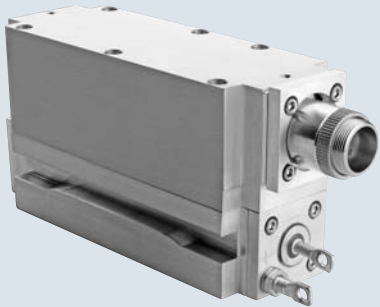




# Genesis Taipan-Series

High-Power Optically Pumped Semiconductor Lasers (OPSL)

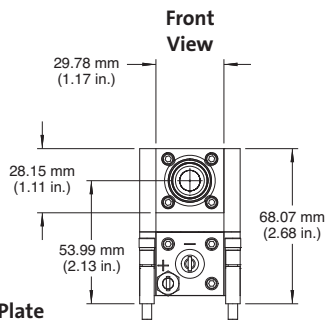


## Features

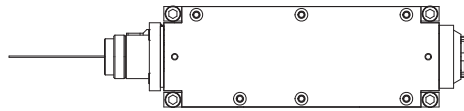
- OPSL reliability
- Compact, efficient design
- Modulation rate to >50 kHz
- Ability to deliver high output powers at unique wavelengths
  - 1W and 2W at 460 nm
  - 2W and 4W at 480 nm
  - 3W and 5W at 488 nm
  - 3W and 5W at 514 nm
  - 3W, 5W, 8W and 10W at 532 nm
  - 2W at 561 nm
  - 3W, 5W and 6W at 577 nm
- Low heat load for ease of integration

## Mechanical Specifications

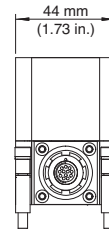
### Laser Head



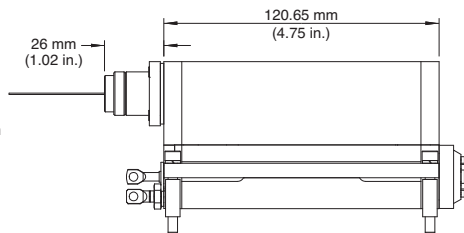
### Top View



### Rear View

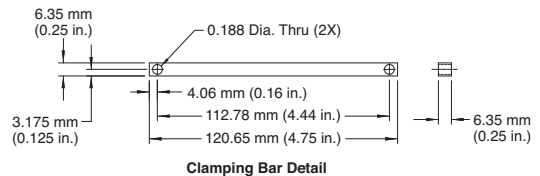
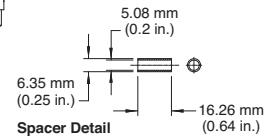
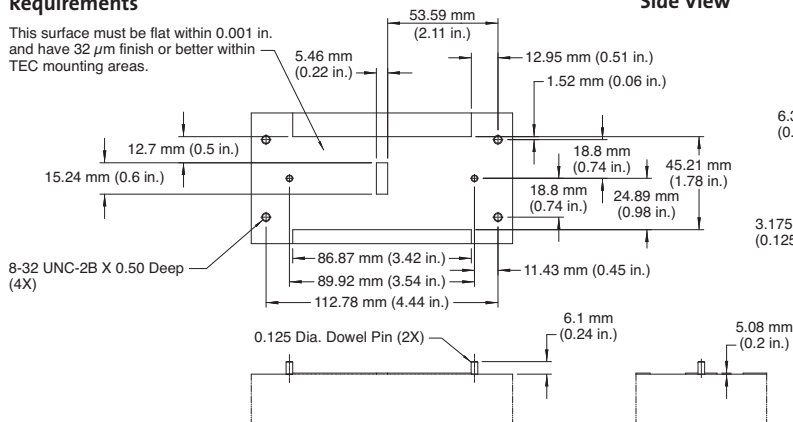


### Side View



### Base Plate Requirements

This surface must be flat within 0.001 in. and have 32  $\mu$ m finish or better within TEC mounting areas.



Superior Reliability & Performance

# Genesis Taipan-Series

## High-Power Optically Pumped Semiconductor Lasers (OPSL)

### Optical Specifications<sup>1</sup>

Genesis	Taipan 460-1000/2000	Taipan 480-2000/4000	Taipan 488-3000/5000
Wavelength (nm)	460 ±3	480 ±3	488 ±3
Output Power (mW)	1000, 2000	2000, 4000	3000, 5000
Spatial Mode	Multimode		
Bandwidth (nm)	<0.5		
Collimated Version			
Beam Waist Diameter <sup>2</sup> (1/e <sup>2</sup> , mm)	1.4	1.6	1.6
Beam Divergence <sup>2</sup> (1/e <sup>2</sup> , mrad)	1.3	1.5	1.5
Beam Waist Location <sup>2,3</sup> (m)	±0.25		
M <sup>2</sup>			
Horizontal	<6		
Vertical	<6		
Pointing Stability <sup>4</sup> (μrad/°C)	<5		
Noise			
10 Hz to 10 MHz (% rms)	<1		
10 Hz to 5 kHz (% peak-to-peak)	<10		
Polarization Ratio	Horizontal, >100:1		
Direct Modulation <sup>5</sup>	Available		

### Utility and Environmental Requirements

Operating Diode Current (A)	<22, <27	<24, <27	<30, <33
Maximum Diode Current (A)	<27, <32	<29, <32	<36, <40
Diode Voltage (V)	1.5 to 2.2		
Cooling Requirements <sup>6</sup>	Active cooling required		
Case Temperature (°C)	25 ±2		
Humidity	Non-condensing		
Dimensions (L x W x H)			
Laser Head	121 x 44 x 68 mm (4.75 x 1.73 x 2.68 in.)		
Weight			
Laser Head (g)	730 ±10		

<sup>1</sup> Optical parameters measured at the output plane of the laser head. Unless noted all parameters valid for the lifetime of the unit.

