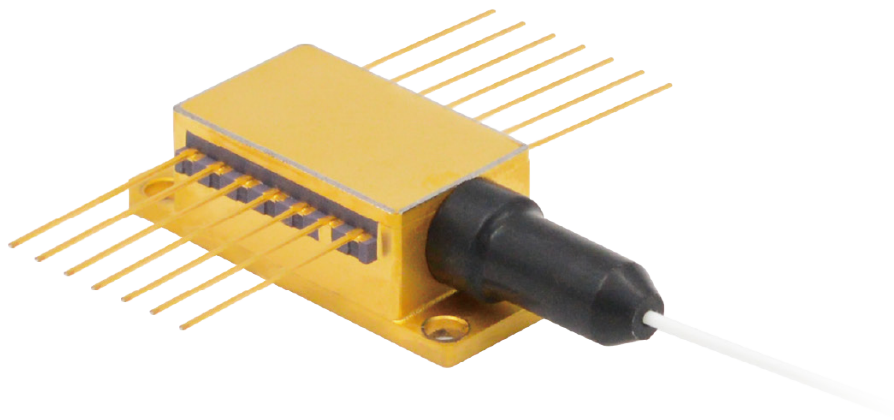


# 500 MW NARROW SPECTRAL LINEWIDTH LASER

## RLAS-0785-0500-N-MM-10-01-02-A

The Narrow Spectral Linewidth Laser from Coherent Photonics is a laser diode assembly that integrates the specifications of narrow bandwidth, wide operating temperature range, and high power. A unique technology is applied in this type of laser to lock the desired wavelength, which guarantees not only an ultranarrow bandwidth ( $<0.1$  nm) but also a high side-mode suppression ratio (SMSR) (typically 40 dB). The wide operating temperature range is realized by using a thermoelectric cooler to control the temperature of the laser diode, making the RLAS-0785 run well from  $-20^{\circ}\text{C}$  through  $50^{\circ}\text{C}$ . Furthermore, this technology helps to achieve high stability (RMS  $< 0.4\%$ ) and reliability of power and wavelength in the long term, as well as a long expected lifetime (MTTF  $> 20,000$  hours). Three configurations—free beam, fiber-coupled, and module—are available, promising wide application in Raman spectroscopy, biomedical equipment, and biosensors.



### FEATURES

- Narrow spectral linewidth
- High power stability
- Low power consumption
- High reliability

### APPLICATIONS

- Raman spectroscopy
- Biosensing
- Biomedical equipment

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## Product Specifications

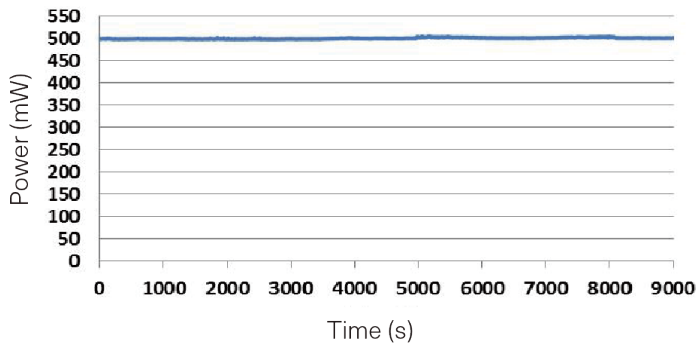
Parameter	Min	Typical	Max	Conditions
<b>Optical</b>				
Wavelength	784.5 nm	785 nm	785.5 nm	
Linewidth	-	0.08 nm	0.1 nm	FWHM
Output Power	-	-	500 mW	
Power Stability	-	1.5%	3%	ACC, 2 h @ recommended temp.
Operating Temperature (case)	-20°C	-	50°C	
TEC Set Temperature	15°C	25°C	35°C	
SMSR	-	40 dB	-	
Optical Fiber	105/125 µm multimode fiber, 0.22 NA			
Fiber Jacket (diameter)	900 µm buffer			
Connector	FC/UPC			
<b>Electrical</b>				
LD Working Current	-	-	1300 mA	
LD Working Voltage	-	1.9 V	2.5 V	
Internal TEC	Voltage	-	4.8 V	
	Current	-	5 A	
<b>Mechanical</b>				
Packing Dimensions	30 mm x 12.7 mm x 9.37 mm			
Laser Weight	-	22 g	-	
<b>Reliability</b>				
Storage Humidity	5%~85% RH <sup>1</sup>			
Storage Temperature	-20~70°C			
Shock	500 g, 1 ms, 6 shocks, 3 axes, 2 shocks/axis			
Vibration	20~2000 Hz, 0.02 g <sup>2</sup> /Hz, 3 axes, 1 h/axis			
Expected Lifetime (MTTF)	20,000 h	-	-	At rated power & room temp.

