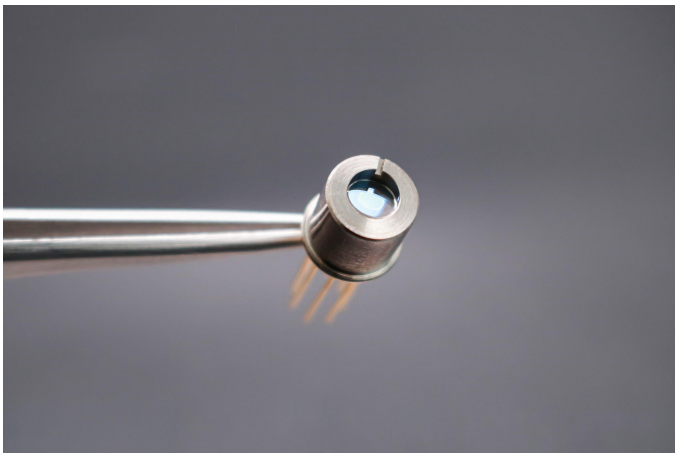
2004nm single-mode high-power DFB laser (TO39 package, dedicated for CO2 detection)



Product Description

The PL-DFB-2004-A-A81 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 TO39 package with built-in TEC and PD.

Part Number

PL-DFB-2004-A-A81-TO39

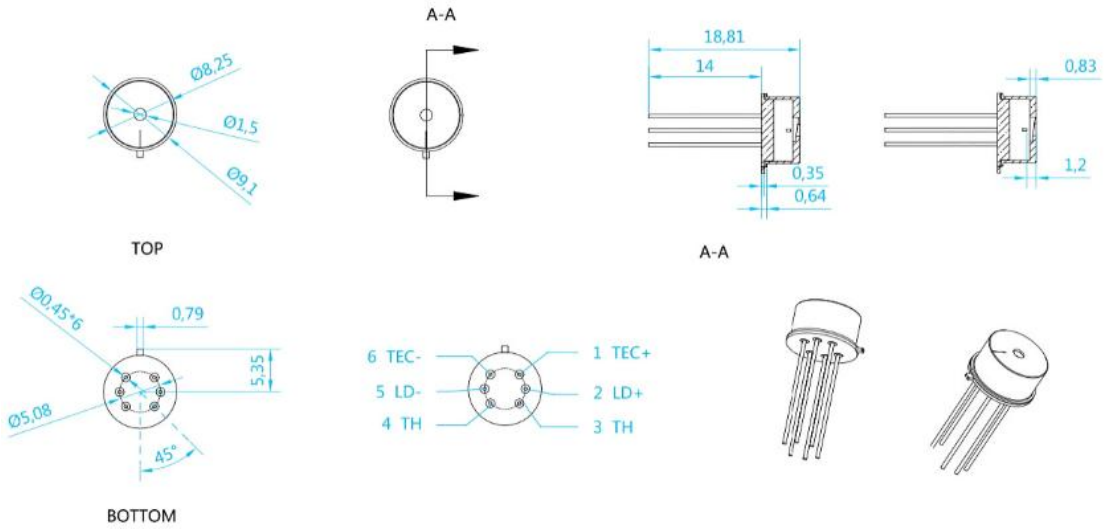
Product features

Narrow linewidth < 2MHz、 Excellent wavelength control and stability Industry standard TO39 package 、 Mode-Hop free tuning Excellent reliability 、 Customer specific wavelengths available

