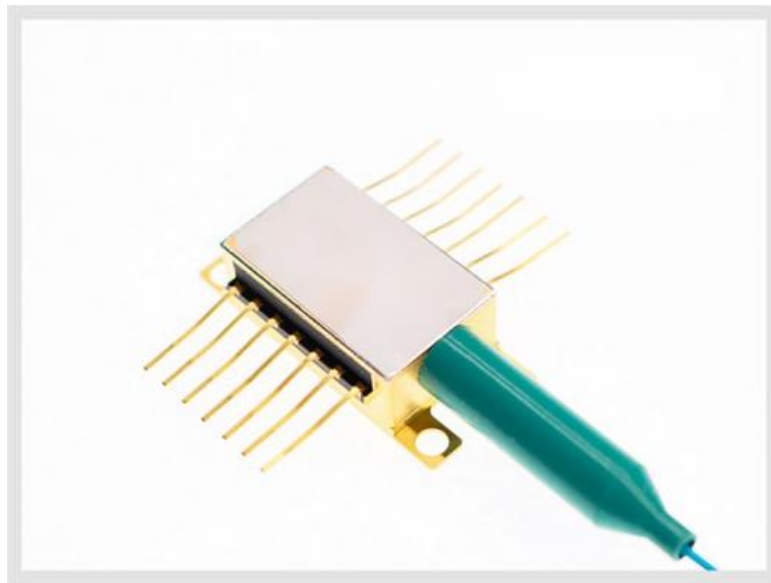


2327nm 5mW DFB Laser Diode for CO

Detection



- **Product Description**

2327nm Distributed Feedback (DFB) laser diode module manufactured by idealphotonics is a cost-effective and high-coherence laser source. The DFB laser diode chip adopts the industry-standard 14-pin butterfly package. A Thermoelectric Cooler (TEC) and a Photodetector (PD) are integrated inside the package with hermetic sealing performance.



● Product features

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

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

Ultra-high reliability; Customizable wavelength available on request

● Part Number

MP-DFB-2327-5-A81-14BF-SA

● Application area

Tunable Diode Laser Absorption Spectroscopy (TDLAS) | Carbon Monoxide (CO) Monitoring

