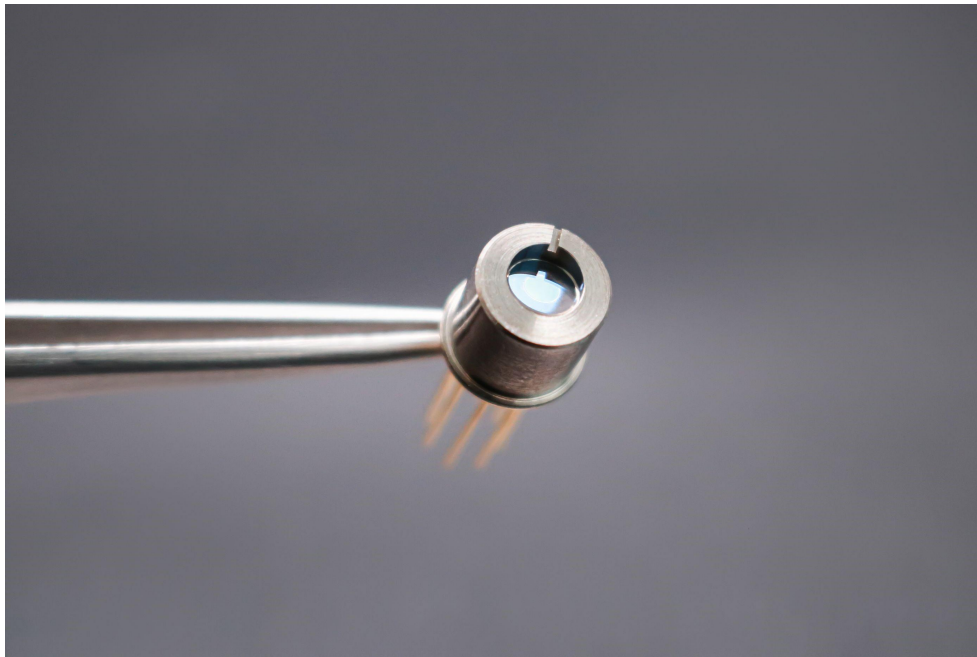


2004nm single-mode high-power DFB laser (T039 package, dedicated for CO2 detection)



● Product Description

The 2004nm DFB laser diode module manufactured by Idealphotonics is a cost-effective, high coherence laser source. The DFB laser diode chip is housed in an industry standard hermetic T039 package with built-in TEC and PD.

● Product features

Narrow linewidth < 2MHz、 Excellent wavelength control and stability

Industry standard TO39 package、 Mode-Hop free tuning Excellent reliability、 Customer specific wavelengths available