Application area

Tunable diode laser absorption spectroscopy、 CO2 monitoring

Dimensional Drawing

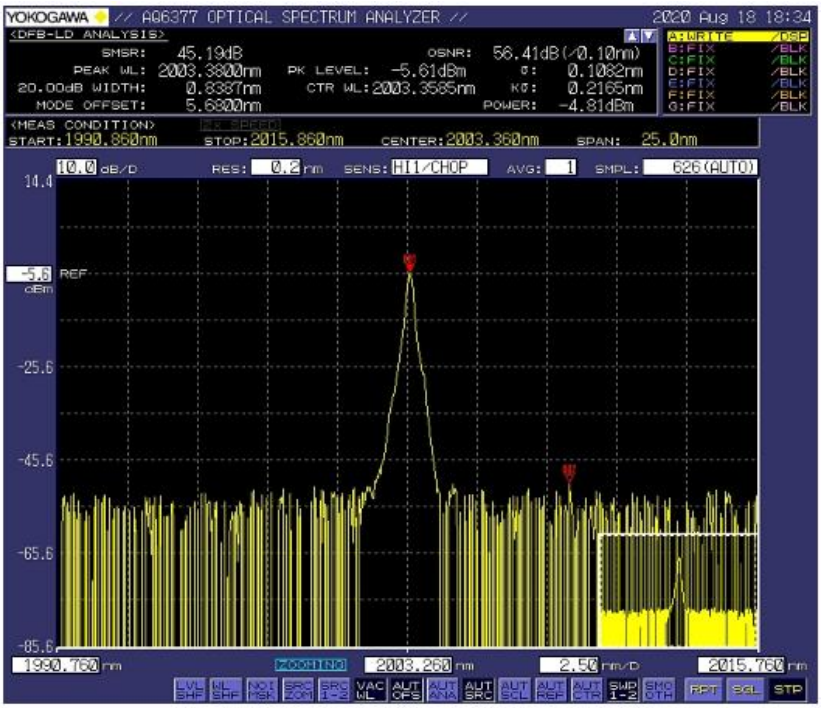


Parameter

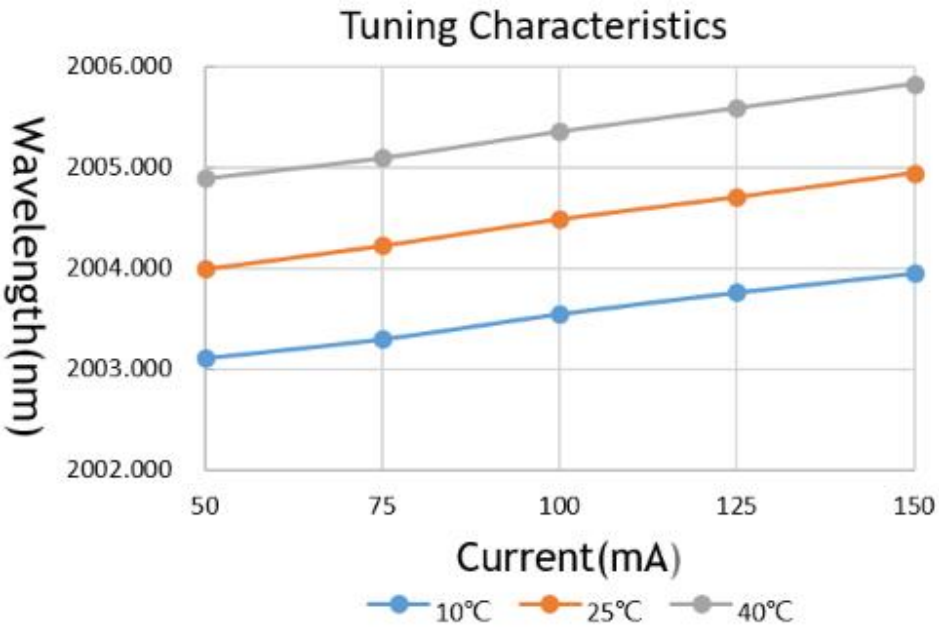
Electrical/Optical Characteristics (Tsub=25°C, CW bias unless otherwise specified)

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	kΩ
Thermistor temperature coefficient			-4.4		%/°C

