

# AVIA 532-23

Solid-State, Q-Switched, Green Laser

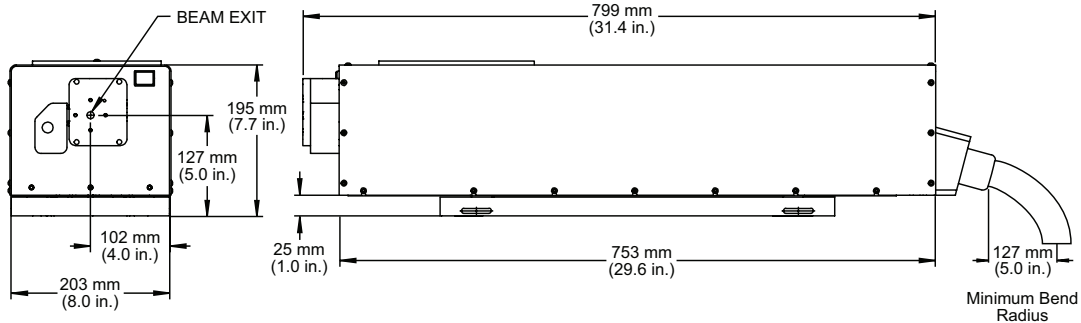
### Features

- 23W of 532 nm
- PermAlign™ solder bonded optics technology
- Ultra-long life Aluminum-Free Active Area (AAA™) laser diode material
- ThermEQ™ for uniform pulse energy across a burst of pulses
- PulseEQ™ for locked pulse energy across a range of pulse repetition rates
- PulseTrack™ for pulse energy control on-the-fly
- Excellent beam quality:  $M^2 < 1.3$
- Field replaceable pump diode modules
- Smart power supply with RS-232 interface

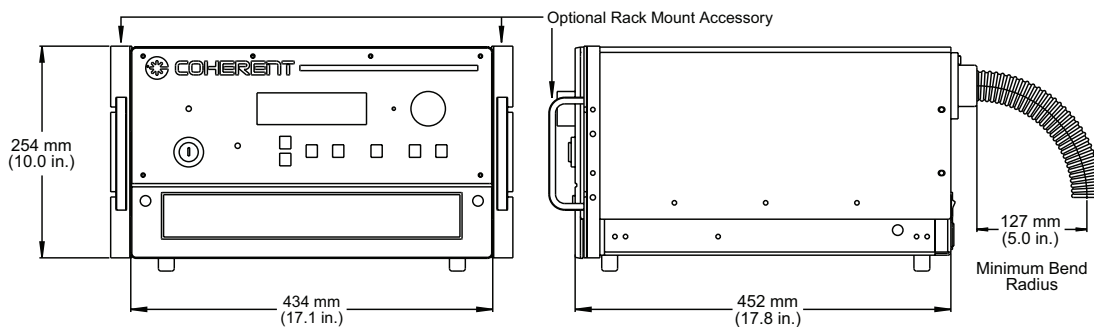


### Mechanical Specifications

#### Laser Head



#### Power Supply



**Superior Reliability & Performance**

# AVIA™ 532-23

## Solid-State, Q-Switched, Green Laser

### System Specifications<sup>1</sup>

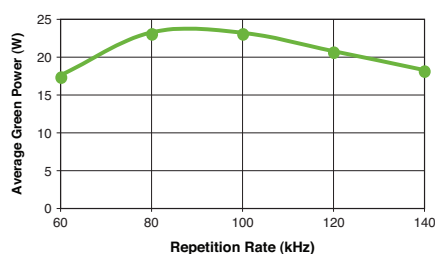
Wavelength (nm)	532
Output Power (W)	17.3 @ 60 kHz 23.0 @ 80 kHz 23.0 @ 100 kHz 20.6 @ 120 kHz 18.1 @ 140 kHz
Nominal Repetition Rate (kHz)	100
Beam Optimization (kHz)	100
Pulse Repetition Rate (kHz)	Single shot up to 300
Pulse-to-Pulse Energy Stability (rms 1σ)	<3% @ 100 kHz
Average Power Stability (rms 2σ)	<2% over 8 hours
Polarization Ratio	>100:1 Horizontal
Spatial Mode	TEM <sub>00</sub> (M <sup>2</sup> <1.3)
Beam Divergence Full Angle (mrad)	<0.4
Pulse Width (ns)	<40 @ 100 kHz
Beam Pointing Drift (μrad/°C)	<25
1/e <sup>2</sup> Beam Diameter (mm)	3.50 ±0.35
Beam Circularity	>85%
Warm-up Time (typical)	<15 minutes from standby mode <40 minutes from cold start
Bore-Sight Accuracy	±0.5 mm and ±5 mrad referenced to mounting features on laser head
RoHS Compliant	Yes
Warranty	24 months or 10,000 hours

### Utility and Environmental Requirements

Single Phase Operating Voltage	100 to 240 VAC auto ranging
Line Frequency	50 to 60 Hz auto ranging
Laser Power Consumption	600W typical; 1.2 kW maximum
Cooling Requirements	
Power Supply	Air-cooled (650W max. heat load)
Laser Head <sup>2</sup>	Water-cooled (300W max. heat load)
Ambient Temperature Range	+10 to +30°C (operating) -25 to +65°C (non-operating-short term)
Relative Humidity	10 to 80% (non-condensing)
Weight of Laser Head	26.5 kg (58.4 lbs.)
Weight of Power Supply	38.6 kg (85 lbs.)
Umbilical Length	3m (10 ft.)

<sup>1</sup> All the test conditions are @ 100 kHz with diode current set to achieve 23W, unless otherwise specified.  
<sup>2</sup> Recommended water temperature is 18 to 22°C with a flow rate of 5.7 to 7.6 l/min.

### AVIA 532-23 Average Power Curve



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 AVIA 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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