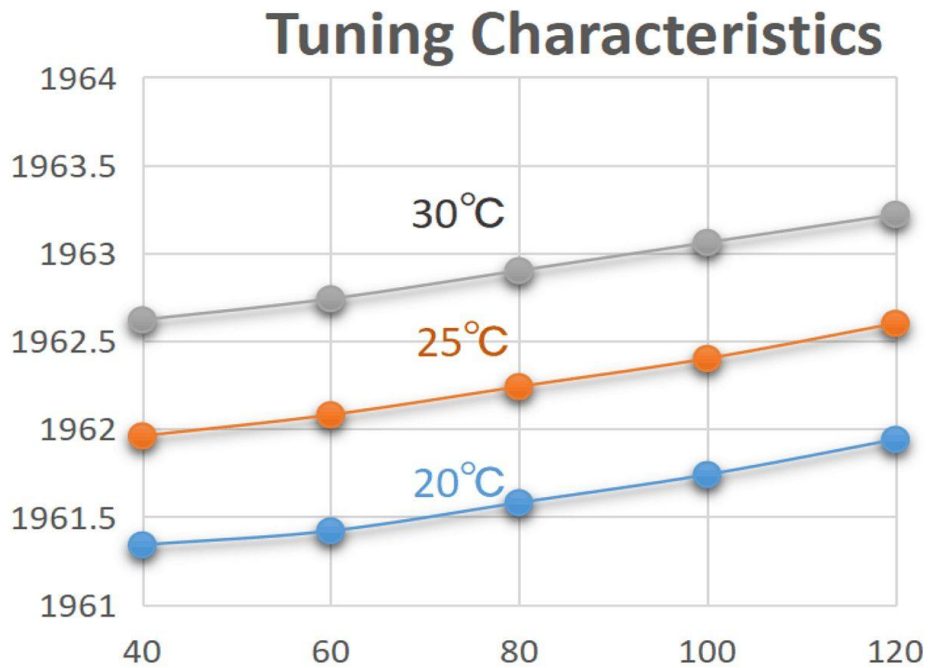
Spectrum



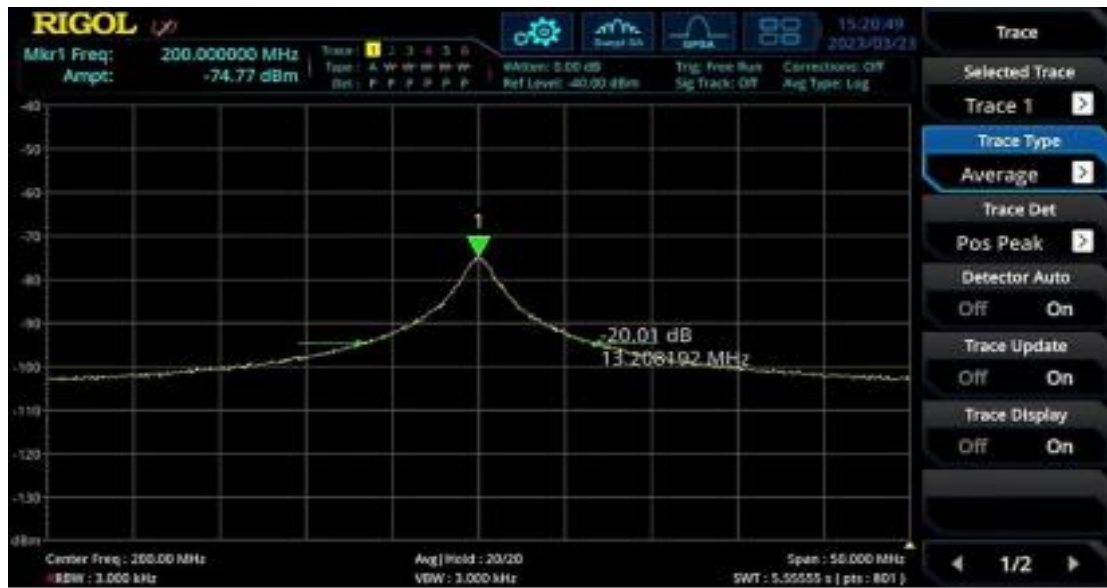
L-I Curve



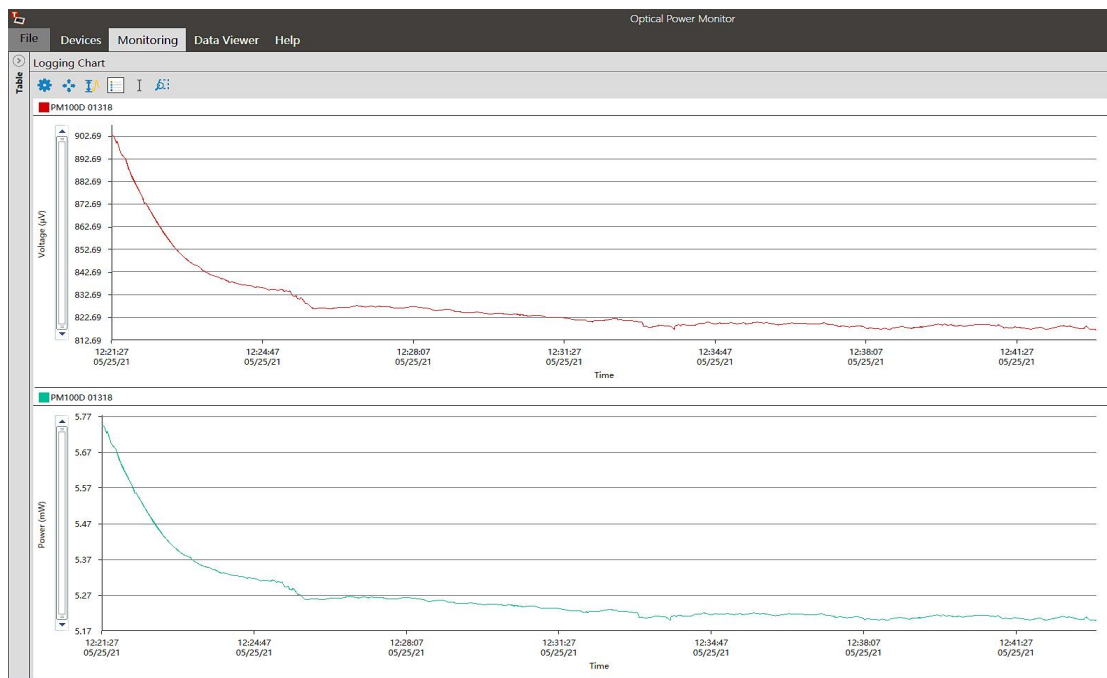
Tuning Characteristics



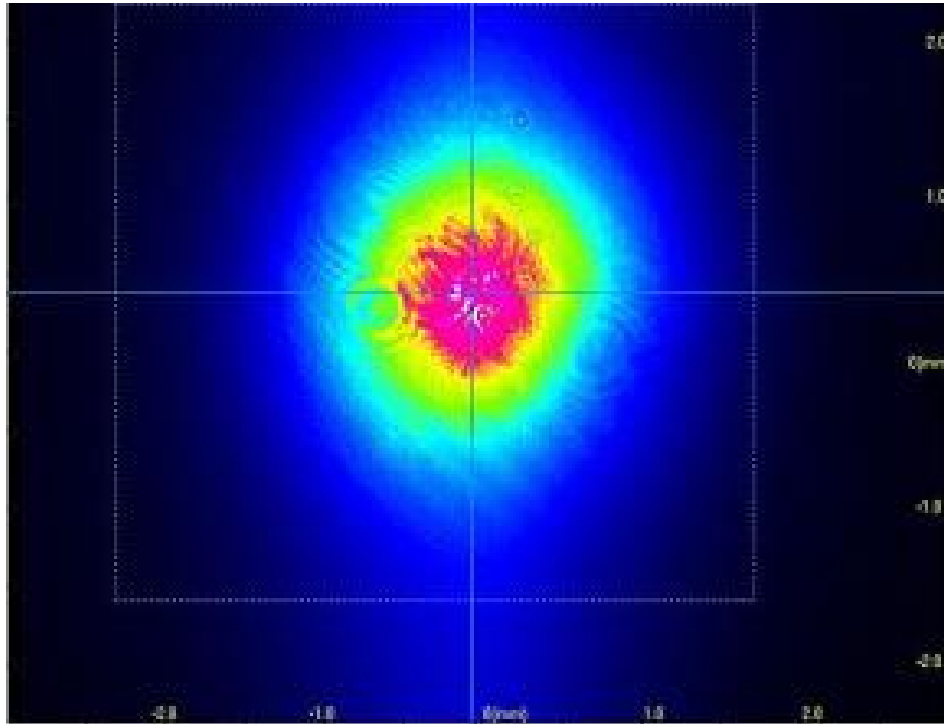
DFB Linewidth Test Results



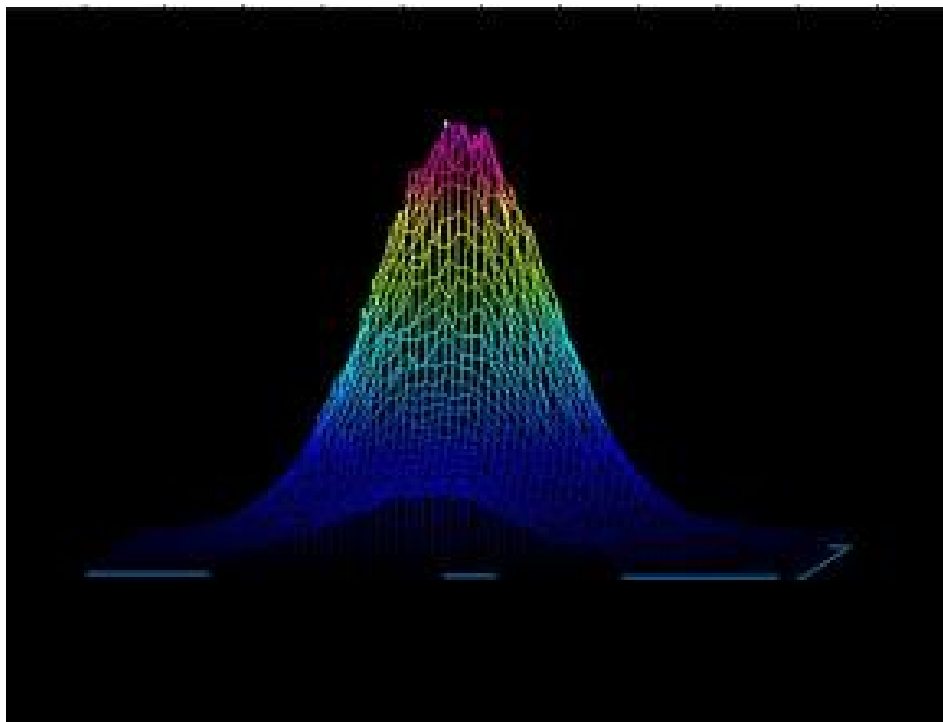
Power stability



Wavelength Stability