● Part Number

MP-DFB-2004-A-A81-TO39

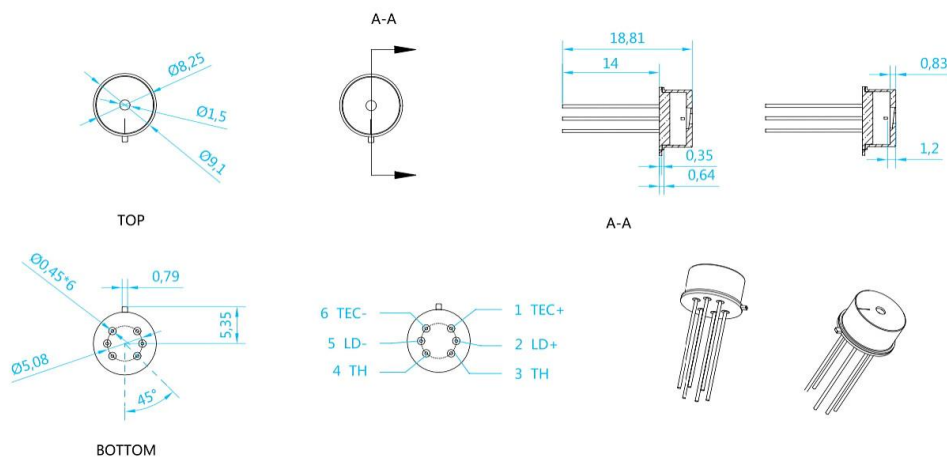
● Application area

Tunable diode laser absorption spectroscopy、 CO2 monitoring

● Core parameters

Center Wavelength	Output Power	Package
2004nm	3mW	TO39

● Dimension Drawing





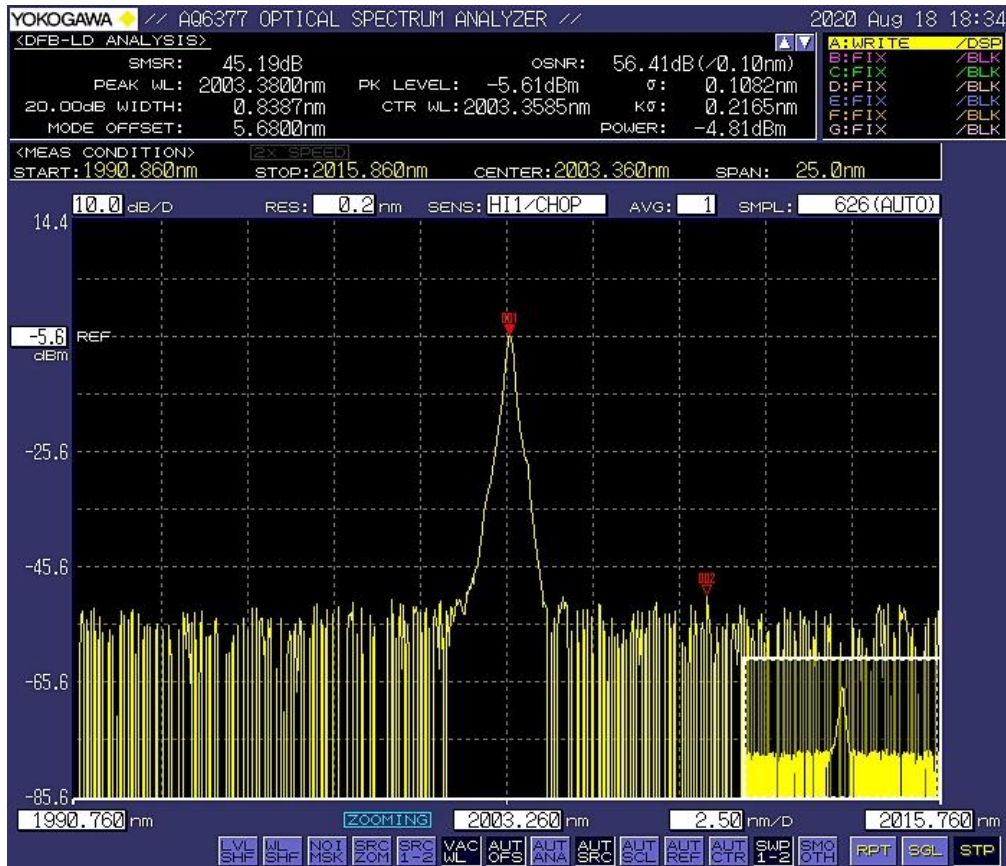
● General Parameters

Parameter

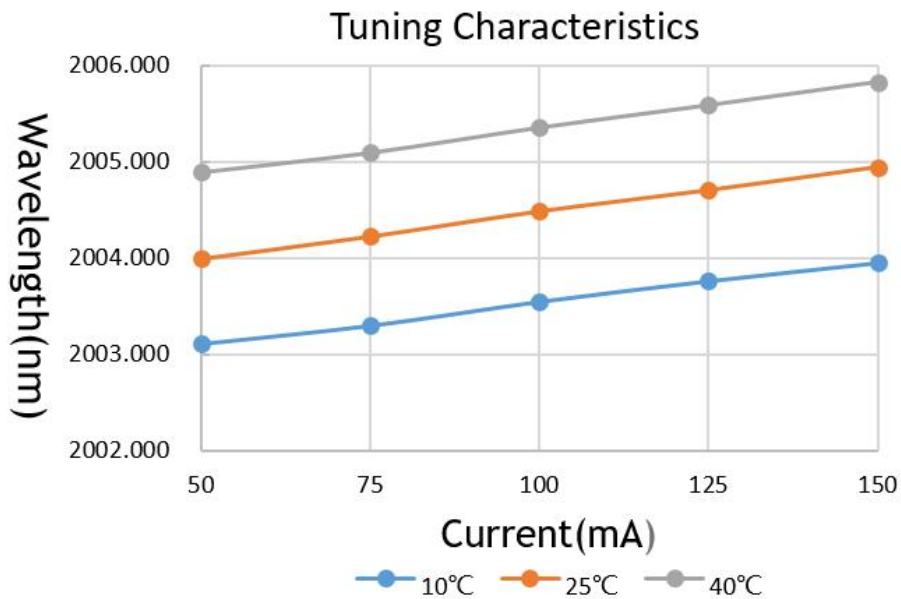
Electrical/Optical Characteristics (Tsub=25°C, CW bias unless otherwise specified)

