

785nm, 175/225mW Wavelength Stabilized Lasers



High Power, Narrow Linewidth
Collimated Output Beam

Features:

- Compact 9mm TO can footprint
- Exceptionally high power - up to 225mW
- Single Frequency Operation - 12MHz linewidth
- Wavelength stability across operating range <math><0.01\text{nm}/^\circ\text{C}</math>
- Fast-axis collimated output beam
- NoiseBlock™ narrow-band ASE suppression filters and beamsplitters available in matching wavelengths to further reduce linewidth and ASE noise

Applications:

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

Ondax's 785nm Wavelength Stabilized Laser is a high-power, single mode, 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		175 225		mW
Center Wavelength (vacuum)	λ_o	784.5	785	785.5	nm
Linewidth	$\Delta\lambda$		12		MHz
Central Stabilized Temperature	T_c	15	25	40	$^\circ\text{C}$
Stabilized Temperature Range	T_r	10			$^\circ\text{C}$

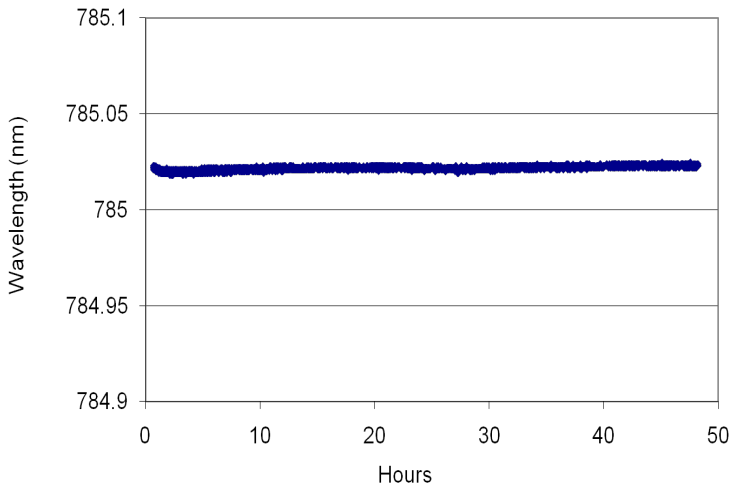
Operating Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Threshold Current	I_{th}		80	110	mA
Operating Current	I_{op}		350	500	mA
Operating Voltage	V_{op}		2	2.8	V
Beam Divergence, Perpendicular (FWHM)	Q_v		0.2		Degrees
Beam Divergence, Parallel (FWHM)	Q_h		0.1		Degrees
Differential Efficiency	DE (dP/dI)		0.6		mW/mA
Operating Temperature ²	T_{op}	0		35	$^\circ\text{C}$
Storage Temperature ²	T_s	-10		60	$^\circ\text{C}$
Polarization			100:1		
Collimated Beam Diameter			0.25x 0.7		mm

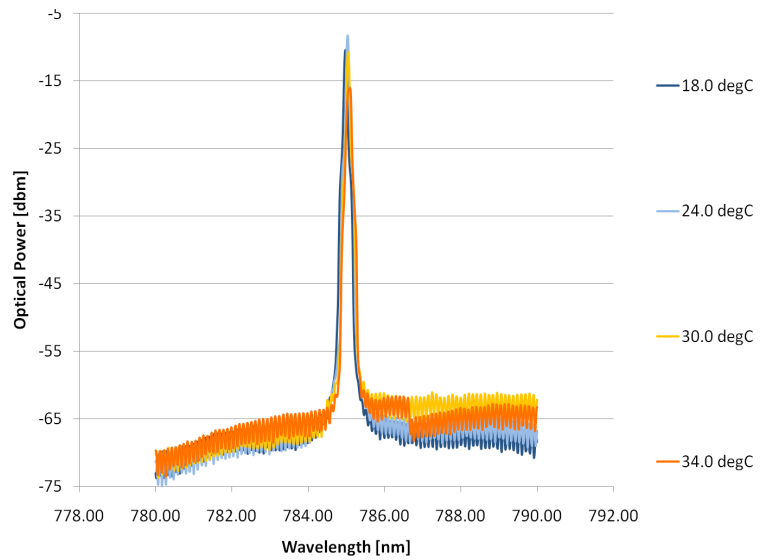
¹All specifications are at rated power with a case temperature of 25 $^\circ\text{C}$ unless otherwise noted ²Non-condensing

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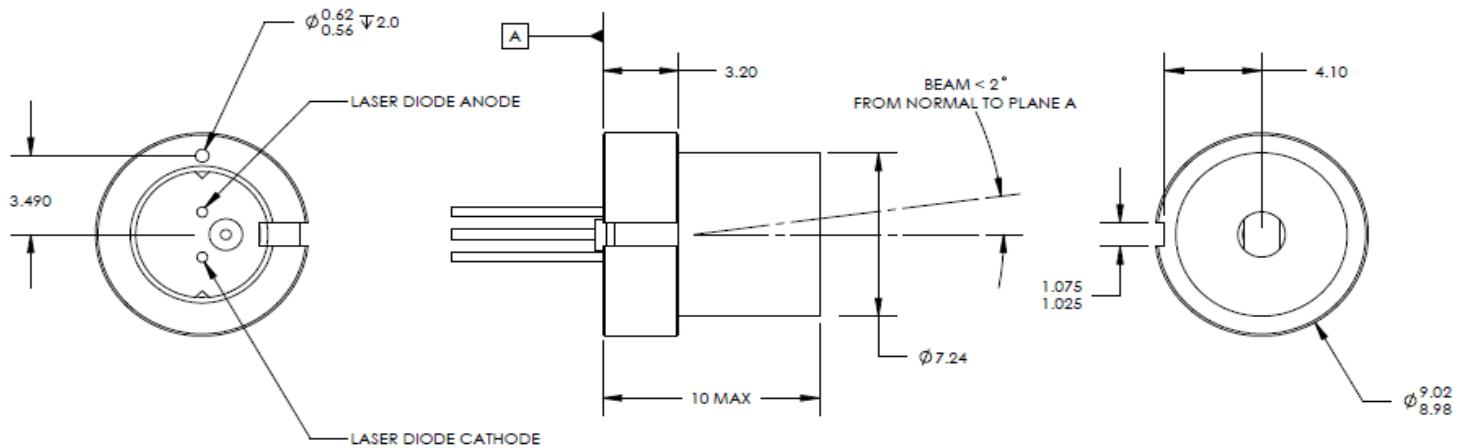
Wavelength Stability



Optical Spectrum (Sample)

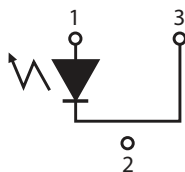


Outline Drawing



Pinout

Pin	Description
1	Laser Diode Anode
2	Case
3	Laser Diode Cathode



Model Number

CP-785-PLR175
CP-785-PLR225