<sup>2</sup> Typical value.

<sup>3</sup> Measured from the output face, negative value corresponds to a location inside the head; positive outside.

<sup>4</sup> Measured at the output window; tolerance relative to the nominal center of the output window and perpendicular to the mounting plane.

<sup>5</sup> Theoretical limit is >1 MHz; actual performance will be limited by the diode-driver (not included).

<sup>6</sup> Air cooling available with appropriate heat sink and fans.

# Genesis Taipan-Series

## High-Power Optically Pumped Semiconductor Lasers (OPSL)

### Optical Specifications<sup>1</sup>

Genesis	Taipan 514-3000/5000	Taipan 532-3000/5000/8000	Taipan 532-10000
Wavelength (nm)	514 ±3	532 ±3	532 ±3
Output Power (mW)	3000, 5000	3000, 5000, 8000	10000
Spatial Mode	Multimode		
Bandwidth (nm)	<0.5		
Collimated Version			
Beam Waist Diameter <sup>2</sup> (1/e <sup>2</sup> , mm)	1.8		
Beam Divergence <sup>2</sup> (1/e <sup>2</sup> , mrad)	1.4		
Beam Waist Location <sup>2,3</sup> (m)	±0.25		
M <sup>2</sup>			
Horizontal	<6		
Vertical	<6		
Pointing Stability <sup>4</sup> (μrad/°C)	<5		
Noise			
10 Hz to 10 MHz (% rms)	<1		
10 Hz to 5 kHz (% peak-to-peak)	<10		
Polarization Ratio	Horizontal, >100:1		
Direct Modulation <sup>5</sup>	Available		

### Utility and Environmental Requirements

Operating Diode Current (A)	<30, <33	<30, <33, 38	<38
Maximum Diode Current (A)	<36, <40	<36, <40, 45	<45
Diode Voltage (V)	1.5 to 2.2		
Cooling Requirements <sup>6</sup>	Active cooling required		
Case Temperature (°C)	25 ±2	25 ±2	20 ±2
Humidity	Non-condensing		
Dimensions (L x W x H)			
Laser Head	121 x 44 x 68 mm (4.75 x 1.73 x 2.68 in.)		
Weight			
Laser Head (g)	730 ±10		

<sup>1</sup> Optical parameters measured at the output plane of the laser head. Unless noted all parameters valid for the lifetime of the unit.

<sup>2</sup> Typical value.

<sup>3</sup> Measured from the output face, negative value corresponds to a location inside the head; positive outside.

<sup>4</sup> Measured at the output window; tolerance relative to the nominal center of the output window and perpendicular to the mounting plane.

<sup>5</sup> Theoretical limit is >1 MHz; actual performance will be limited by the diode-driver (not included).

<sup>6</sup> Air cooling available with appropriate heat sink and fans.

# Genesis Taipan-Series

## High-Power Optically Pumped Semiconductor Lasers (OPSL)

### Optical Specifications<sup>1</sup>

Genesis	Taipan 561-2000	Taipan 577-3000/5000	Taipan 577-6000
Wavelength (nm)	561 ±3	577 ±3	577 ±3
Output Power (mW)	2000	3000, 5000	6000
Spatial Mode	Multimode		
Bandwidth (nm)	<0.5		
Collimated Version			
Beam Waist Diameter <sup>2</sup> (1/e <sup>2</sup> , mm)	1.8		
Beam Divergence <sup>2</sup> (1/e <sup>2</sup> , mrad)	1.4		
Beam Waist Location <sup>2,3</sup> (m)	±0.25		
M <sup>2</sup>			
Horizontal	<6		
Vertical	<6		
Pointing Stability <sup>4</sup> (μrad/°C)	<5		
Noise			
10 Hz to 10 MHz (% rms)	<1		
10 Hz to 5 kHz (% peak-to-peak)	<10		
Polarization Ratio	Horizontal, >100:1		
Direct Modulation <sup>5</sup>	Available		

### Utility and Environmental Requirements

Operating Diode Current (A)	<33	<30, <33	<35
Maximum Diode Current (A)	<40	<36, <40	<42
Diode Voltage (V)	1.5 to 2.2		
Cooling Requirements <sup>6</sup>	Active cooling required		
Case Temperature (°C)	25 ±2	25 ±2	20 ±2
Humidity	Non-condensing		
Dimensions (L x W x H)			
Laser Head	121 x 44 x 68 mm (4.75 x 1.73 x 2.68 in.)		
Weight			
Laser Head (g)	730 ±10		

<sup>1</sup> Optical parameters measured at the output plane of the laser head. Unless noted all parameters valid for the lifetime of the unit.

<sup>2</sup> Typical value.

<sup>3</sup> Measured from the output face, negative value corresponds to a location inside the head; positive outside.

<sup>4</sup> Measured at the output window; tolerance relative to the nominal center of the output window and perpendicular to the mounting plane.

<sup>5</sup> Theoretical limit is >1 MHz; actual performance will be limited by the diode-driver (not included).

<sup>6</sup> Air cooling available with appropriate heat sink and fans.

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 Genesis Taipan-Series lasers. For full details of this warranty coverage, please refer to the Service section at [www.Coherent.com](http://www.Coherent.com) or contact your local Sales or Service Representative.



[www.Coherent.com](http://www.Coherent.com)

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