



# Electro Optical Components, Inc.

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## Narrow Linewidth Laser Module



Narrow linewidth laser module is a featured product series of RealLight Technology. It equipped with standard input and output interface which makes it easy to be integrated into devices of users. The module contains PD feedback and built-in semiconductor cooling element can help ensure excellent power stability and narrow spectral bandwidth output. Customized modules can be produced upon requests and secondary development services are also available.

### Key Features

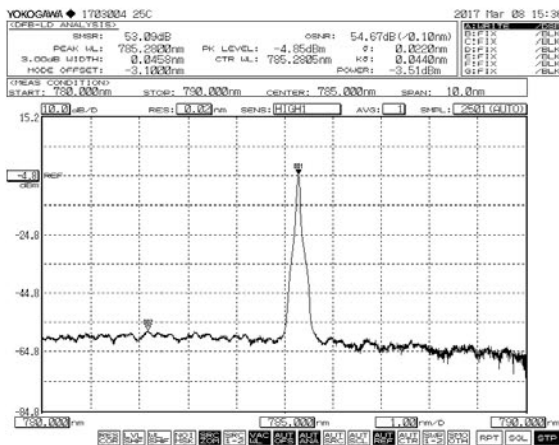
- ◆ Narrow linewidth <math>< 0.1\text{nm}</math> (FWHM)
- ◆ Excellent wavelength stability  $\pm 0.005\text{ nm}@8\text{H}$
- ◆ Temperature Stabilized Spectrum ( $< 0.007\text{nm}/^\circ\text{C}$ )
- ◆ Built-in TEC, Low Power Consumption  $< 5\text{W}$
- ◆ Compact structure, multiple interfaces reserved

### Standard Wavelengths

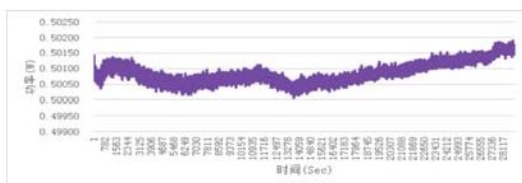
- 532nm
- 633nm
- 785nm
- 830nm
- 976nm
- 1064nm

### Applications

- Confocal Microscope
- Raman spectroscopy
- Fluorescence spectrum
- Up-conversion materials
- Laser Particle Analyzer



785nm Laser Spectrum

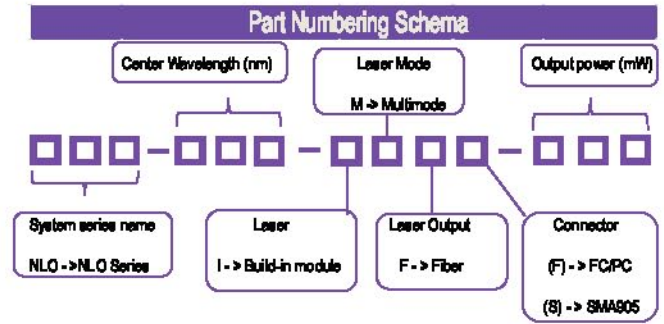


785nm Power Stability@8h

Optical Parameters						
Center Wavelength(nm)	532	633	785	830	976	1064
Output Power(mW)	50	60	500	500	500	500
Wavelength Tolerance(nm)	$\pm 0.5$					
Linewidth (nm)	$< 0.1$					
Wavelength Stability	$\pm 0.005\text{ nm}@8\text{H}$					
Power Stability	$\pm 1.0\% @8\text{H}$					
SMSR	40dB					
System Parameters						
Adjustability%full Power	0~100%					
Warm up Time	15 min					
Control Interface	10-PIN , 2.54mm Interface					
Connector	SMA905 , FC/PC					
Output Fiber	105 $\mu\text{m}$ , 0.22 NA					
Supply Voltage	4.9V ~ 5.1V @ 2 A					
Power Consumption	$< 5\text{W}$					
Storage Temperature	0~80% RH					
Storage Humidity	0~55 $^\circ\text{C}$					
Operating Temperature	10~45 $^\circ\text{C}$ (require radiator)					
Weight	$< 130\text{ g}$					
Dimensions	76.2*63.5*18 mm					

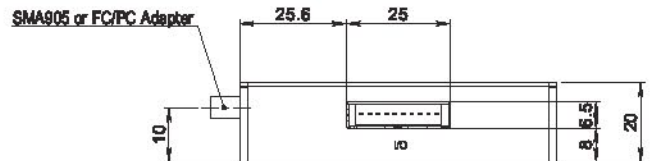
## Ordering Information

NLM Series Model List			
Wavelength(nm)	Power (mW)	Part Number	Connector
532	50	NLO-532-IMF(S)-50	SMA905
	50	NLO-532-IMF(F)-50	FC/PC
633	50	NLO-633-IMF(S)-50	SMA905
	50	NLO-633-IMF(F)-50	FC/PC
785	500	NLO-785-IMF(S)-500	SMA905
	500	NLO-785-IMF(F)-500	FC/PC
830	500	NLO-830-IMF(S)-500	SMA905
	500	NLO-830-IMF(F)-500	FC/PC
976	500	NLO-976-IMF(S)-500	SMA905
	500	NLO-976-IMF(F)-500	FC/PC
1064	500	NLO-1064-IMF(S)-500	SMA905
	500	NLO-1064-IMF(F)-500	FC/PC

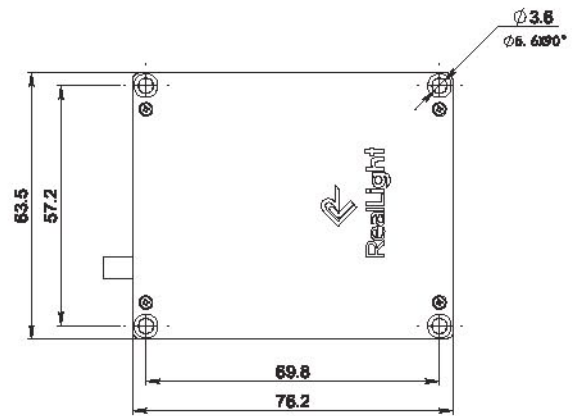


10-PIN I/O		
PIN	Functions	Notes
1	NC	Not Connected, let open Note: Pin 1 is adjacent to the fiber connector
2	VSETENABLE	When this pin is driven low, the input is used for or adjusting the laser from minimum to maximum
3	AGND	Signal Ground
4	RT Sense	The Voltage output from this pin is about 1.25V when the internal TEC finally controlled the laser temperature near 25 °C. If voltage output from this pin is less than 1V, the module may get into trouble with the heat dissipation, you have to turn off the laser by ground the Interlock pin to protect the laser, for Rt, 1.25 standard for 25 °C
5	GND	Input Power Ground
6	+5V	The Voltage input for this pin is required from 4.9V-5.1V
7	Interlock	When this pin is driver high, the laser will turn on. If this pin is let open or driven low, the laser will turn off
8	LD SET	Signal Ground
9	AGND	This pin is enabled when Vset Enable is driven high, input 0~1.2V to control the output power from minimum to maximum power Note: Ensure the input analog voltage does not exceed 1.2V
10	Monitor	The Voltage output from this pin is linearly to output power (1mV/1mW) and is reference to Signal Ground Notes: this Voltage output is calibrated without the fiber connector connected

## Mechanical Specifications



Front View



Top View

Unit: mm