● Core parameters

Central Wavelength	Output Power
2327nm	5mW



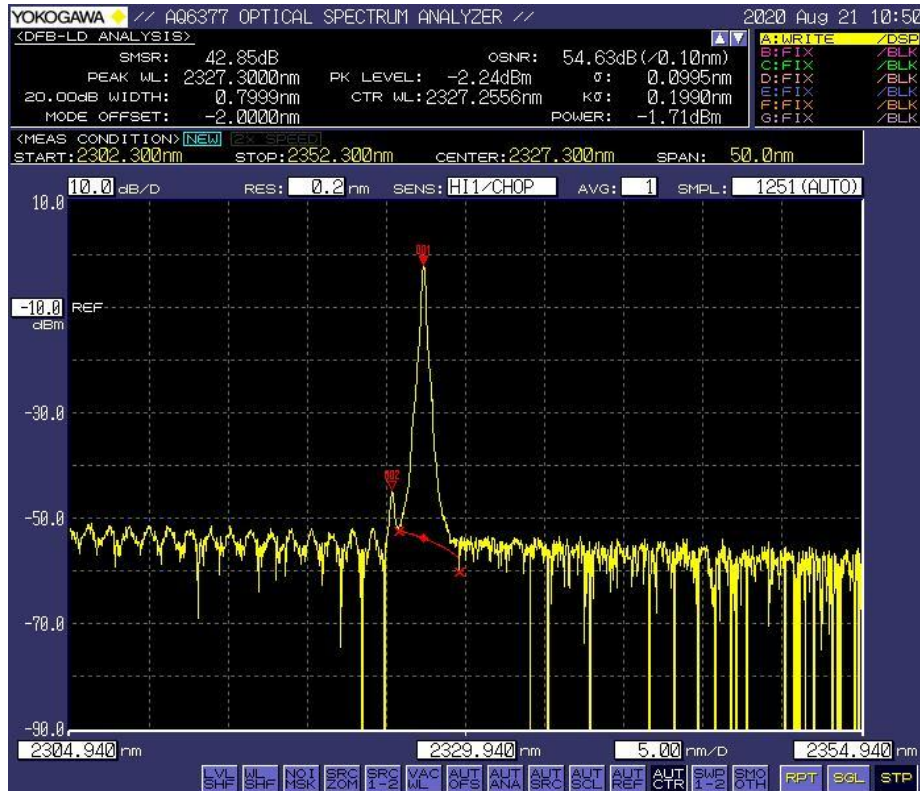
● General Parameters

Detailed parameters

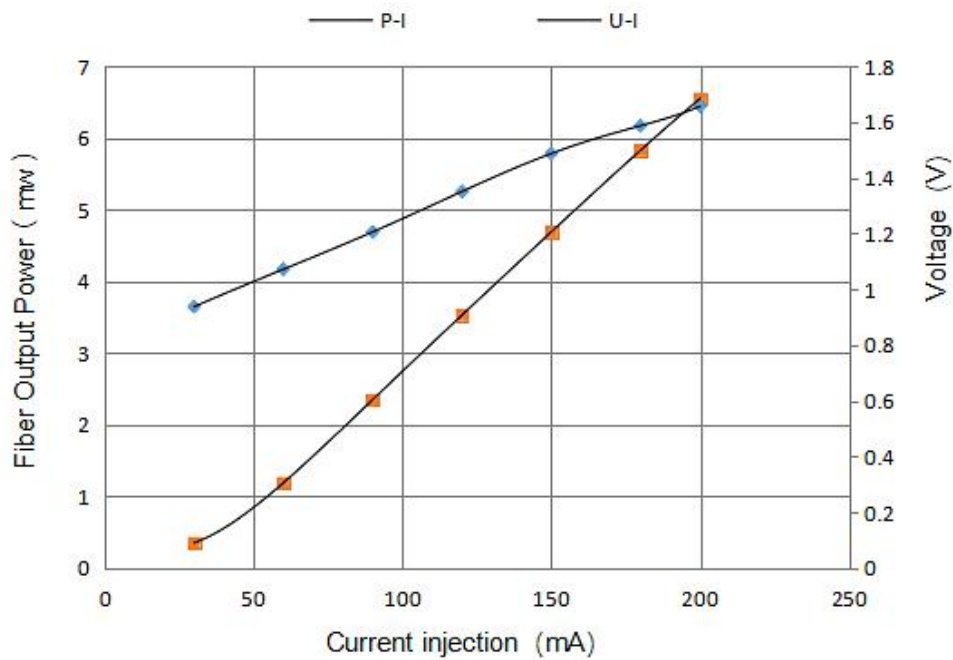
Electrical/Optical Properties (Substrate Temperature = 25°C, CW Bias unless otherwise noted)

Parameters	symbol	Minimum	Typical values	Maximum	unit
Center wavelength	λ	2326	2327	2328	nm
Side Mode Suppression Ratio	SMSR	30	40		dB
Threshold current	I _{th}		20	30	mA
Operating current	I _{op}		80	120	mA
Fiber output power	P _f	4	5	10	mW
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	V _f		1.3	2	V
Thermistor resistance value	R _T	9.5	10	10.5	K Ω
Thermistor temperature coefficient			-4.4		%/°C
connectors	FC/APC				

