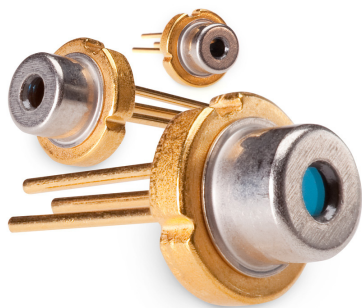


690nm, 45mW Wavelength Stabilized Lasers



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

Features:

- Single frequency performance
- Narrow linewidth $< 100\text{ MHz}$
- Wavelength stability across operating range $0.015\text{nm}/^\circ\text{C}$
- Coherence length $> 2\text{m}$
- Compact, hermetically sealed TO footprint
- 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
- Graphic Arts
- Sensing
- Analytical Instrumentation

Ondax's 690nm 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			45	mW
Center Wavelength (vacuum) ¹	L_p	688	689	690	nm
	L_p	690	691	692	nm
Linewidth (MHz)	$\Delta\lambda$		100		MHz
Central Stabilized Temperature	T_c	15		40	$^\circ\text{C}$
Stabilized Temperature Range	T_r	10	15		$^\circ\text{C}$

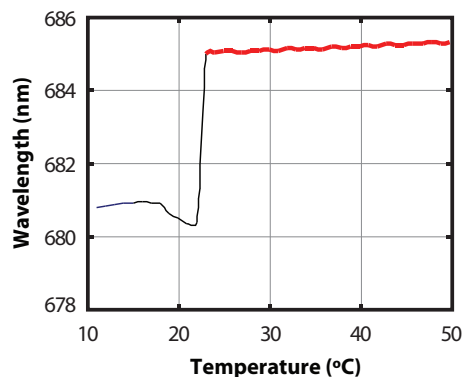
Operating Specifications

Parameter	Symbol	Min	Typ	Max	Unit
Threshold Current (CW)	I_{th}		30	60	mA
Operating Current	I_{op}		75	120	mA
Operating Voltage	V_{op}		2.3	3	V
Laser Reverse Voltage	V_{rl}			2	V
Monitoring Output Current	I_m	0.08	0.15	0.35	mA
Beam Divergence, Perpendicular	Q_v	18	21	25	Degrees
Beam Divergence, Parallel	Q_h	7	9	12	Degrees
Emitter Size			2 x 3		μm
Differential Efficiency	DE (dP/dI)		1.1		mW/mA
Operating Temperature ²	T_{op}	0		50	$^\circ\text{C}$
Storage Temperature ²	T_s	-10		60	$^\circ\text{C}$
Polarization			100:1		
Polarization Orientation			TE		

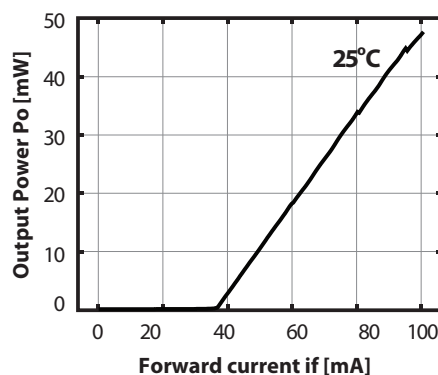
¹Please specify wavelength at time of ordering ²Non-condensing All specifications are at rated power with a case temperature of 25°C unless otherwise noted

690nm, 45mW Wavelength Stabilized Lasers

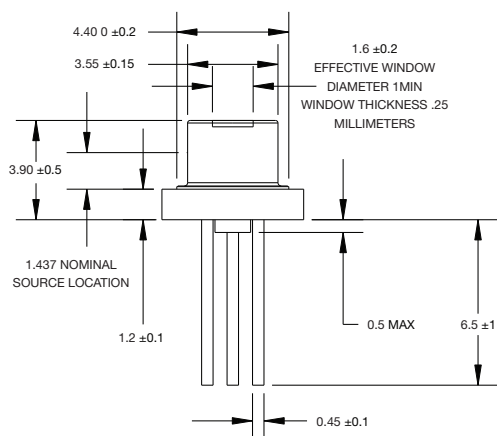
Stabilized Temperature Range



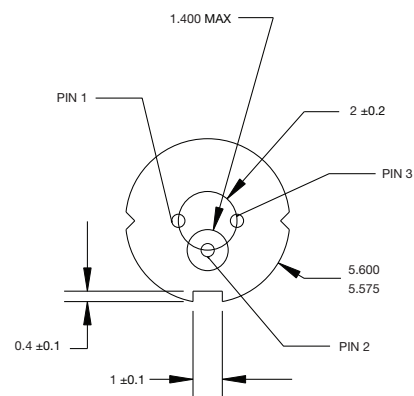
Output Power vs Forward Current (Typical)



Side View

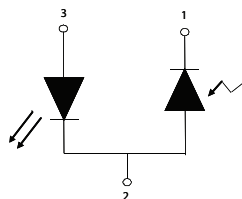


Bottom View



Pinout

Pin	Description
1	Photodiode Cathode
2	Case
3	Laser Diode Anode



Model Numbers

T0-689-PLR45

T0-691-PLR45

