

633nm, 40/70mW High-Power Wavelength Stabilized Lasers



High Power, Single Mode Collimated Output Beam

Ondax's 633 nm High-Power Wavelength Stabilized Laser is a high-power, single frequency, collimated laser packaged in an ultra-compact, TO-can footprint, designed for HeNe replacement applications. The high operating power, narrowed linewidth, low power consumption, and broad temperature operating characteristics make it ideal for next-generation interferometer and analytical instrument designs, delivering 10x the power at 1/100th the size of a comparable HeNe laser

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.

Features:

- Compact 9mm TO can footprint-1/100th the size of a comparable HeNe Laser
- Single Spatial Mode
- Narrow spectral linewidth <20 MHz Typical
- Wavelength stability across operating range <0.01nm/°C
- Collimated output beam
- NoiseBlock™ narrow-band ASE suppression filters and beamsplitters available in matching wavelengths to further reduce linewidth and ASE noise

Applications:

- HeNe Replacement
- Raman Spectroscopy
- Metrology
- Holography
- Interferometry
- Bio-instrumentation
- Particle Counting
- Fluorescence
- Sensing
- Analytical Instrumentation

Specifications:

Specification Summary

Parameter	Symbol	Min	Typ	Max	Unit
Output Power	P _o		40 /70		mW
Center Wavelength (vacuum)	L _p	632.75	633	633.25	nm
Linewidth	Δλ		<20 MHz		
Central Stabilized Temperature	T _c	15	25	35	°C
Stabilized Temperature Range	T _r	10			°C

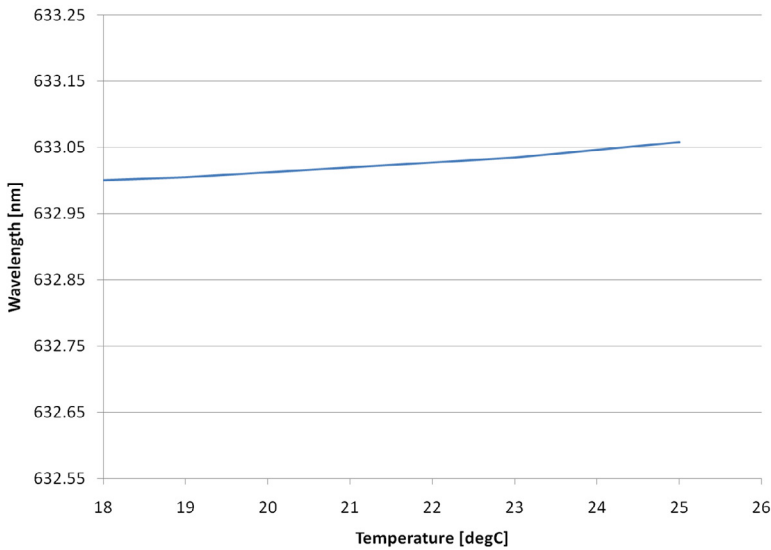
Operating Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Threshold Current	I _{th}		64	80	mA
Operating Current	I _{op}		160	210	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 ²	T _{op}			35	°C
Storage Temperature ²	T _s	-10		60	°C
Polarization			100:1		
Polarization Orientation			TE		

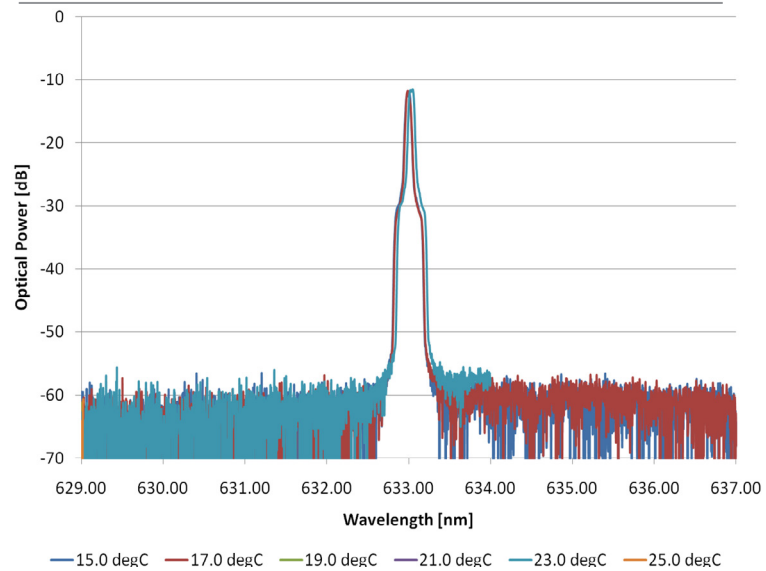
¹All specifications are at rated power with a case temperature of 25°C unless otherwise noted ²Non-condensing

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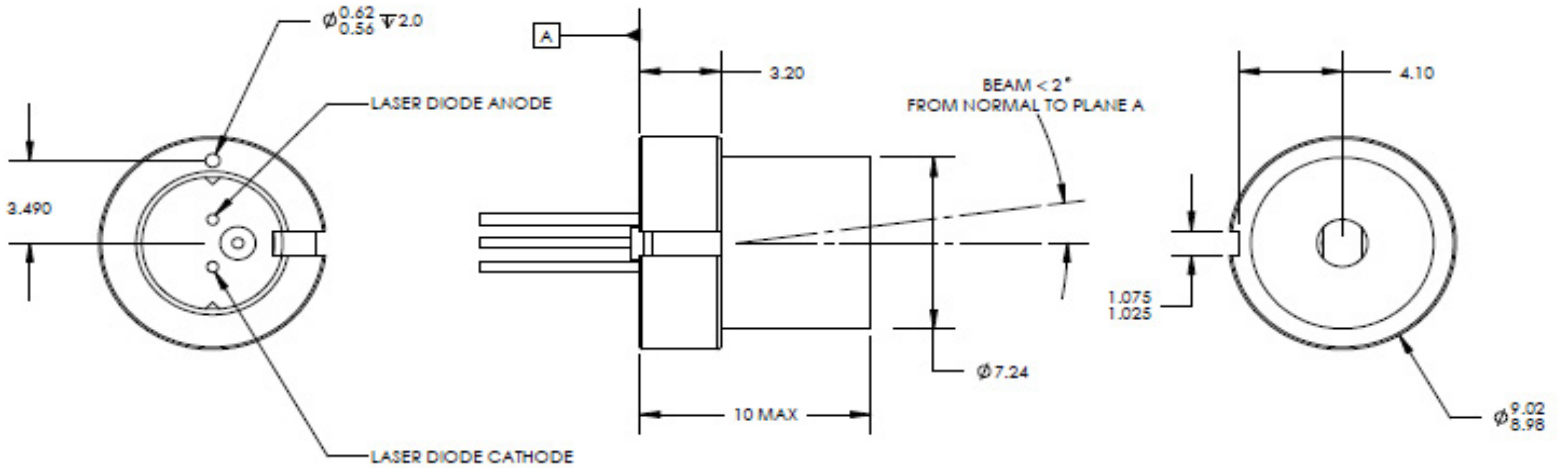
Wavelength Stability



Optical Spectrum (Sample)

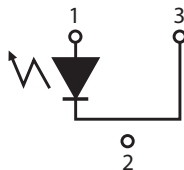


Outline Drawing



Pinout

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



Model Number

CP-633-PLR40
CP-633-PLR70

