

Preliminary Data Sheet

Introducing the 640.22 nm IPSSL Laser* With Embedded Atomic Standard (EAS)

IPSSL is an atomic resonant laser. The wavelength (centroid) of the spectral line is fixed at an atomic transition by virtue of EAS. Resulting stability of typically about 0.5 picometers over 12 hours is comparable to a He:Ne laser, and is temperature-independent over a broad temperature range. Wavelength accuracy is about ± 1 picometer. Compared to commercial semiconductor devices, IPSSL has no external servo (VBG or other opto-mechanical device), and is compact

in design based on the relative level of wavelength stability and power performance. Applications include optical pumps requiring high-efficiency energy conversion and chemical analytical instrumentation requiring high wavelength accuracy, such as Raman spectroscopy and atomic fluorescence. The wavelength invariance of IPSSL, when integrated in instrumentation, assures calibration transfer thereby reducing system operating costs.

- High wavelength stability^a
- High wavelength accuracy
- Competitive output power
- Compact design



Part Number 101-Ne0-640-001
* Patent Pending

Operating Specifications				
Parameter	Unit	Min	Typical	Max
Wavelength	nm		640.22(4)	
Wavelength accuracy	pm		+/-1	
Power	mW	90	100	120
Line width	pm/GHz		3.5/2.5	
Stability ^a	pm	0.5		
Operating temp	°C	0	20	40
Storage temp	°C	-40		70
Supply current	A		2	
Supply voltage	V		12	
Warm up	min	2	5	10
CDRH class			IV	
Beam diameter	mm		3	
Beam divergence	mrad		3	
Polarization			1:500	
Mode			multimode	

^a Stability of wavelength (centroid) of spectral line over 12 hours of 0.5 picometers

