



SureLock™

785 nm, 100 mW Wavelength Stabilized Lasers

The 785 nm 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.

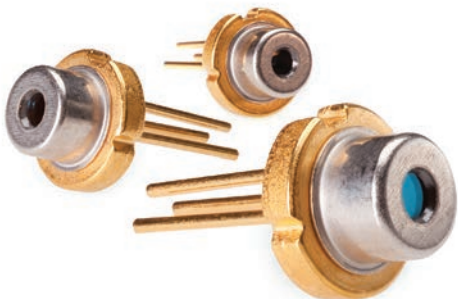
All SureLock™ Series lasers are stabilized using the Coherent PowerLocker® Volume Holographic Grating (VHG), ensuring precise, ultra-stable center wavelengths, low temperature dependence, and consistent optical performance over the locked region.

FEATURES

- Single frequency performance
- Narrow linewidth <175 MHz
- Wavelength stability across operating range 0.015 nm/°C
- Coherence length >1 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
- Speckle Interferometry
- Bio-instrumentation
- Metrology
- Sensing
- Analytical Instrumentation



SureLock: 785 nm, 100 mW Wavelength Stabilized Lasers Datasheet

SPECIFICATIONS ¹	Minimum	Typical	Maximum
Output Power (mW) (P_o)			100
Center Wavelength ² (vacuum) (nm) (L_p)	784	785	786
Linewidth (MHz) ($\Delta\lambda$) (nominal)	210		
Central Stabilized Temperature (°C) (T_c)	15		40
Stabilized Temperature Range (°C) (T_r)	10	15	

OPERATING SPECIFICATIONS ¹	Minimum	Typical	Maximum
Threshold Current (mA) (I_{th})		35	55
Operating Current (mA) (I_{op})		125	160
Operating Voltage (V) (V_{op})		2.3	
Laser Reverse Voltage (V) (V_r)			2
Monitoring Output Current (mA) (I_m)	0.1	0.5	0.7
Beam Divergence (degrees)			
Perpendicular (Q_v)	15	17	19
Parallel (Q_h)	8	9	10
Off Axis Angle (degrees)			
Perpendicular (dQ_v)	-2		2
Parallel (dQ_h)	-2		2
Differential Efficiency (mW/mA) [DE (dP/dI)]	1.1		
Operating Temperature ³ (°C) (T_{op})	0		50
Storage Temperature ³ (°C) (T_s)	-20		70
Polarization	100:1		
Polarization Orientation	TE		

¹ All specifications are at rated power with a case temperature of 25°C unless otherwise noted.

² Please specify wavelength at time of ordering.

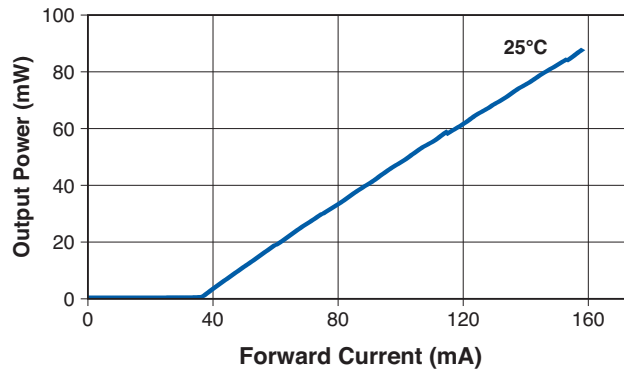
³ Non-condensing.

MODEL NUMBERS

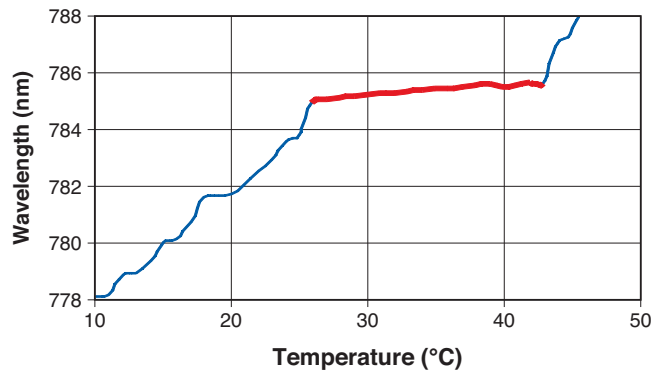
TO-785-PLR100-4

TYPICAL PERFORMANCE

Output Power vs. Forward Current
(Typical)



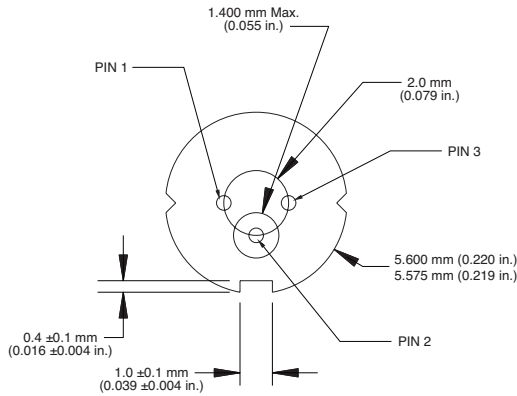
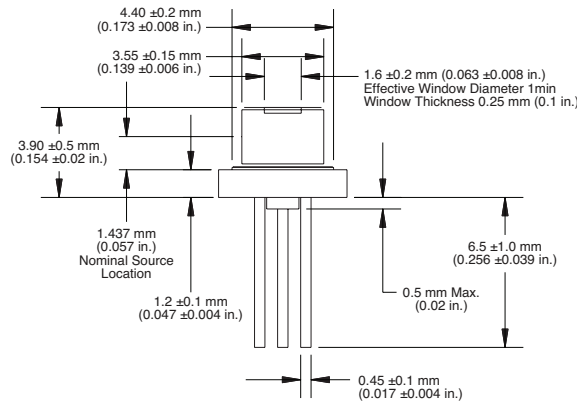
Stabilized Temperature
Range



PINOUT	
PIN	DESCRIPTION
1	Photodiode Cathode
2	Case
3	Laser Diode Anode

MECHANICAL SPECIFICATIONS

785 nm, 100 mW Wavelength Stabilized Laser



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Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all SureLock Lasers. For full details of this warranty coverage, please refer to the Service section at www.coherent.com or contact your local Sales or Service Representative. MC-025-21-0M0721 Copyright ©2021 Coherent, Inc.