

4.257um low power Benchtop ICL-DFB tunable continuous light laser (TDLAS integrated control module) 5mW)



● Product Description

This is a tunable continuous light laser developed by Idealphotonics. It has narrow line width, high power, and low power consumption. It can meet the gas sensing test, especially for the test of hydrocarbons and other related gases. In addition, the desktop ICL-DFB laser module integrates the driver and temperature control module. The temperature and working current of the tuned laser can also be controlled by software, which can make the laser



work stably and maintain the accuracy of the measured value. FPGA is also added inside the laser module to facilitate the processing of the concentration of the measured gas.

● 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-T

● Application area

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

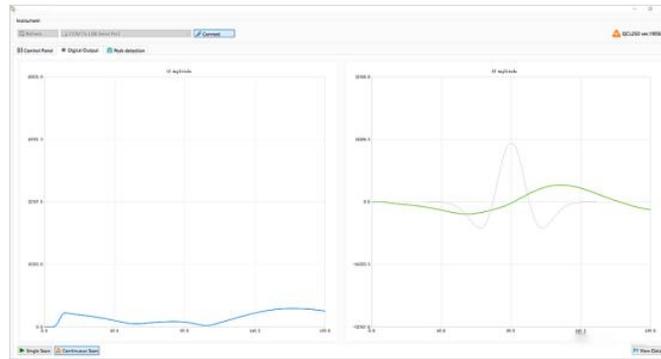
● Core parameters

Operating Wavelength	Output Power
4.257um	5mW

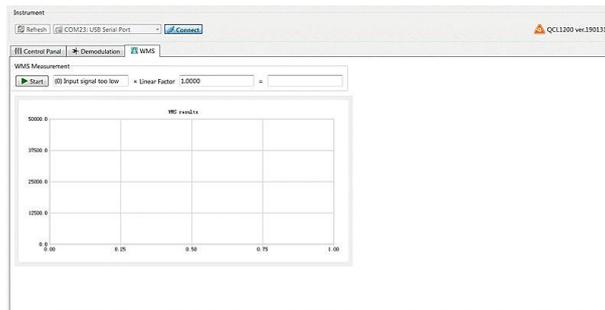


● General Parameters

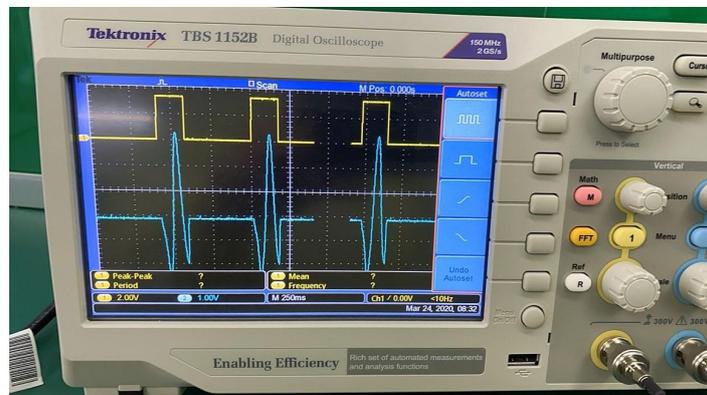
2F signal acquisition interface:



Algorithm calibration interface:



Modulation signal linearity test (oscilloscope voltage signal effect diagram):



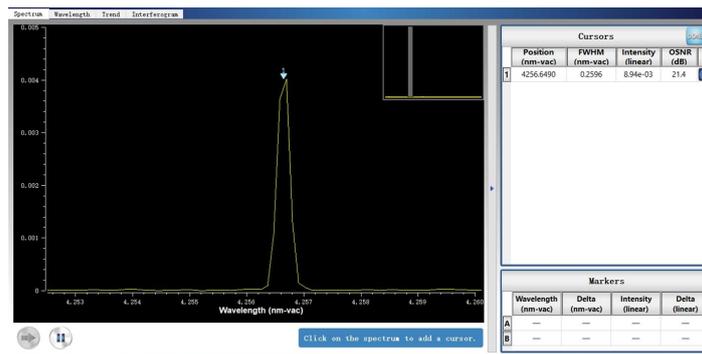
Parameters

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)		

