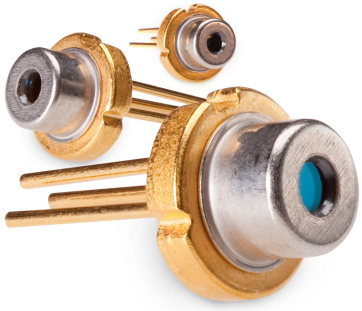
ONDAX

SureLock™

638nm, 32mW Wavelength Stabilized Lasers



Single Frequency
Wavelength Stability: ~0.015nm/°C

Ondax's 638nm 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.

Features:

- Single frequency performance
- Narrow linewidth 300 MHz
- Wavelength stability across operating range 0.015nm/°C
- Coherence length 0.5m
- Compact, hermetically sealed TO footprint
- Custom wavelengths available
- 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
- Bio-instrumentation
- Graphic Arts
- Sensing
- Analytical Instrumentation

Specifications:

Specification Summary

Parameter	Symbol	Min	Typ	Max	Unit
Output Power	P_o			32	mW
Center Wavelength (vacuum)[1]	L_p	637	638	639	nm
	L_p	639	640	641	nm
Linewidth (MHz)	$\Delta\lambda$		300		MHz
Central Stabilized Temperature	T_c	15		45	°C
Stabilized Temperature Range	T_r	10	14		°C

Operating Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Threshold Current (CW)	I_{th}		45	60	mA
Operating Current	I_{op}		80	105	mA
Operating Voltage	V_{op}		2.4	2.6	V
Laser Reverse Voltage	V_{rl}			2	V
Photodiode Reverse Voltage	V_{rp}			30	V
Monitoring Output Current	I_m	0.07	0.15	0.2	mA
Beam Divergence, Perpendicular	Q_v	16	21	24	Degrees
Beam Divergence, Parallel	Q_h	7	10	13	Degrees
Off Axis Angle, Perpendicular	dQ_v	-	-	-	Degrees
Off Axis Angle, Parallel	dQ_h	-	-	-	Degrees
Emitter Size			1 x 2		µm
Differential Efficiency	DE (dP/dI)		1		mW/mA
Operating Temperature[3]	T_{op}	-10		50	°C
Storage Temperature[3]	T_s	-40		80	°C
Polarization Ratio			60:1		
Polarization Orientation			TM		

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

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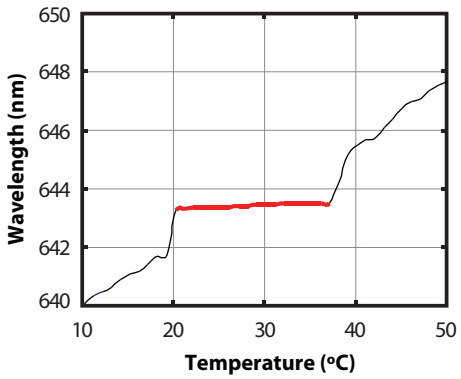
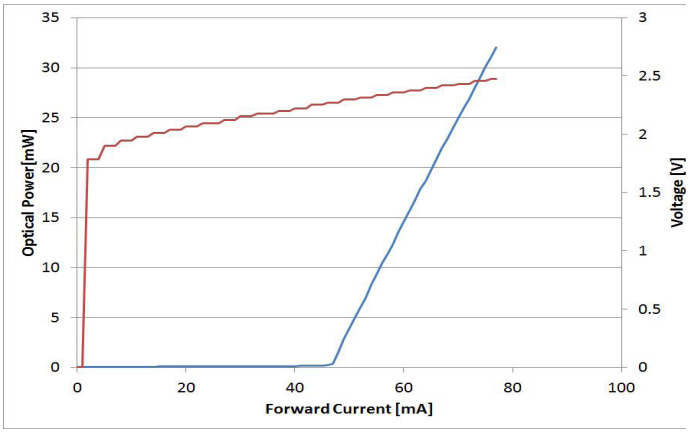
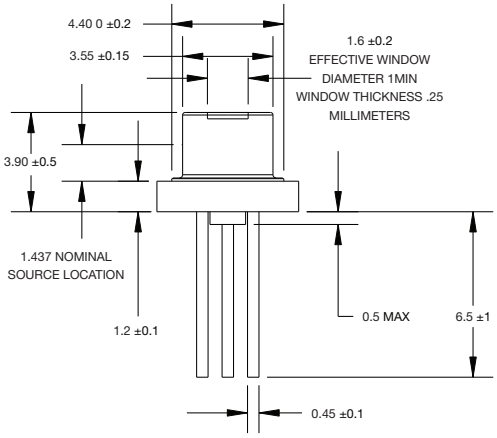
Stabilized Temperature Range



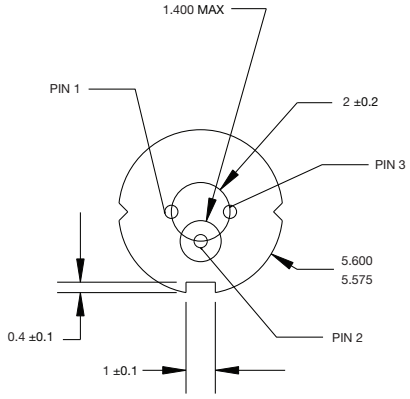
Output Power vs Forward Current (Typical)



Side View

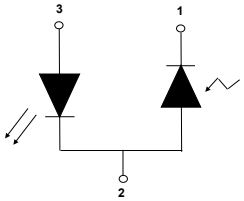


Bottom View



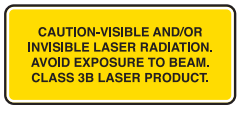
Pinout

Pin	Description
1	Photodiode Cathode
2	Case
3	Laser Diode Anode



Model Numbers

TO-638-PLR32
TO-640-PLR32



ONDAX

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For more information about Ondax products and the name of a local representative or distributor, visit www.ondax.com, email sales@ondax.com, or call (626) 357-9600. Specifications subject to change without notice. Each purchased laser is provided with test data. Please refer to this data before using the laser.