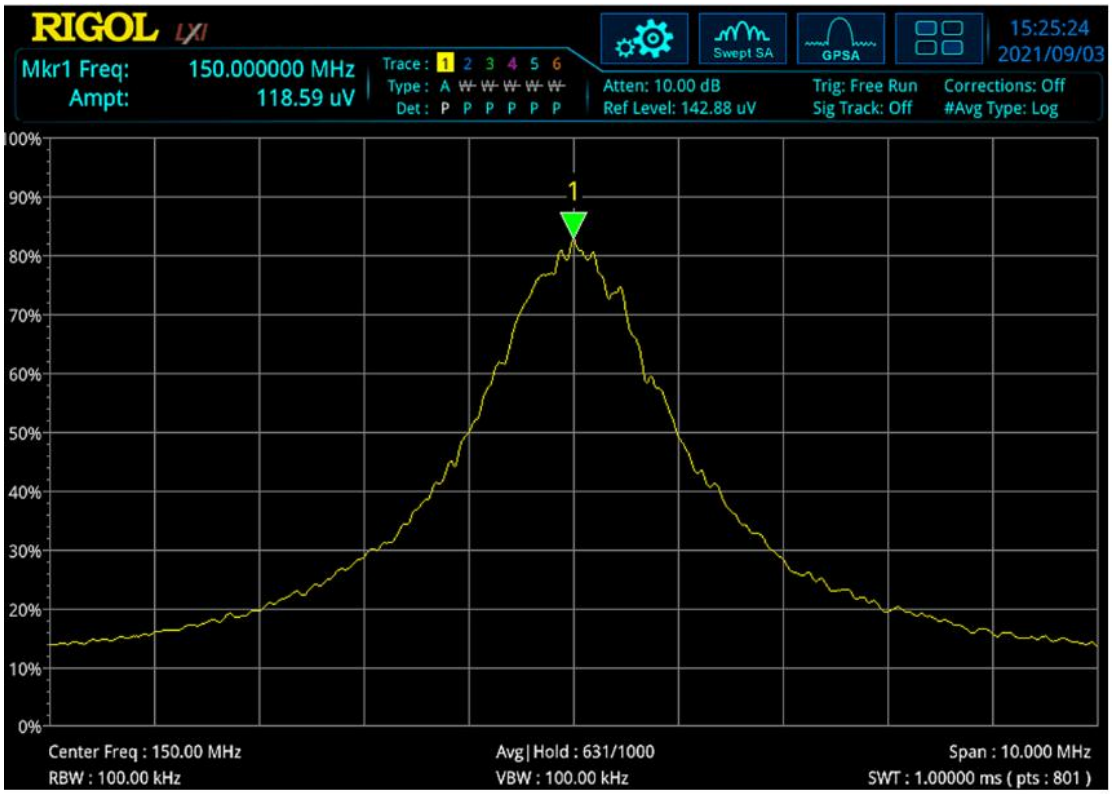
Spectrum



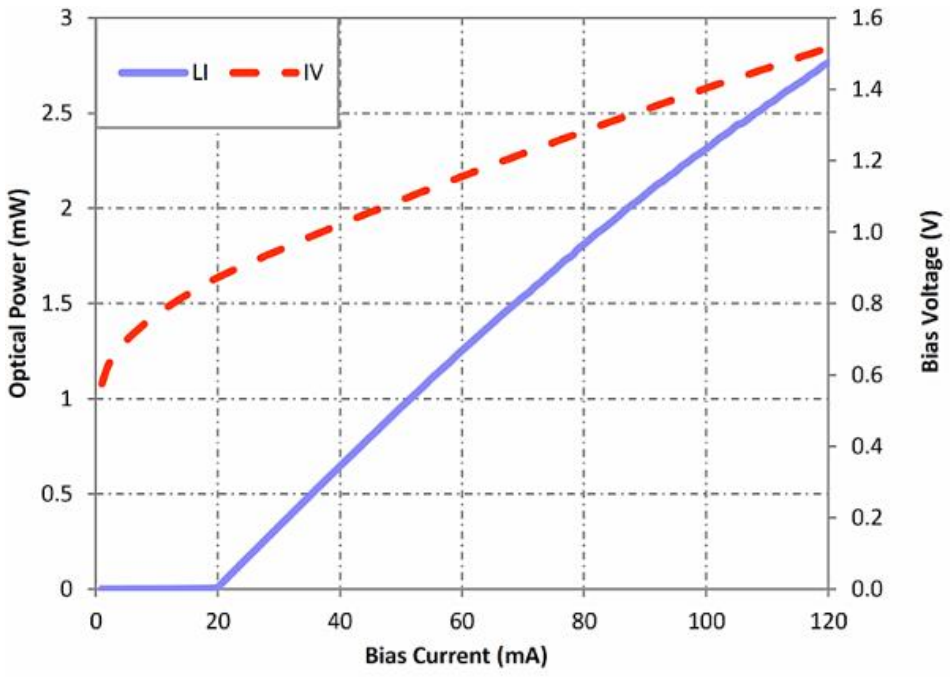
Tuning characteristics:



