

# 638nm/640nm, 120mW High-Power Wavelength Stabilized Lasers



High Power, Spectrum Narrowed Collimated Output Beam

## Features:

- Compact 9mm TO can footprint
- Narrow spectral linewidth - 150 MHz typical. 0.06nm maximum
- Wavelength stability across operating range <math>< 0.01\text{nm}/^\circ\text{C}</math>
- 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
- Holography
- Interferometry
- Bio-instrumentation
- Sensing
- Analytical Instrumentation

Ondax's 638nm and 640nm High-Power Wavelength Stabilized Lasers are high-power, spectrum narrowed, collimated lasers 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	$P_o$		120		mW
Center Wavelength (vacuum)	$L_p$	637.5 639.5	638.0 640.0	638.5 640.5	nm
Linewidth	$\Delta\lambda$		150 MHz	0.06 nm	
Central Stabilized Temperature	$T_c$	15	25	35	$^\circ\text{C}$
Stabilized Temperature Range	$T_r$	10			$^\circ\text{C}$

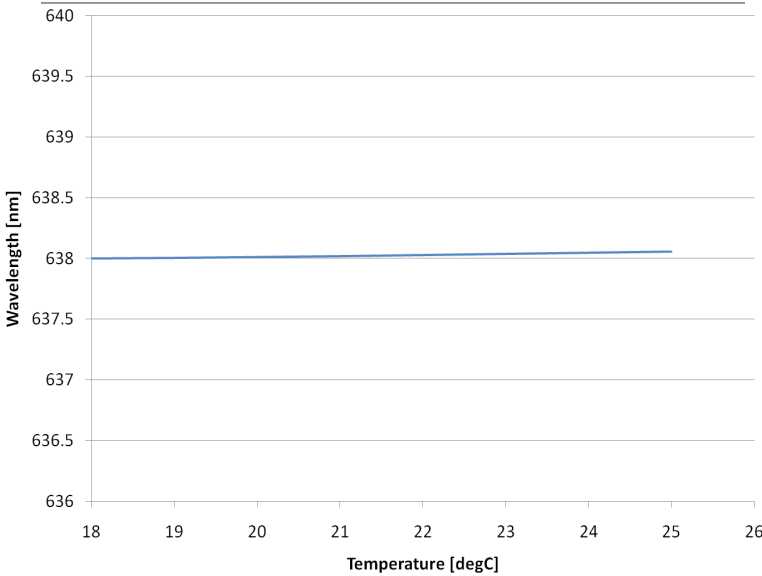
### Operating Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Threshold Current	$I_{th}$		55	80	mA
Operating Current	$I_{op}$		220	320	mA
Operating Voltage	$V_{op}$		2.8	3.0	V
Beam Divergence, Perpendicular (FWHM)	$Q_v$		<2		mrاد
Beam Divergence, Parallel (FWHM)	$Q_v$		<2		mrاد
Beam Size			0.6 x 0.9		mm
Differential Efficiency	DE (dP/dI)		0.7		mW/mA
Operating Temperature <sup>2</sup>	$T_{op}$			35	$^\circ\text{C}$
Storage Temperature <sup>2</sup>	$T_s$	-10		60	$^\circ\text{C}$
Polarization			100:1		
Polarization Orientation			TE		

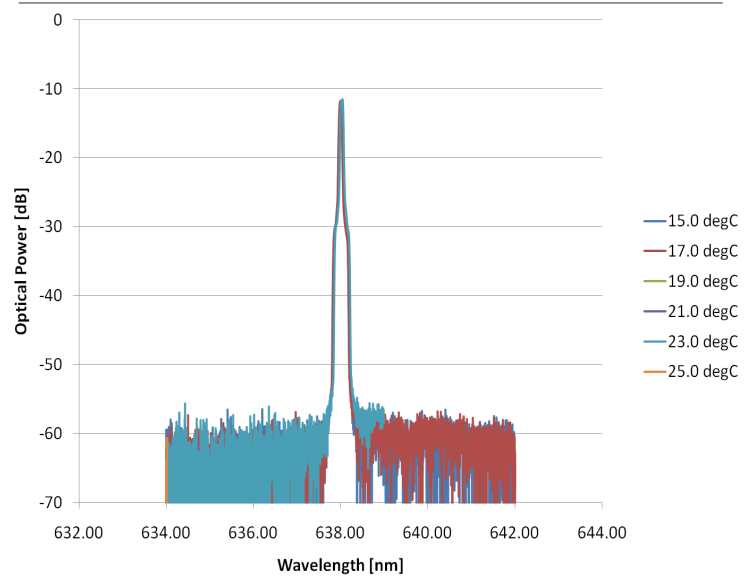
<sup>1</sup>All specifications are at rated power with a case temperature of 25°C unless otherwise noted <sup>2</sup>Non-condensing

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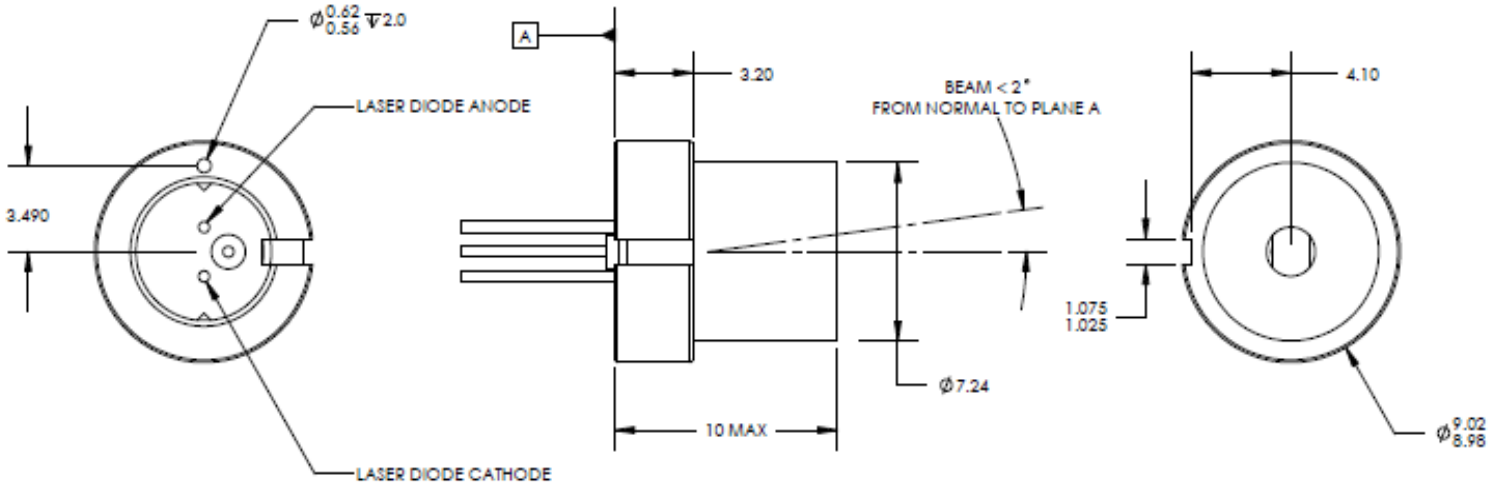
## Wavelength Stability



## Optical Spectrum (Sample)

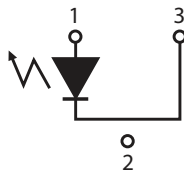


## Outline Drawing



## Pinout

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



## Model Number

CP-638-PLR120  
CP-640-PLR120

