

830nm, 500mW Wavelength Stabilized Lasers



High Power, Narrow Linewidth
Output Beam

Ondax's 830nm Wavelength Stabilized Laser is a high-power, multimode, single-axis collimated laser packaged in an ultra-compact, TO-can footprint. The narrowed linewidth, low power consumption, and broad temperature operating characteristics deliver affordable, portable instrument-quality performance for a broad range of instrumentation applications.

All SureLock™ Series lasers are stabilized using the Ondax PowerLocker® Volume Holographic Grating (VHG), ensuring precise, ultra-stable center wavelengths, low temperature dependence, and consistent optical performance over the locked region.

Specifications:

Specification Summary

Parameter	Symbol	Min	Typ	Max	Unit
Output Power	P_o			500	mW
Center Wavelength (vacuum)	L_p	829.5	830	830.5	nm
Linewidth	$\Delta\lambda$		0.15		nm
Central Stabilized Temperature	T_c	20		40	°C
Stabilized Temperature Range	T_r	14			°C

Features:

- Compact 9mm TO can footprint
- Narrow spectral linewidth - 0.15nm
- Wavelength stability across operating range 0.01nm/°C
- Fast-axis collimated output beam
- NoiseBlock™ narrow-band ASE suppression filters and beamsplitters available in matching wavelengths to further reduce linewidth and ASE noise

Operating Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Threshold Current	I_{th}		280		mA
Operating Current	I_{op}		900	1100	mA
Operating Voltage	V_{op}		1.9	2.2	V
Laser Reverse Voltage	V_{ri}			2	V
Beam Size at Exit (FWHM)			1.0 x 0.5		mm
Emitter Size			1 x 100		μm
Beam Divergence	Q_v		0.25 x 3.5		Degrees
Differential Efficiency	DE (dP/dI)		0.7		mW/mA
Operating Temperature ²	T_{op}	0		50	°C
Storage Temperature ²	T_s	-20		80	°C
Polarization			100:1		
Polarization Orientation			TE		

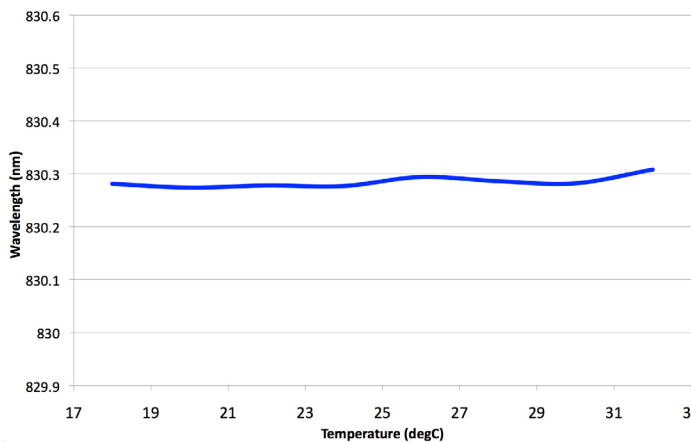
¹All specifications are at rated power with a case temperature of 25°C unless otherwise noted ²Non-condensing

Applications:

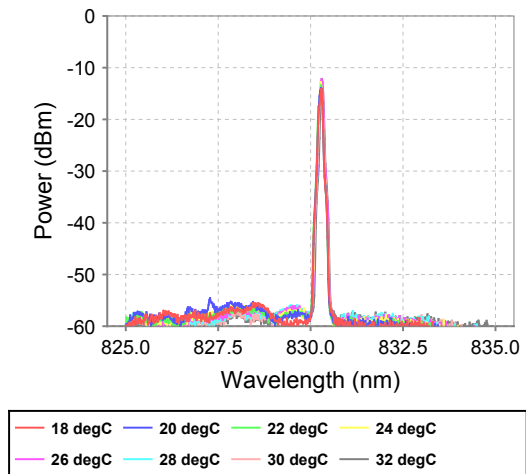
- Raman Spectroscopy
- Metrology
- Bio-instrumentation
- Sensing
- Analytical Instrumentation

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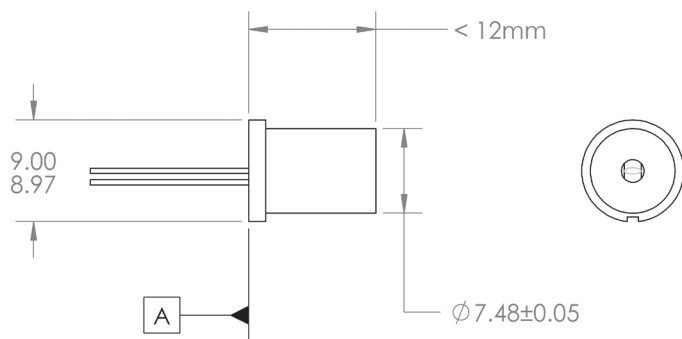
Wavelength Stability



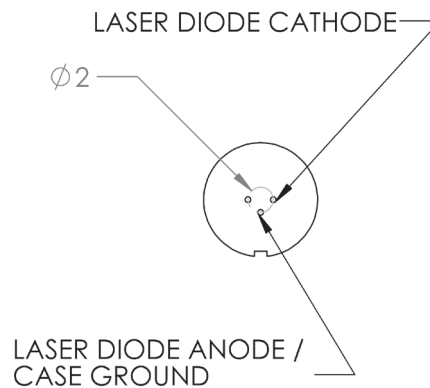
Optical Spectrum (Sample)



Side View

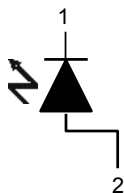


Bottom View



Pinout

Pin	Description
1	Laser Diode Cathode
2	Case/Laser Diode Anode
3	Not Connected



Model Number

CP-830-PLR500