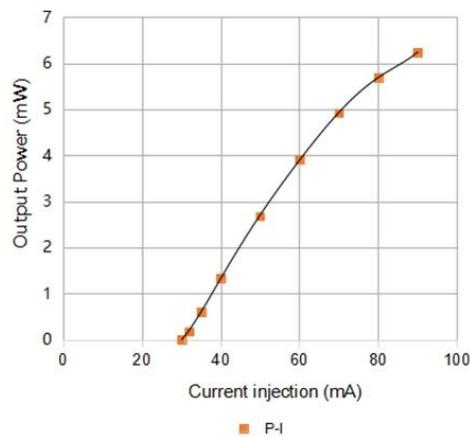
System Setup Diagram



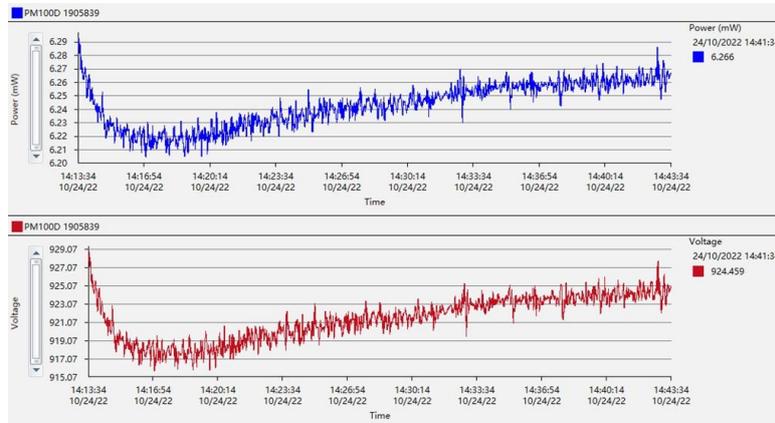
Spectral Diagram (15°C, 90mA)



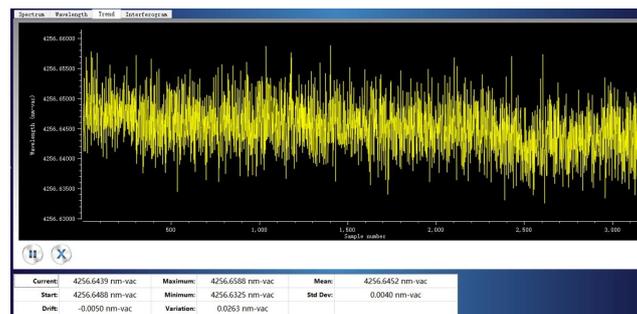
Power Curve (15°C)



Power Stability (15°C, 90mA)

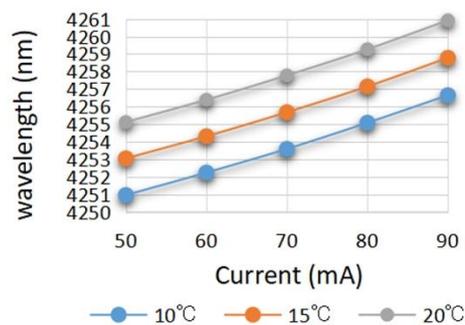


Wavelength Stability (10°C, 90mA)



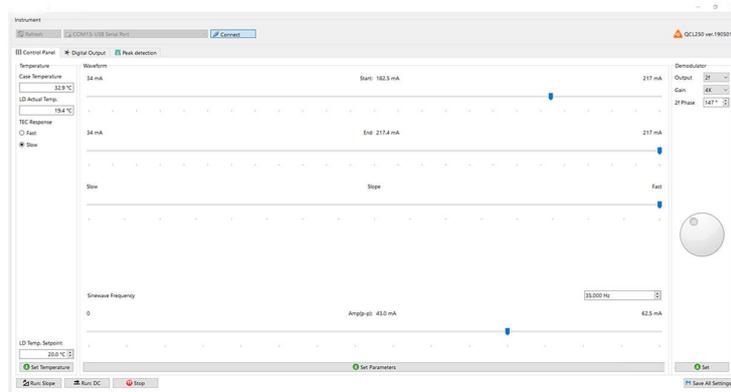
Wavelength Tuning Curve

Tuning Characteristics





Control Software



Ordering Info

MP-ICL-4257-DFB-5-T

Central Wavelength:

4257: 4.527um

Bandwidth:

3: 3MHz

Output power:

05: 5mW