<sup>1</sup>Non-condensing.

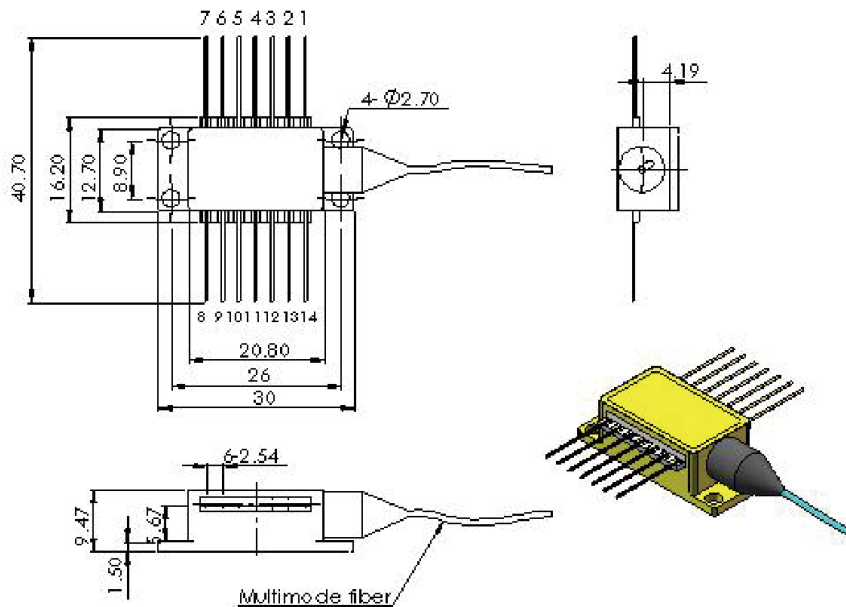
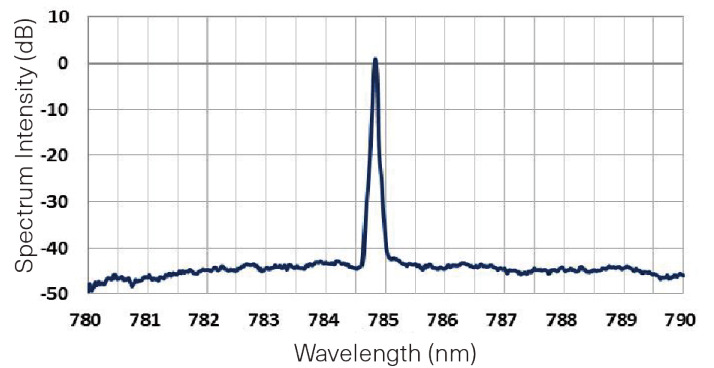
# 500 MW NARROW SPECTRAL LINEWIDTH LASER

## Typical Output Performance

2.5 h Power Stability



Locked Wavelength Spectrum @ Central Temperature



## Dimensions and Pin Configuration (Unit: mm)

1	TEC+	8	Idle
2	Idle	9	LD-
3	Idle	10	LD+
4	Idle	11	Idle
5	Thermistor	12	Idle
6	Thermistor	13	Idle
7	Idle	14	TEC-