parameter	symbol	Min.	typical	Max.	Unit
Central wavelength	λ	2003	2004	2005	nm
Side mode suppression ratio	SMSR	30	40		dB
Threshold current	UTH		20	30	mA
Operating current	IOP		80	120	mA
Chip output power	Pf	2	3	5	mW
Quantum efficiency	η	0.08	0.12		nm/mA
Current tuning coefficient			0.015		Nm/mA
Temperature adjustment coefficient			0.12		nm/K
Forward voltage	VF		1.3	2	V
Thermistor	RT	9.5	10	10.5	k Ω
Thermistor temperature coefficient			-4.4		%/°C

Spectrum

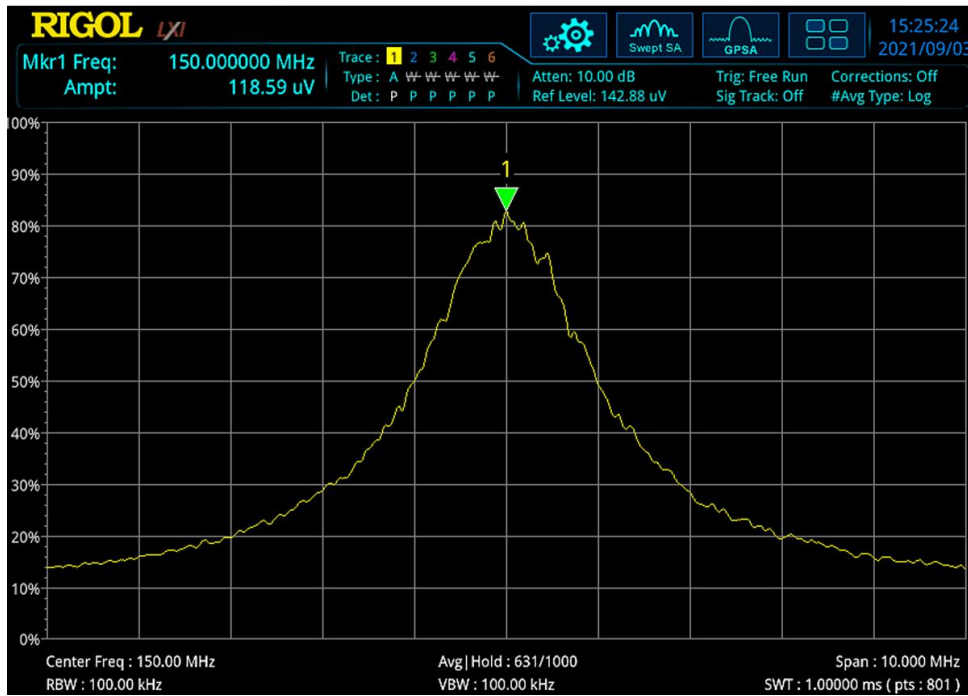


Tuning characteristics:

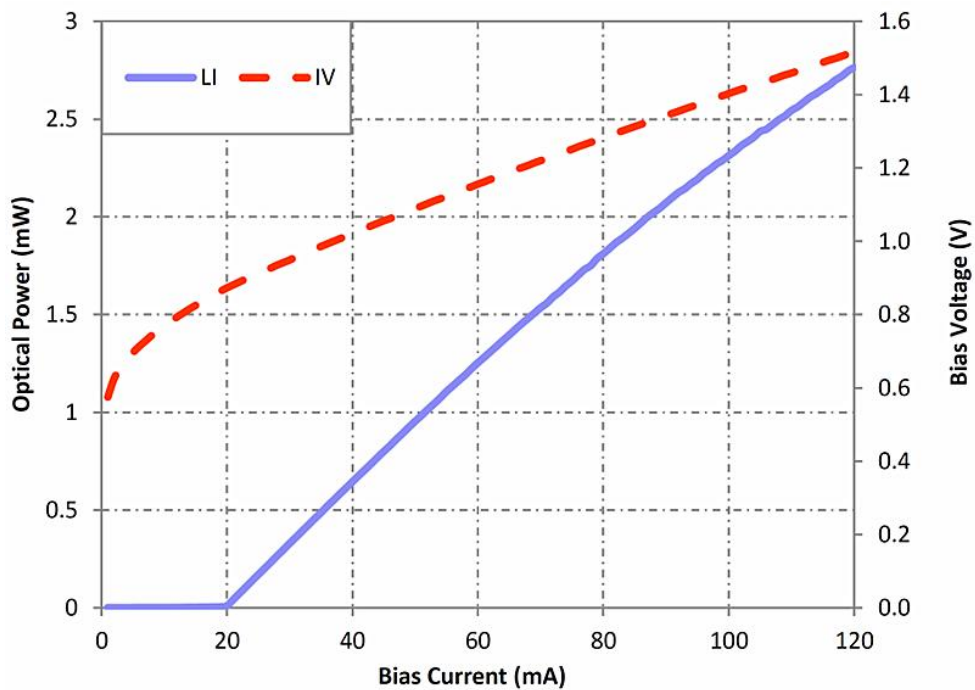




DFB line width test result

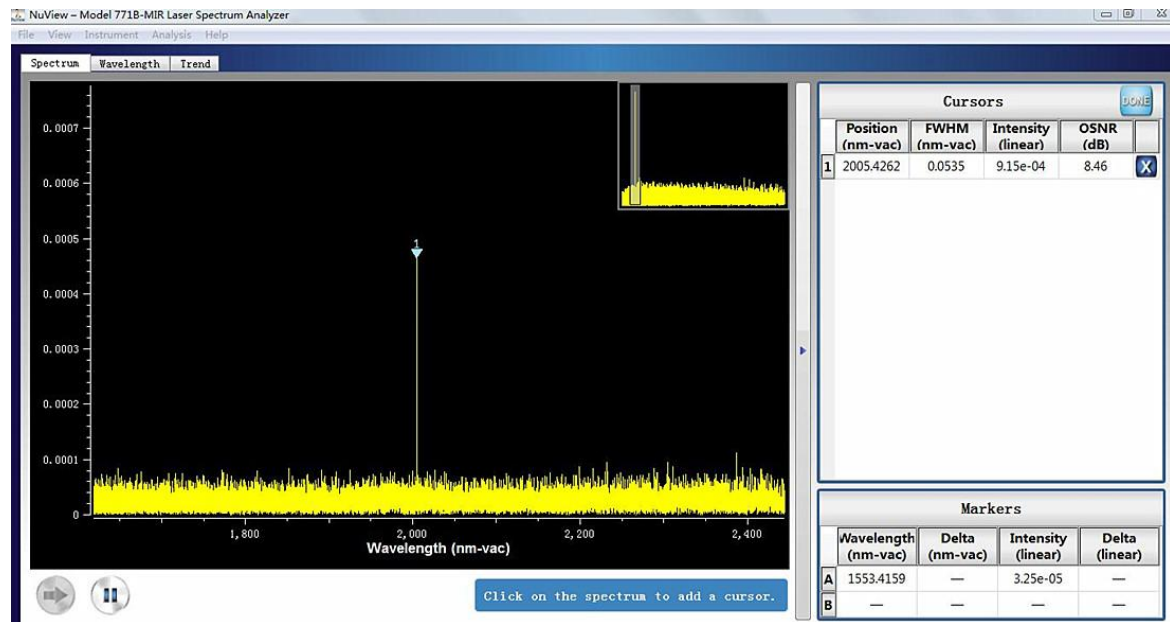


LI curve

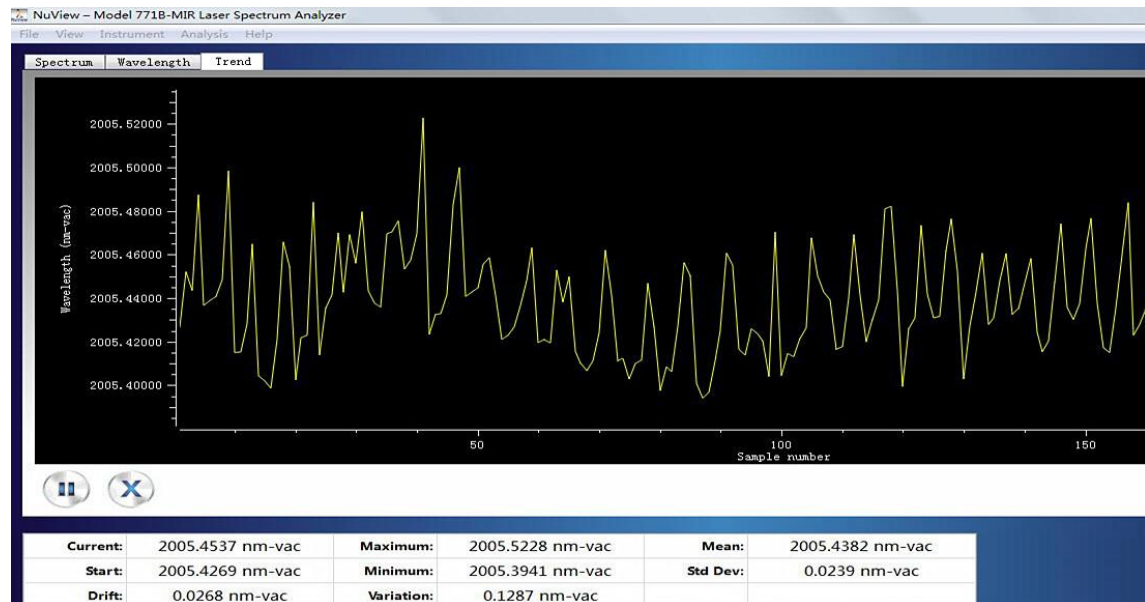




Central wavelength



Wavelength stability

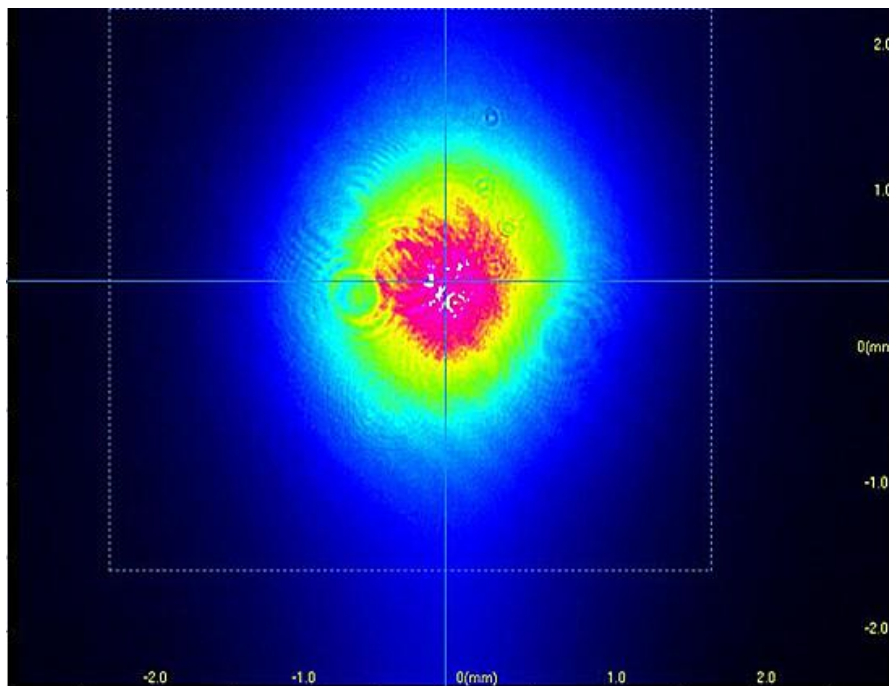