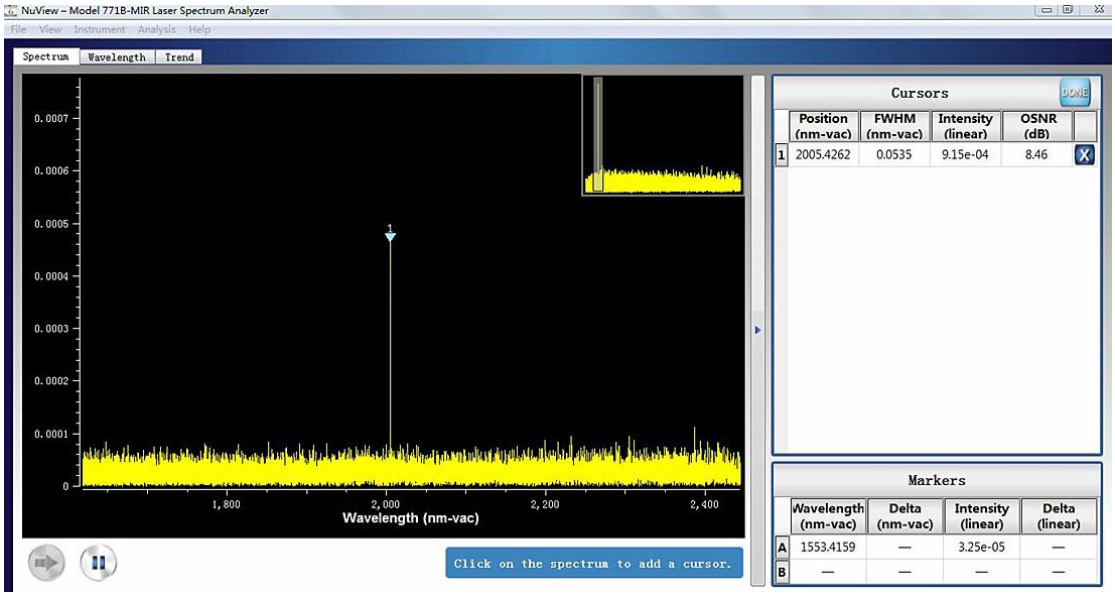
DFB line width test result



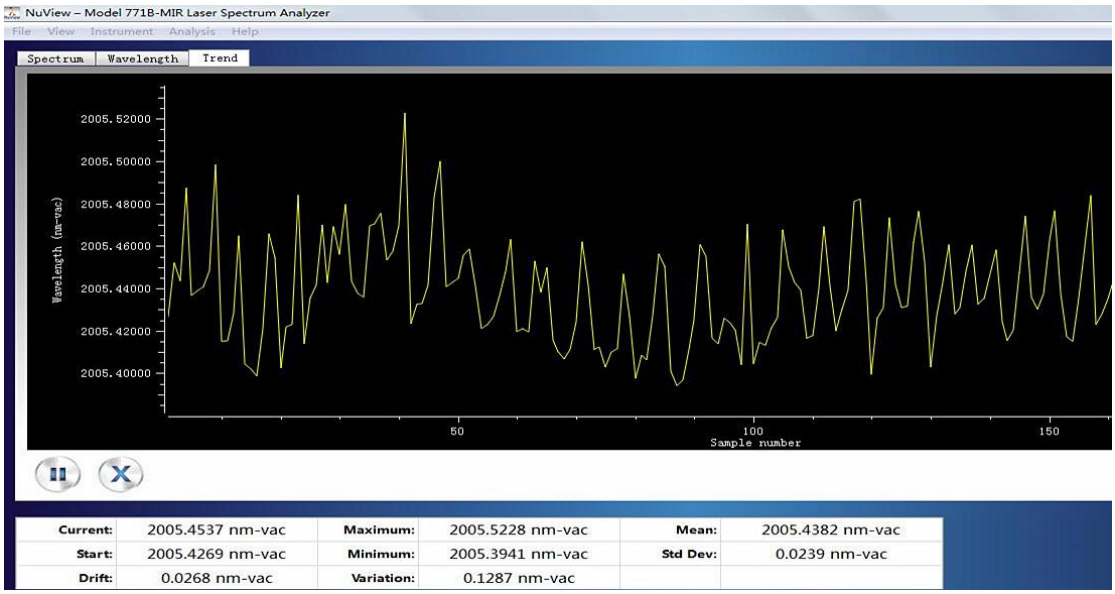
LI curve



Central wavelength

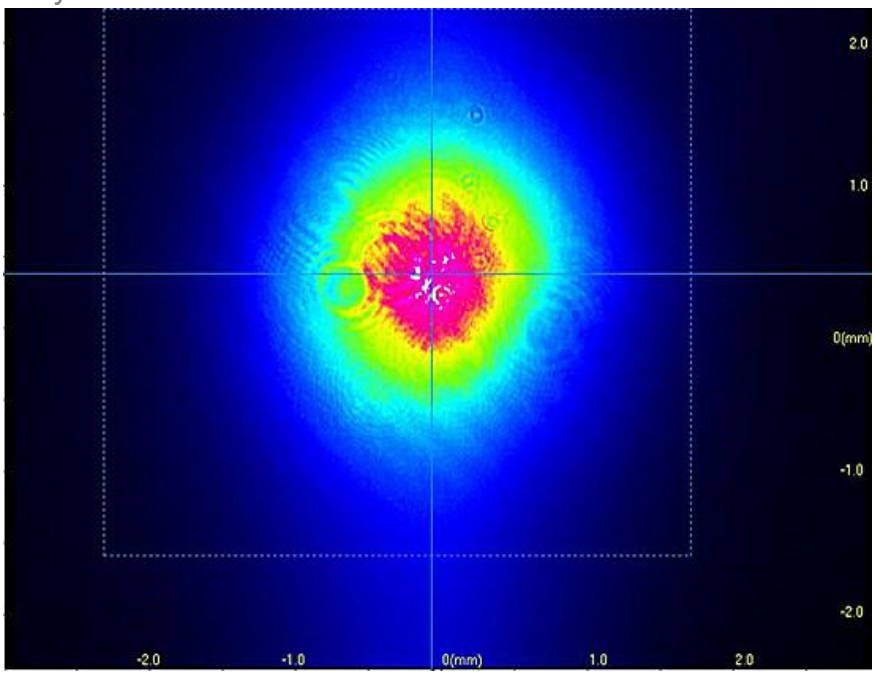


Wavelength stability

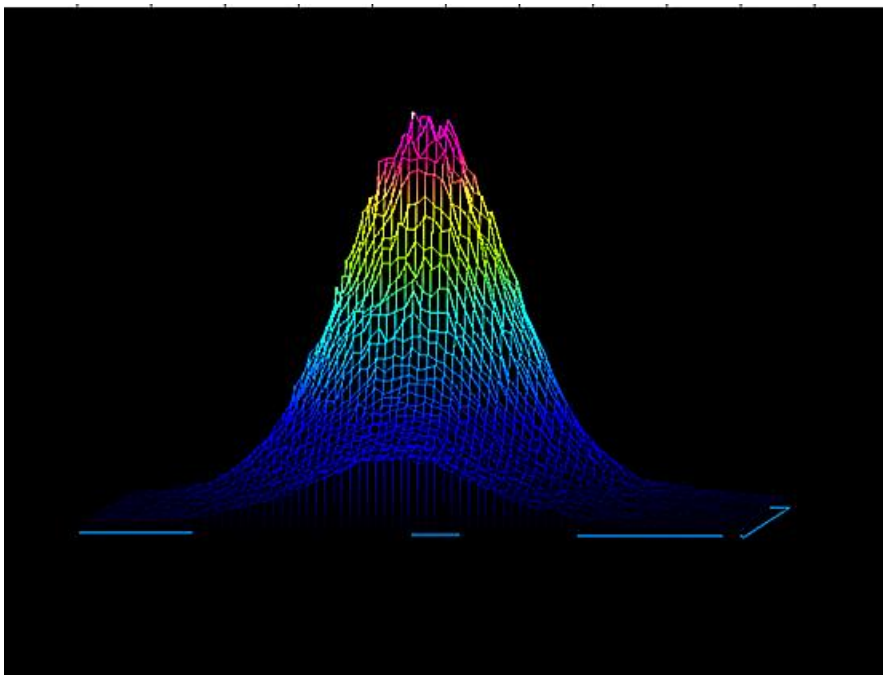