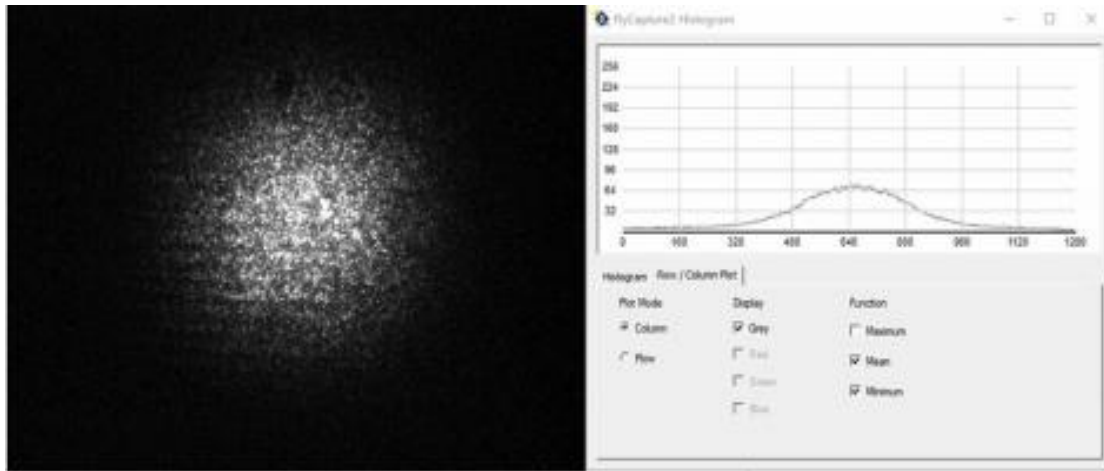


2D

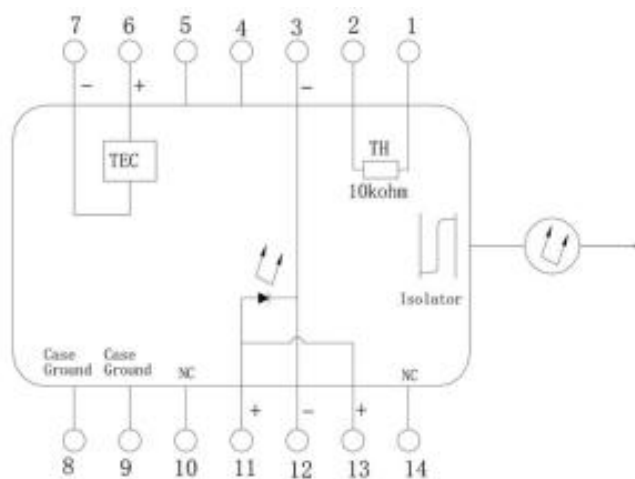


3D

Camera Analysis



Pin Definition



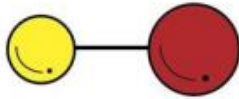
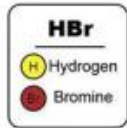
PIN#	Definition	PIN#	Definition
1	Thermistor	8	Case Ground
2	Thermistor	9	Case Ground
3	LD (-)	10	N/C
4	N/C	11	LD(+)



