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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

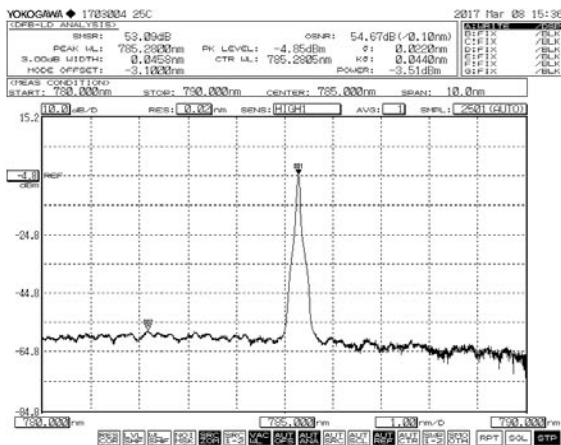
- ◆ Narrow linewidth <math><0.1\text{nm}</math>(FWHM)
- ◆ Excellent wavelength stability $\pm 0.005\text{ nm}@8\text{H}$
- ◆ Temperature Stabilized Spectrum ($< 0.007\text{nm}/^\circ\text{C}$)
- ◆ Built-in TEC, Low Power Consumption $<5\text{W}$
- ◆ Compact structure, multiple interfaces reserved

Standard Wavelengths

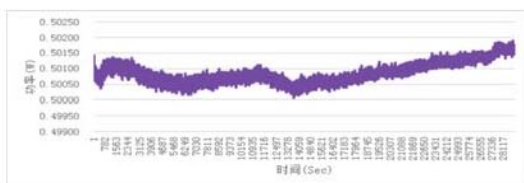
- 532nm
- 633nm
- 785nm
- 830nm
- 976nm
- 1064nm

Applications

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



785nm Laser Spectrum

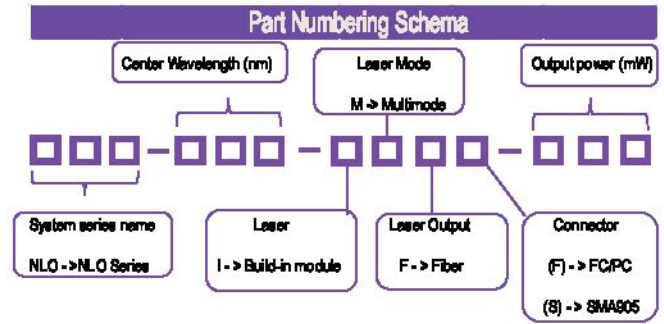


785nm Power Stability@8h

| Optical Parameters | | | | | | |
|--------------------------|---|-----|-----|-----|-----|------|
| Center Wavelength(nm) | 532 | 633 | 785 | 830 | 976 | 1064 |
| Output Power(mW) | 50 | 60 | 500 | 500 | 500 | 500 |
| Wavelength Tolerance(nm) | ± 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 μm , 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 | | | | | |

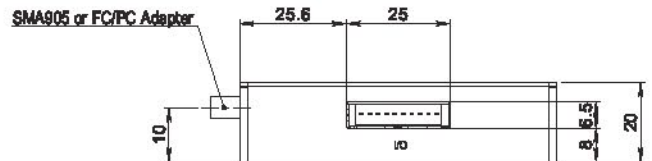
Ordering Information

| 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 |

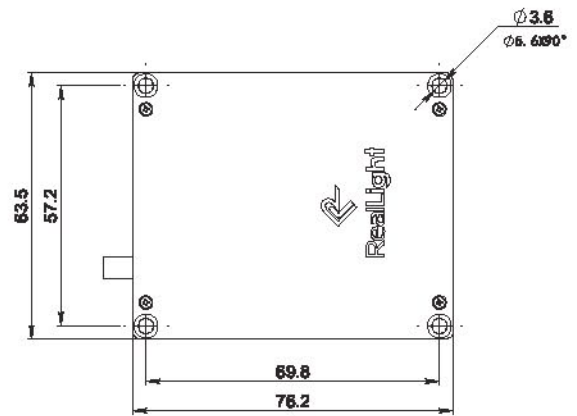


| 10-PIN I/O | | |
|------------|------------|---|
| PIN | Functions | Notes |
| 1 | NC | Not Connected, let open Note: Pin 1 is adjacent to the fiber connector |
| 2 | VSETENABLE | When this pin is driven low, the input is used for or adjusting the laser from minimum to maximum |
| 3 | AGND | Signal 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