Power stability

Beam quality

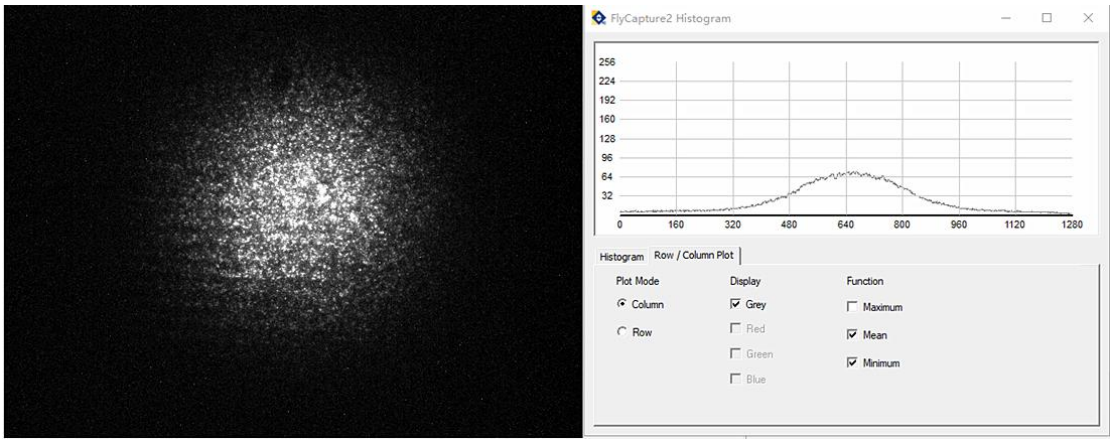


2D



3D

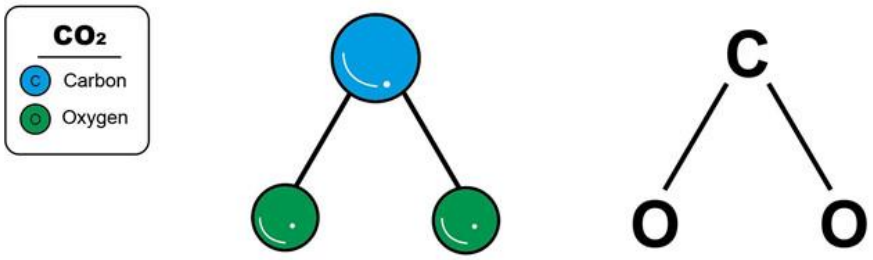
Camera Analysis

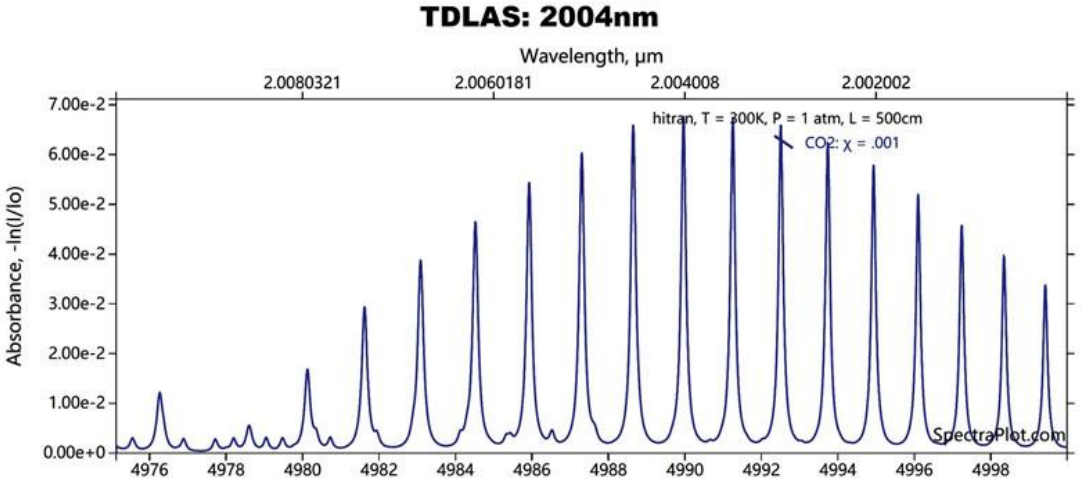


Absolute Maximum Ratings

Item	Unit	Min.	Typical	Max.
Case temperature	℃	-5	25	70
Chip temperature	℃	+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





Ordering Information

PL-DFB-□□□□-☆-A8▽-TO39

□□□□：wavelength

1530：1530nm　　1600.8：1600.8nm

*****

2004：2004nm

☆ ：output power

A：2 mW　　B：5mW

▽：wavelength tolerance　　1：±1nm　　2：±2nm