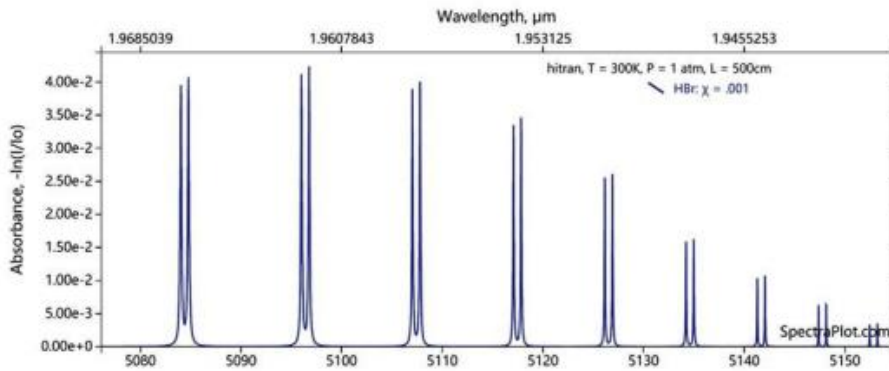
5	N/C	12	LD(-)
6	TEC(+)	13	LD(+)
7	TEC(-)	14	N/C

Absolute Maximum Ratings

Item	Unit	Min.	Typical	Max.
Case Temperature	° C	-5	25	70
Chip Temperature	° C	+10	25	40
Operating Current	mA	0	100	120
Forward Voltage	V	0.8	1.2	1.8
TEC Current	A	-	-	1.2
Reverse Voltage (LD)	V	-	-	2.0
Reverse Voltage (PD)	V	-	-	20



TDLAS: 1950/1962nm



Order information

MP-DFB-□□□□-☆-A8▽-XX

□□□□: Wavelength

1390: 1390nm

1512: 1512nm

1567: 1567nm

1570: 1570nm

1653.7: 1653.7nm

1962: 1962nm

2327: 2327nm

☆: Output Power

A: 5mW

B: 10mW

▽: Wavelength Tolerance



1: $\pm 1\text{nm}$

2: $\pm 2\text{nm}$

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