

4.257 μ m Low Power Benchtop ICL-DFB Tunable Continuous Wave Laser (Benchtop Light Source)



● Product Description

This is a tunable continuous-wave laser developed by IdealPhotonics. It features a narrow linewidth, high power, and low power consumption, making it ideal for gas sensing applications, particularly for testing hydrocarbons and other related gases. Additionally, the benchtop ICL-DFB laser module integrates a driver and temperature control module, and it can be tuned via software to control the laser's temperature and operating



current. This ensures stable operation of the laser and maintains the accuracy of the measurement values. The module also includes an FPGA, which facilitates the processing of gas concentration measurements

● Product features

Continuous wave、 Single-mode spectrum、 Tunable light source、 Low power consumption、 High-quality beam、 Narrow linewidth、 Software intelligent control、 Compact structure and size

● Part Number

MP-ICL-4257-DFB-5-B

● Application area

TDLAS gas measurement system setup、 Mid-infrared system light source、 Mid-infrared device analysis

● Core parameters

Operating Wavelength	Output Power
4.257um	5mW

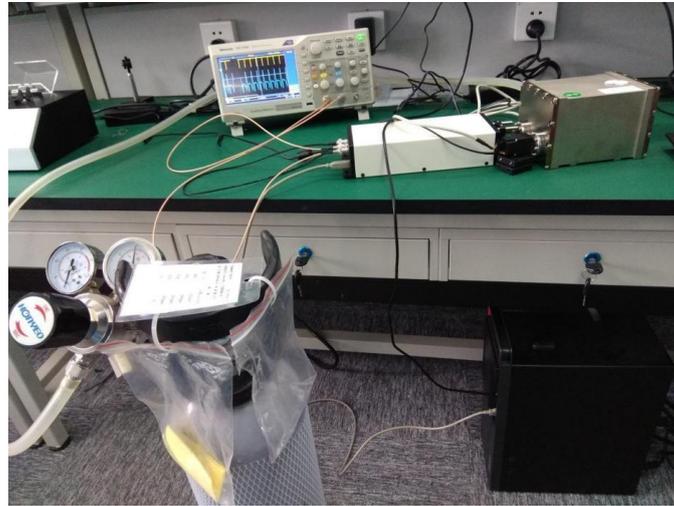
● General Parameters

Parameters

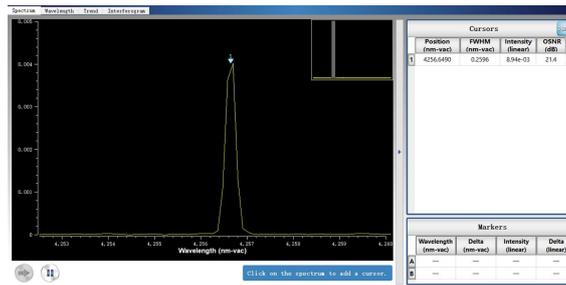
Parameters	Unit	Technical Specs		
		Min.	Typ.	Max.
Laser Output Power	mW	0.5	5	8
Peak Operating Wavelength	nm		4.257	
Spectral Width (FWHM)	MHz		3	
Output Side Mode Suppression Ratio (SMSR)	dB		20	30
Wavelength Tuning Range	nm	6	10	25
Wavelength Temperature Coefficient	nm/°C		0.32	
Wavelength Current Coefficient	nm/mA		0.06	
Output Power Stability (8h)	%		±1	±4
Output Power Adjustment Range	%	0		100
Operating Current	mA	40	80	140
Threshold Current	mA	25	40	80
Operating Voltage	V	7	9	12
Chip Operating Temperature	°C	-20	10	40
Storage Temperature	°C	15	20	65
Dimensions	mm	340(L) × 240(W) × 100(H)		