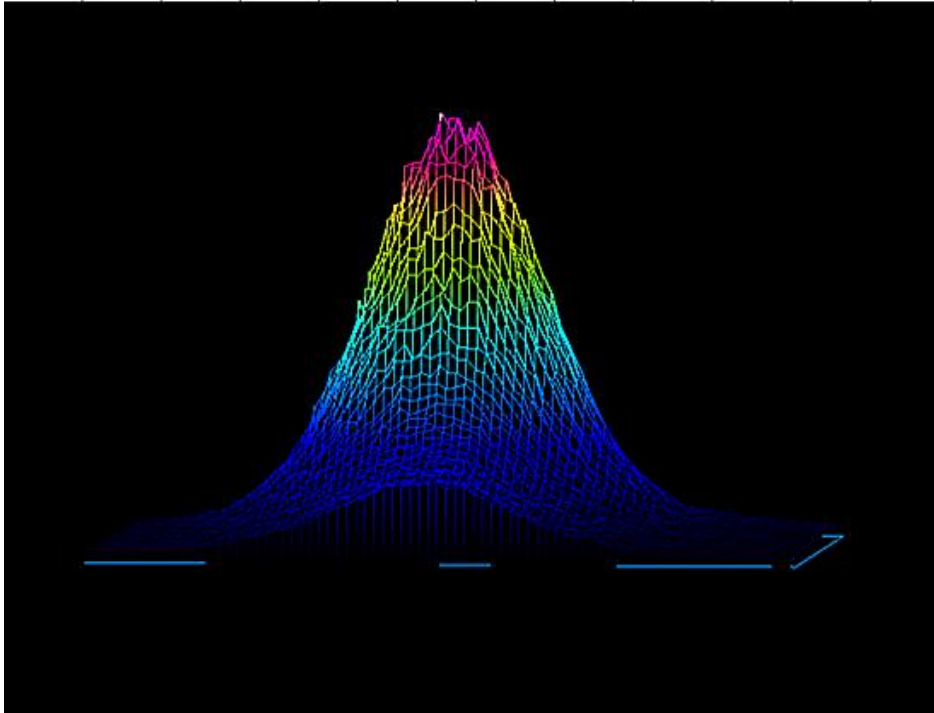
Power stability



Beam quality

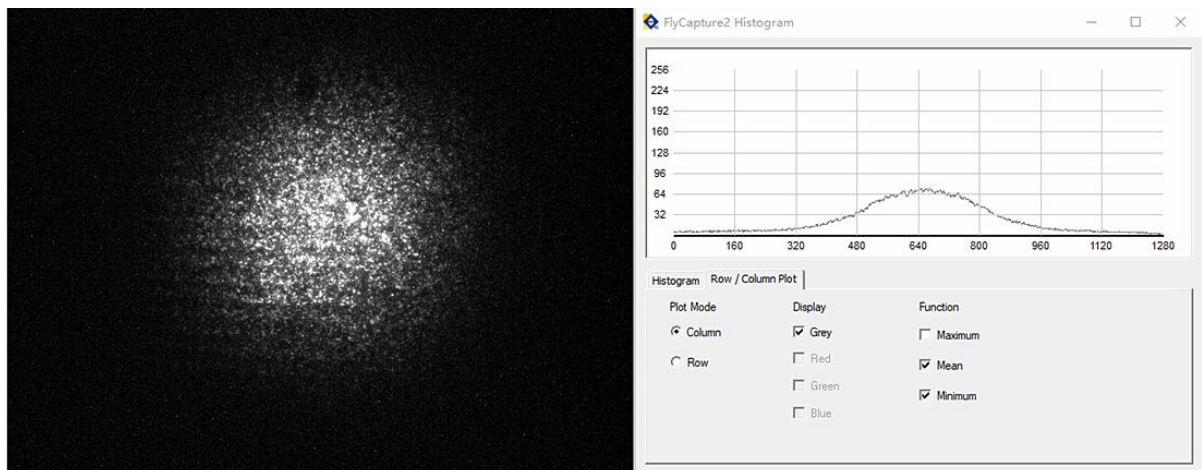


2D



3D

Camera Analysis

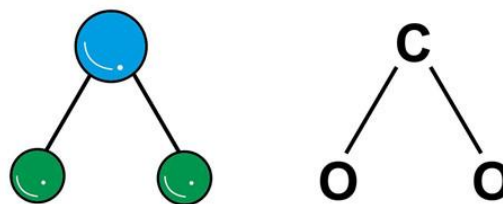
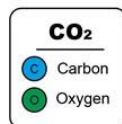




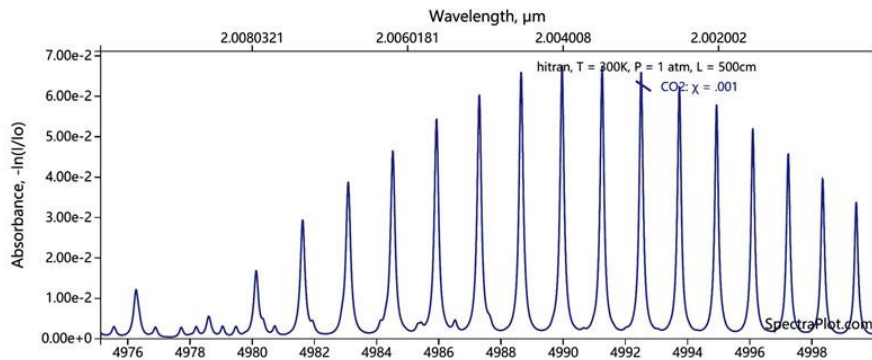
Absolute Maximum Ratings

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

Carbon dioxide



TDLAS: 2004nm





Ordering Information

MP-DFB-□□□□-☆-A8▽-T039

□□□□: wavelength

1530: 1530nm

1600.8: 1600.8nm

2004: 2004nm

☆ : output power

A: 2 mW

B: 5mW

▽: wavelength tolerance

1: ±1nm

2: ±2nm