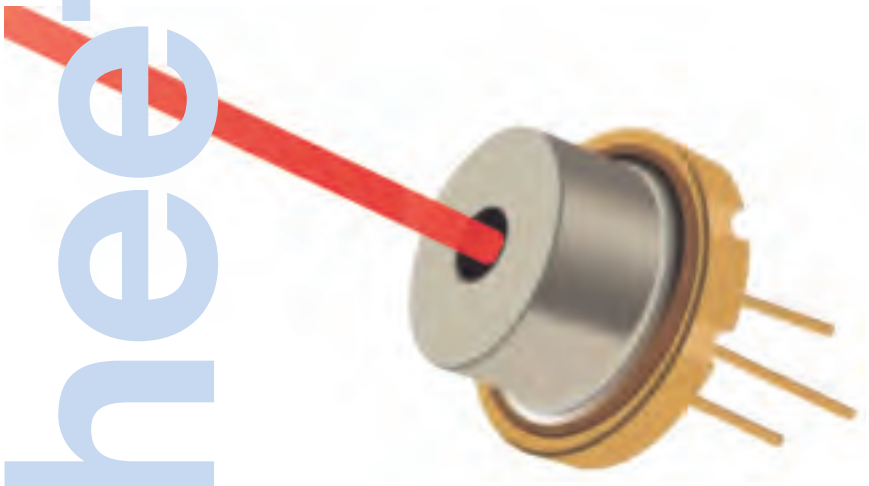
640nm Wavelength Stabilised Laser

datasheet



Key features

- Low temperature dependence (<0.03nm/°C)
- Single mode narrow linewidth
- Compact size (5.6mm standard TO package)
- Wavelength locked to <±1nm
- Custom wavelengths available

Applications

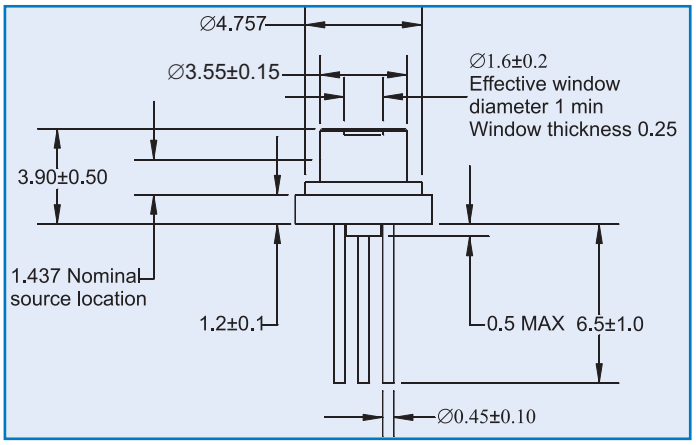
- Storage
- Metrology
- Bio instrumentation
- Graphic arts
- Raman spectroscopy
- Analytical instrumentation
- Sensing
- Flow cytometry

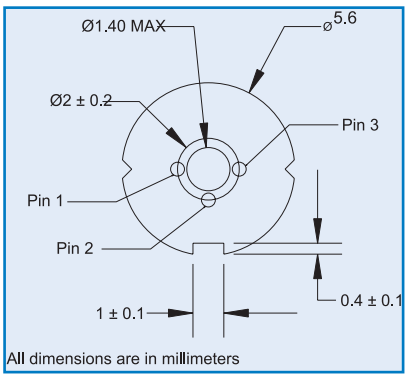
Ondax TO-640-PLR09 640nm Wavelength Stabilised Laser

The 640nm Wavelength Stabilised Laser is a low cost, miniature laser in a standard TO package. The stabilisation is achieved using the Ondax Volume Holographic Grating (VHG) PowerLocker™.

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

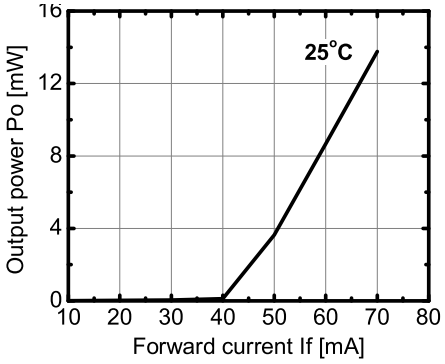
This enhanced performance, from a low cost, standard TO packaged laser, enables many applications.





