

640nm, 9mW Wavelength Stabilized Lasers



Single Frequency
Wavelength Stability: $\sim 0.015\text{nm}/^\circ\text{C}$

Ondax's 640nm Wavelength Stabilized Laser is a single mode, single frequency laser packaged in an ultra-compact, TO-can footprint. The extremely narrow linewidth, broad temperature operating characteristics, and low power consumption 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			9	mW
Center Wavelength (vacuum) ¹	L_p	635	636	637	nm
	L_p	637	638	639	nm
	L_p	639	640	641	nm
Linewidth (MHz)	$\Delta\lambda$		150		MHz
Central Stabilized Temperature	T_c	15		40	$^\circ\text{C}$
Stabilized Temperature Range	T_r	5	10		$^\circ\text{C}$

Features:

- Single frequency performance
- Narrow linewidth < 150 MHz
- Wavelength stability across operating range $0.015\text{nm}/^\circ\text{C}$
- Coherence length $> 2\text{m}$
- Compact, hermetically sealed TO footprint
- Custom wavelengths available

Applications:

- HeNe Replacement
- Raman Spectroscopy
- Metrology
- Bio-instrumentation
- Graphic Arts
- Sensing
- Analytical Instrumentation

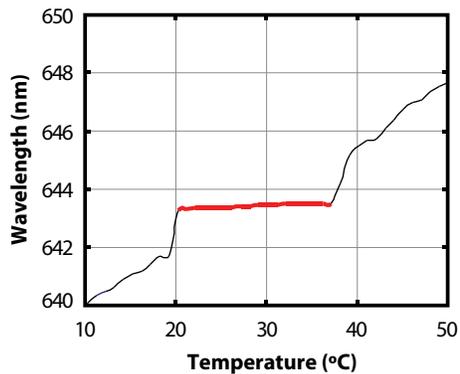
Operating Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Threshold Current (CW)	I_{th}		40	60	mA
Operating Current	I_{op}		60	80	mA
Operating Voltage	V_{op}		2.3	2.5	V
Laser Reverse Voltage	V_{rl}			2	V
Photodiode Reverse Voltage	V_{rp}			30	V
Monitoring Output Current	I_m	0.05	0.15	0.4	mA
Beam Divergence, Perpendicular	Q_v	25	30	35	Degrees
Beam Divergence, Parallel	Q_h	6	8	10	Degrees
Off Axis Angle, Perpendicular	dQ_v	-2		2	Degrees
Off Axis Angle, Parallel	dQ_h	-2		2	Degrees
Emitter Size			1 x 3		μm
Differential Efficiency	DE (dP/dI)		0.5		mW/mA
Operating Temperature ³	T_{op}	0		40	$^\circ\text{C}$
Storage Temperature ³	T_s	-10		60	$^\circ\text{C}$
Polarization			100:1		
Polarization Orientation			TM		

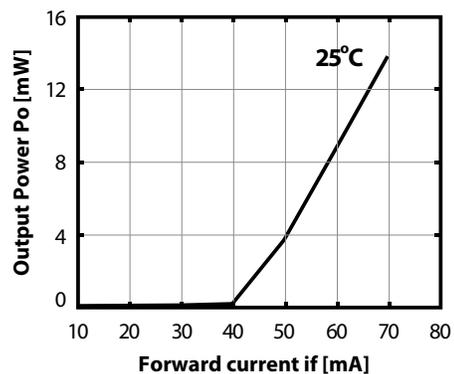
¹Please specify wavelength at time of ordering ²Non-condensing ³All specifications are at rated power with a case temperature of 25°C unless otherwise noted

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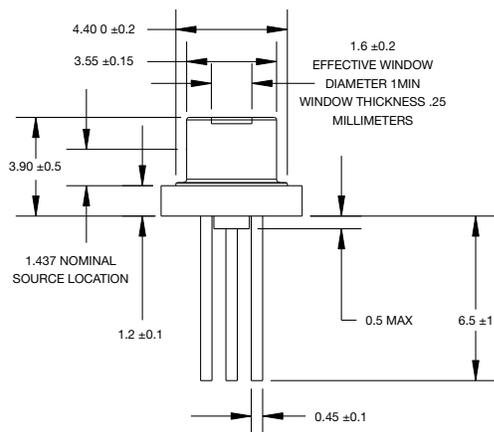
Stabilized Temperature Range



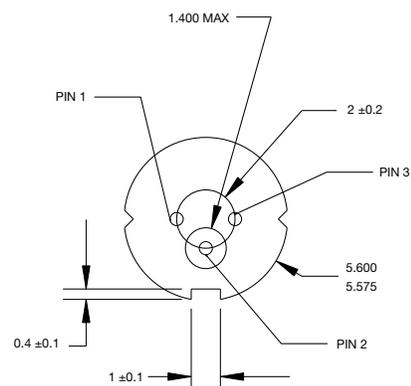
Output Power vs Forward Current (Typical)



Side View

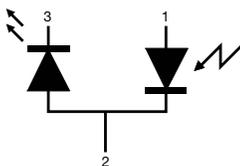


Bottom View



Pinout

Pin	Description
1	Photodiode Anode
2	Case
3	Laser Diode Cathode



Model Numbers

T0-636-PLR09

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T0-640-PLR09