Spectrum



L-I Curve

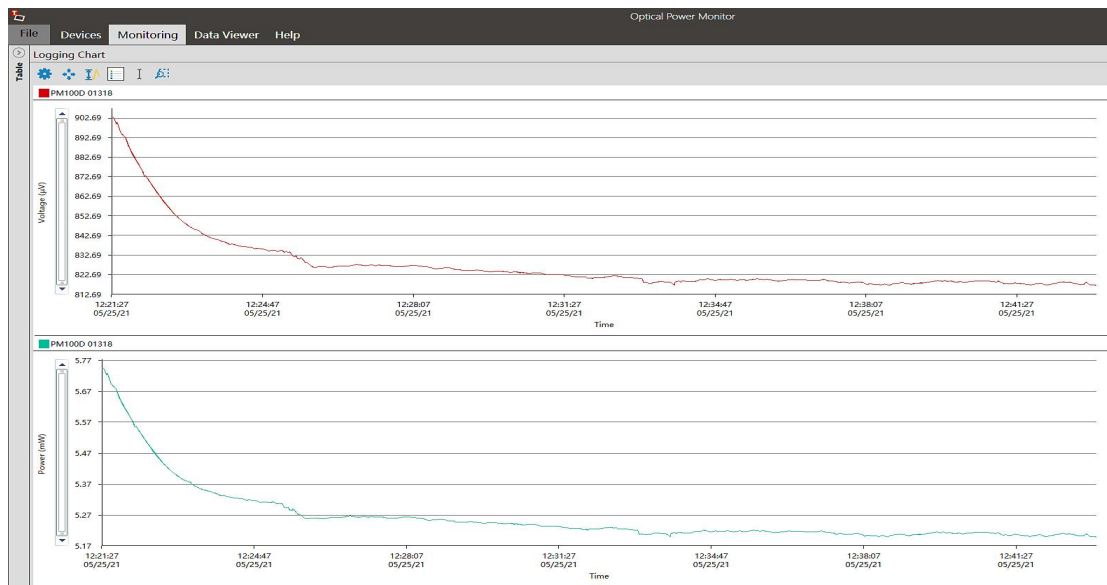




DFB Linewidth Test Results

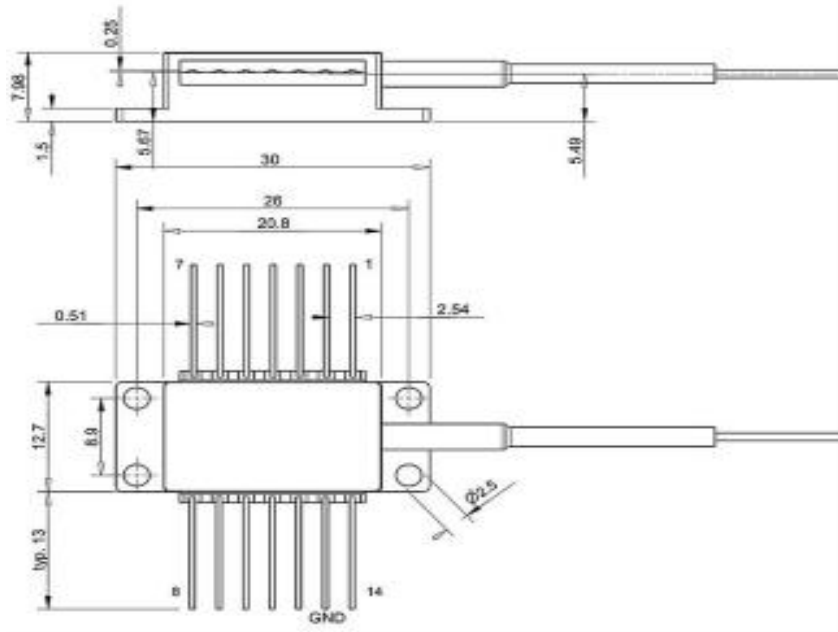


Power Stability





Package Dimensions & Pin Definition



PIN#	Definition	PIN#	Definition
1	TEC (+)	8	N/C
2	Thermistor	9	Laser Cathode (-)
3	Monitor Detector Anode (-)	10	Laser Anode (+)
4	Monitor Detector Anode (+)	11	N/C
5	Thermistor	12	N/C
6	N/C	13	Case Ground
7	N/C	14	TEC (-)



Absolute maximum rating

project	unit	Minimum	Typical values	Maximum
Shell temperature	°C	-5	25	70
Chip temperature	°C	+10	25	40
Operating current	mA	0	100	150
Forward voltage	V	0.8	1.2	1.8
Semiconductor Refrigerator (TEC) Current	A	-	-	1.2
Laser diode (LD) reverse voltage	V	-	-	2.0
Photodiode (PD) reverse voltage	V	-	-	20

Order information

MP-DFB-□□□□-☆-A8▽-14BF-XX

□□□□: Wavelength

1512:1512nm

1653.7: 1653.7nm

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