

685nm, 45mW Wavelength Stabilized Laser

Description:

Ondax's 685nm Wavelength Stabilized Laser is a single mode, miniature laser in a standard TO package. The stabilization is achieved using the Ondax Volume Holographic Grating (VHG) PowerLocker®.

The laser has a very low temperature dependence and precise center wavelength over the locked region.

The narrow linewidth and long coherence length from a standard TO packaged laser enables many applications.

Features:

- Wavelength stability (~0.015nm/°C)
- Single frequency
- Coherence length (>2m)
- Hermetically sealed
- Custom wavelengths available

Applications:

Raman spectroscopy, flow cytometry, blood flow, metrology, bio instrumentation, graphic arts, analytical instrumentation, sensing, and data storage.

Single Frequency

Wavelength Stability: ~0.015nm/°C



Specifications:

Absolute Maximum Ratings

Parameter	Symbol	Ratings	Unit
Output Power ¹	P _o	45	mW
Laser Reverse Voltage ¹	V _{rl}	2	V
Photodiode Reverse Voltage ¹	V _{rp}	30	V
Operating Temperature ²	T _{op}	0 to 50	°C
Storage Temperature ²	T _s	-10 to 60	°C

1 At a case temperature of 25 °C

2 Non-condensing

Operating Specifications

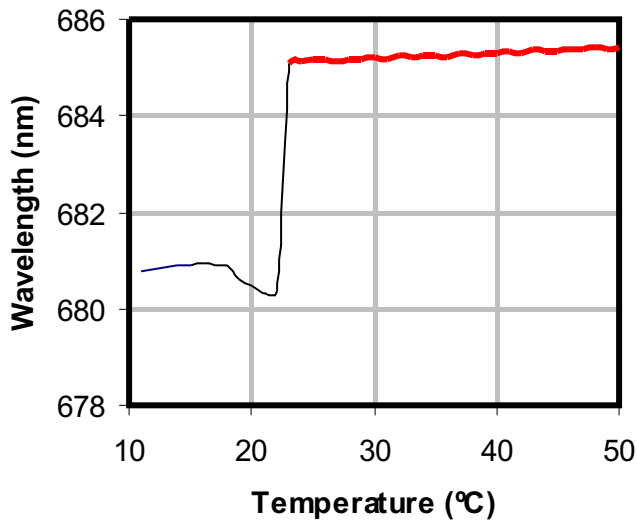
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Threshold Current	I _{th}	CW		30	60	mA
Operating Current	I _{op}	P _o = 45 mW		75	120	mA
Operating Voltage	V _{op}	P _o = 45 mW		2.3	3.0	V
Lasing Wavelengths	L _p	P _o = 45 mW T=T _c	682	683	684	nm
	L _p	P _o = 45 mW T=T _c	684	685	686	nm
Linewidth		P _o = 45 mW T=T _c			50	MHz
Central Stabilized Temperature	T _c	P _o = 45 mW	15	30	40	°C
Stabilized Temperature Range	T _r	P _o = 45 mW	10	15		°C
Beam Divergence, Perpendicular	Q _v	P _o = 45 mW	18	21	25	deg.
Beam Divergence, Parallel	Q _h	P _o = 45 mW	7	9	12	deg.
Differential Efficiency	DE			1.1		mW/mA

All specifications are with a case temperature of 25° C, unless otherwise noted.

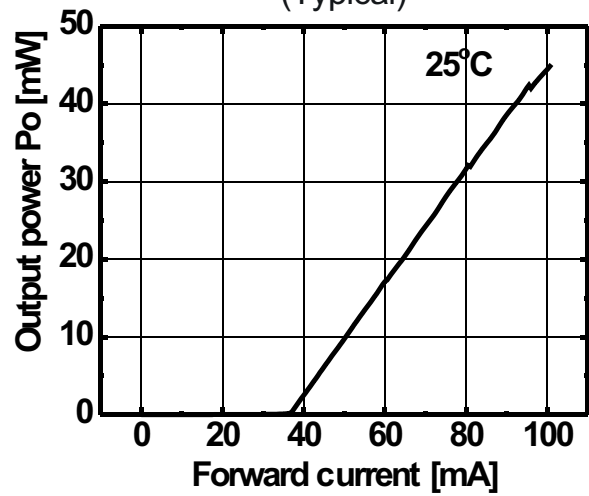
Specifications are subject to change without notice. Each purchased laser is provided with test data. Please refer to this data before using the laser.