PHOTONIC PRODUCTS
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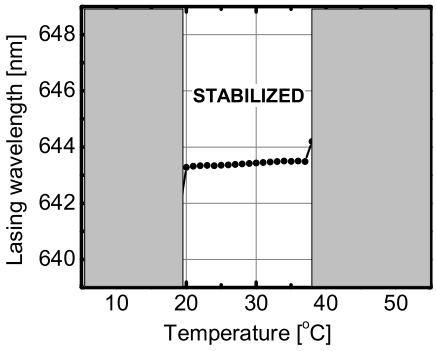
640nm Wavelength Stabilised Laser

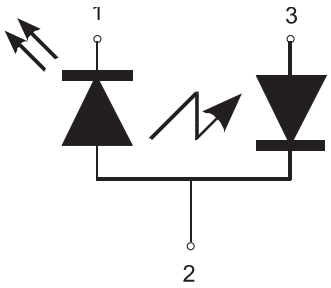


Ondax TO-640-PLR09

Specifications : Absolute Maximum Ratings at a case temperature of 25°C

Parameter	Symbol		Ratings	Unit
Light Output	P_o		10	mW
Laser Reverse Voltage	V_{rl}		2	V
Photodiode Reverse Voltage	V_{rp}		30	V
Operating Temperature (non-condensing)	T_{op}	-	0 to +40	°C
Storage Temperature (non-condensing)	T_s	-	-10 to +60	° C





Operating Specifications at a case temperature of 25°C

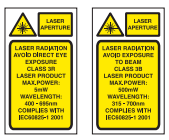
Parameter	Symbol	Conditions	Min	Typ	Max	Units
Threshold Current	I_{th}	CW		40	60	mA
Operating Current	I_{op}	Po=9 mW		60	80	mA
Operating Voltage	V_{op}	Po=9 mW		2.3	2.5	V
Monitoring Output Current	I_m	Po=9 mW	0.05	0.15	0.4	mA
Lasing Wavelength	L_p	Po=9 mW, T=T_c	635	640	645	nm
Linewidth	$\Delta\lambda$	Po=9 mW, T=T_c			50	MHz
Central Stabilised Temp.	T_c	Po=9 mW	15	30	40	°C
Stabilised Temp. Range	T_r	Po=9 mW	5	10		°C
Beam Divergence, Perpendicular	Q_v	Po=9 mW	25	30	35	deg.
Beam Divergence, Parallel	Q_h	Po=9 mW	6	8	10	deg.
Off Axis Angle, Perpendicular	dQ_v		-2		2	deg.
Off Axis Angle, Parallel	dQ_h		-2		2	deg.
Differential Efficiency	DE			0.5		mW/mA

Specifications are subject to change without prior notification. E&OE

Each purchased laser is provided with test data. Please refer to this data before using the laser.

Pinout

Pin	Description
1	Laser Diode Cathode
2	Case
3	Photodiode Anode



Laser Safety

The light emitted from these devices has been set in accordance with IEC60825. However, staring into the beam, whether directly or indirectly, must be avoided. IEC60825 classifies laser products into three different categories depending on light emitted, wavelength and eye safety.

CLASS II
"Caution", visible laser light less than 1.0mW. Considered eye safe, normal exposure to this type of beam will not cause permanent damage to the retina.

CLASS IIIR
"Danger", visible laser light between 1.0mW and 5.0mW. Considered eye safe with caution. Focusing of this light into the eye could cause some damage.

CLASS IIIB
"Danger", infrared (IR), and high power visible lasers considered dangerous to the retina if exposed.

NB: It is important to note that while complying with the above classifications, unless otherwise stated, our laser diode products are not certified and are designed solely for use in OEM products. The way in which the device is used in the final product may alter its original design classification, and it is the responsibility of the OEM to ensure compliance with the relevant standards.

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