

USHIO *Applying Light to Life*

Diode Lasers SLM Series

Single Longitudinal Mode Laser Series - 632.8nm



KEY PERFORMANCE FEATURES

- High Power Single Mode Performance
- VBG® Wavelength Stabilized
- Ultra Stable Output Power
- Fully Integrated OEM Solution
- Very Low Power Consumption
- Collimated or Fiber Coupled Output
- Compact Single Box Design

APPLICATIONS

- HeNe Replacement
- Flow Cytometry
- Confocal Microscopy
- Metrology
- Interferometry
- Raman Excitation Source
- Microlithography

Center Wavelength ($\pm 0.5\text{nm}$)

632.8nm

SPECIFICATIONS

Operating Specifications	Units	Value
Output Power Free Space*	mW	20 to 50
Output Power Fiber Coupled	mW	1 to 25
Spectral Linewidth (Typical)	KHz	<100
Wavelength Stability (Over 8 Hours)	pm	±2
ASE Suppression (Typical)	dB	40
Optical Power Stability (Over 8 Hours)**	% rms	±1
Noise (10Hz - 100MHz)	% rms	0.2

*Factory set to user specified power output (See Ordering Information Table for options)

**Ambient Temperature ±3° C

Free Space Optical Specifications	Units	Value
Beam Quality (m ² Typical) - Vertical	–	1.2
Beam Quality (m ² Typical) - Horizontal	–	1.1
Beam Diameter - Vertical	mm	1.6
Beam Diameter - Horizontal	mm	0.8
Beam Aspect Ratio	–	1.5 to 2
Beam Divergence - Vertical	mrاد	0.8
Beam Divergence - Horizontal	mrاد	1.3
Beam Pointing Stability (Over 8 Hours)	μrad	<50
Polarization Ratio	linear	100:1

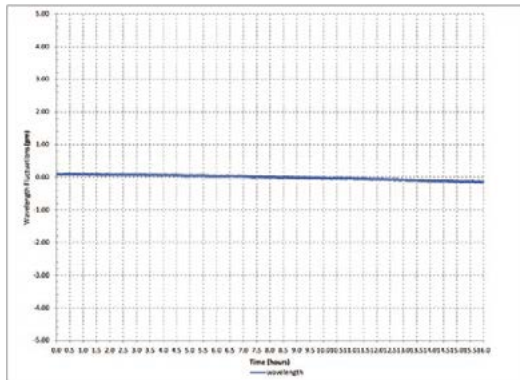
Electrical Specifications	Units	Value
DC Input (Max)	–	2A @ 3.3V
Warm-up Time (Typical)	min	2
Power Consumption (Typical/Max)	W	5
Interface - USB & 10-Pin I/O Connectors		

Environmental Specifications	Units	Value
Case Temperature*	°C	15 to 40
Humidity (Non-condensing)	%	5 to 95

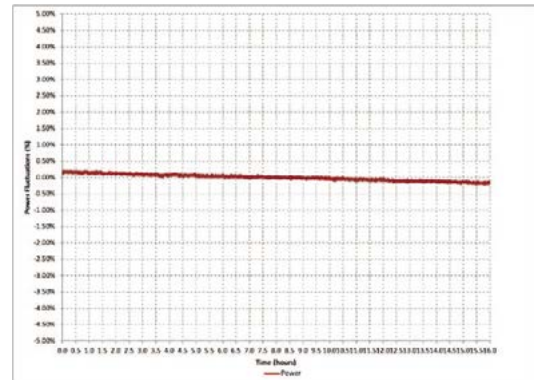
*Must be operated on a heat sink.

SPECIFICATIONS & PHOTOMETRICS

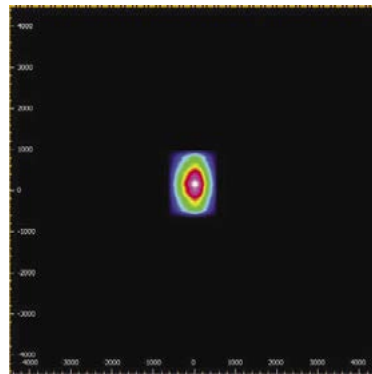
Wavelength Stability



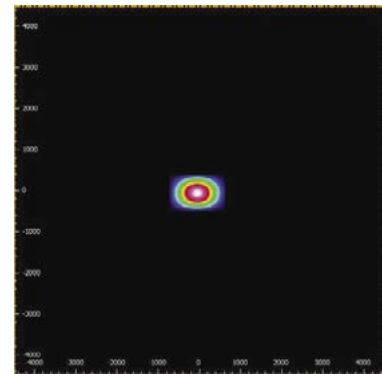
Power Stability



Free Space Beam
Near Field

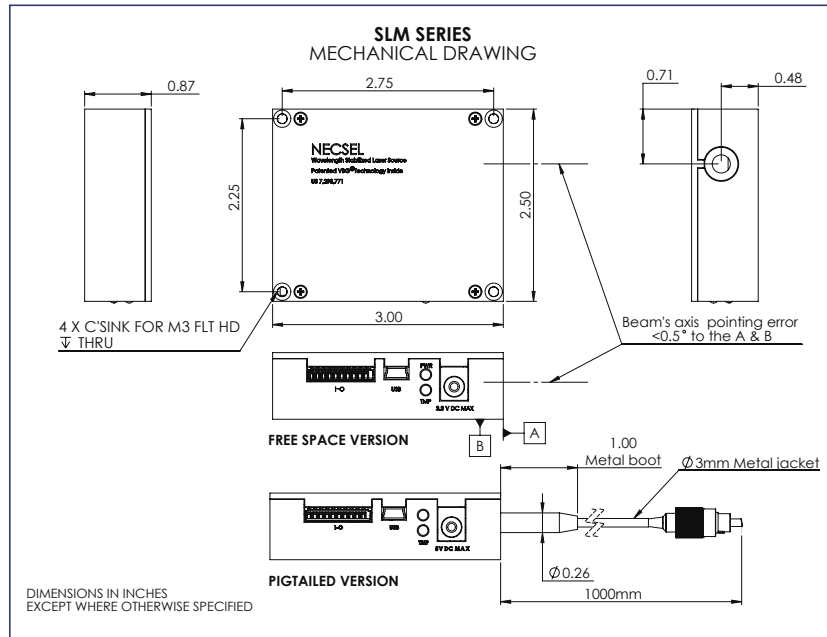


Free Space Beam
Far Field



SPECIFICATIONS & ORDERING INFORMATION

Weight = 135 grams Dimensions = 86 cm³ (5.25 in³)



Part Number Configuration			Output Power mW	Fiber Connector
SLM-632.8-	SMF-	01	10mW	FC/APC
		02	20mW	FC/APC
		04	5mW	FC/APC
		05	3mW	FC/APC
	PMF-	07	0.99mW	FC/APC
		01	20mW	FC/APC
		02	5mW	FC/APC
MMF-	03	3mW	FC/APC	
	05	1.2mW	FC/APC	
	01	40mW	FC/APC	
FS-	01	01	50mW	N/A
		02	30mW	N/A
		03	25mW	N/A
		06	5mW	N/A

SMF (Single Mode Fiber) is 4/125um NA=0.13 with 3mm OD stainless steel armor. **PMF** (Polarization Maintaining Fiber) is 4/125um PANDA style Fiber, NA=0.13 with 3mm OD stainless steel armor. **MMF** (Multi Mode Fiber) is 62.5/125um NA=0.22 with 3mm OD stainless steel armor. **FS** is collimated free space output. Contact NECSEL Sales for other product versions.

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Form No. S-SLM-632.8nm/0122