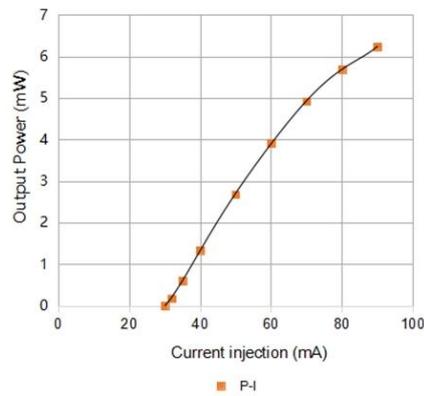
System Setup Diagram



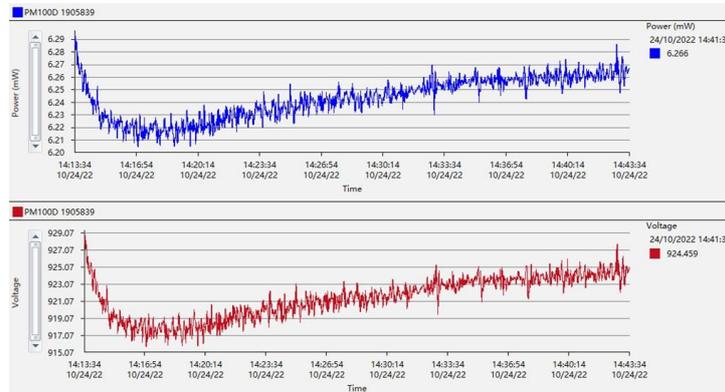
Spectral Diagram (15°C, 90mA)



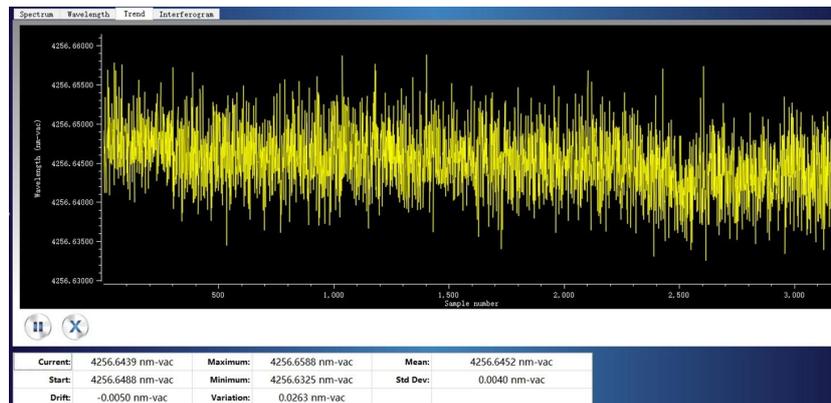
Power Curve (15°C)



Power Stability (15°C, 90mA)

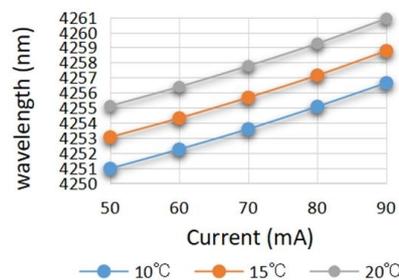


Wavelength Stability (10°C, 90mA)



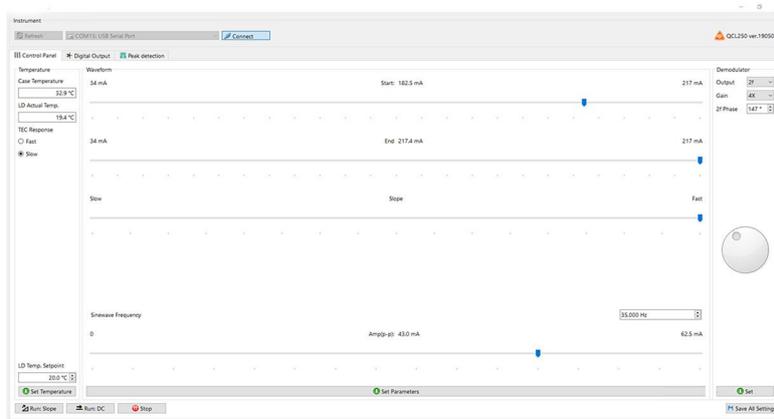
Wavelength Tuning Curve

Tuning Characteristics





Control Software



Ordering Info

MP-ICL-4257-DFB-5-B

Central Wavelength:

4257: 4.527um

Bandwidth:

3: 3MHz

Output power:

05: 5mW