

## 1 $\mu$ m Single Frequency Narrow Linewidth Laser

### ◆ Product introduction

The 1 $\mu$ m single-frequency narrow linewidth laser made by CSRayzer adopts semiconductor DFB chip, utilizes high Q-factor F-P cavity and volume grating (VBG), realizes linewidth narrowing by self-injection locking, reduces the phase noise of semiconductor laser, and realizes compact ultra-narrow linewidth output. With the ultra-low noise drive circuit module made by CSRayzer, it has the advantages of small package size, lower power consumption and better anti-environmental interference ability.



### ◆ Product features

- Extremely narrow linewidth, lowest to 10 Hz.
- Strong ability to resist environmental interference
- Extremely low long-term frequency drift
- Low phase relative intensity noise(RIN)
- Stable single frequency operation without mode skip
- Small size and low power consumption
- PZT frequency modulation optional
- The wavelength range of 1010-1100nm is selectable.

### ◆ Application

- Coherent communication
- Mid-infrared OPO pump source
- Spectral synthesis
- Cold atomic physics
- Coherent lidar
- Holography
- Precise spectral measurement
- Other scientific research

### ◆ Technical indicators

**Model: CSNL-SF-AA-BB-CC-PM-(PZT)(AA: central wavelength, BB: line width, CC: power)**

Parameter	unit	Value
Central Wavelength	nm	1064
Output Rating	mW	10-30
Lorentz Linewidth	Hz	≤ 500
Relative Intensity Noise RIN(@10Mhz)	dBc/Hz	-145
Side Mode Suppression Ratio	dB	≥50
Polarization Extinction Ratio	dB	≥20

Output Isolation	dB	≥35
Beam Quality M <sup>2</sup>		< 1.1
Frequency Drift @24h	MHz	≤50
Power Stability RMS(24h)	%	≤1
Wavelength Thermal Tuning Range	nm	1
PZT Voltage Input Range	V	-5 to 5
PZT Frequency Tuning Coefficient	MHz/V	30MHz/V
Laser Working Mode		Single frequency, CW
Output Type		PM980
Connector		FC/APC
Working Temperature	°C	-10 to 70
Supply Voltage	V	6-24V
Communication Interface		Type C/RS485
Pigtail Length	M	≥0.5
Power Consumption	W	2
Dimension	mm	100*65*20

◆ Mechanical dimension diagram