115-81039-XXX Rev. 6

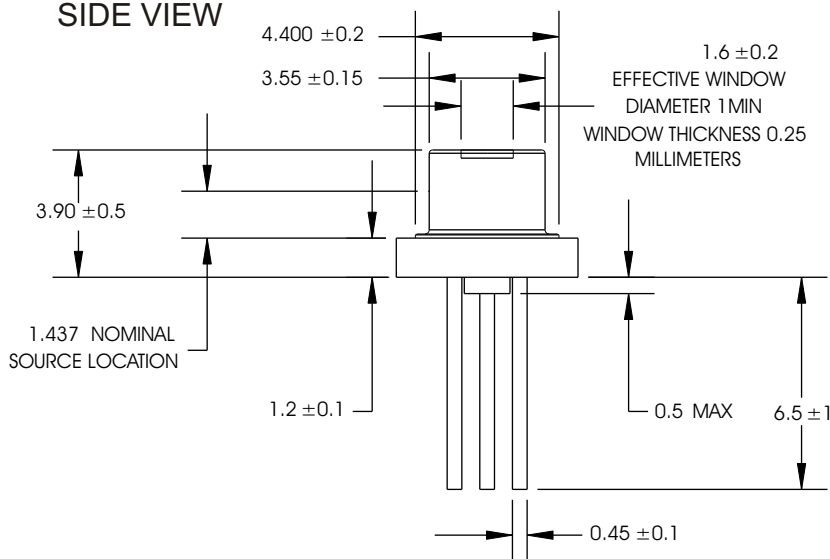
Stabilized Temperature Range



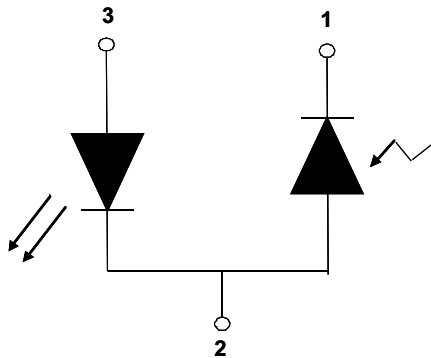
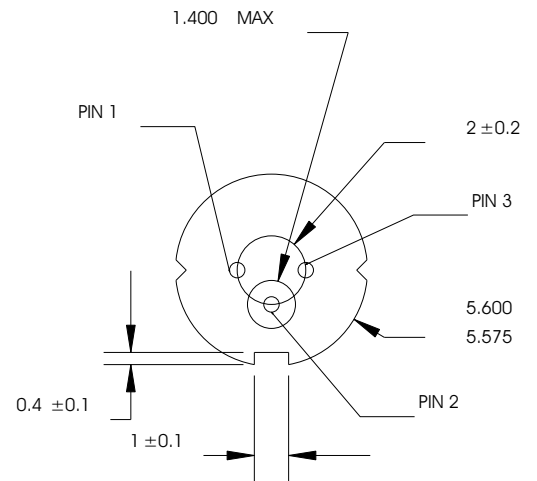
Output Power vs Forward Current (Typical)



SIDE VIEW

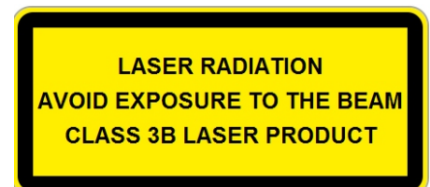


BOTTOM VIEW



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

Model Numbers:
TO-683-PLR45
TO-685-PLR45



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