Continuous Wave 532 nm Diode-Pumped Solid State Laser

CDPS532S

Key Features

- Compact
- Robust design
- Low noise
- Excellent beam quality
- High reliability

Applications

- DNA sequencing
- Flow cytometry
- Capillary electrophoreses
- Instrumentation

The JDSU CDPS532S is a compact, continuous wave, 532 nm, diode-pumped solid-state laser. The system features a laser head and multi-function controller that requires a 5 V DC power source. It provides 10 and 20 mW of optical power with remarkable beam quality and low noise.

One of the key benefits of the CDPS532S is its compact and efficient design, which makes it easy to integrate into OEM instrumentation. The laser head does not incorporate beam shaping optics to allow for the smallest possible packaging. The CDPS532S laser controller is also very compact and efficient enough to forgo additional heat sinking.

The CDPS532S laser head features an improved cavity design for longer lifetime and reliability. Its mechanical design requires fewer parts and is therefore ideally suited for high volume manufacturing techniques. Overall, the CDPS532S laser's sophisticated new design results in exceptional optical performance from a rugged package with superior long term stability.

Easy to operate and to integrate, the controller interface provides several control functions, including interlock and diagnostics via transistor-to-transistor logic (TTL) and analog signals.

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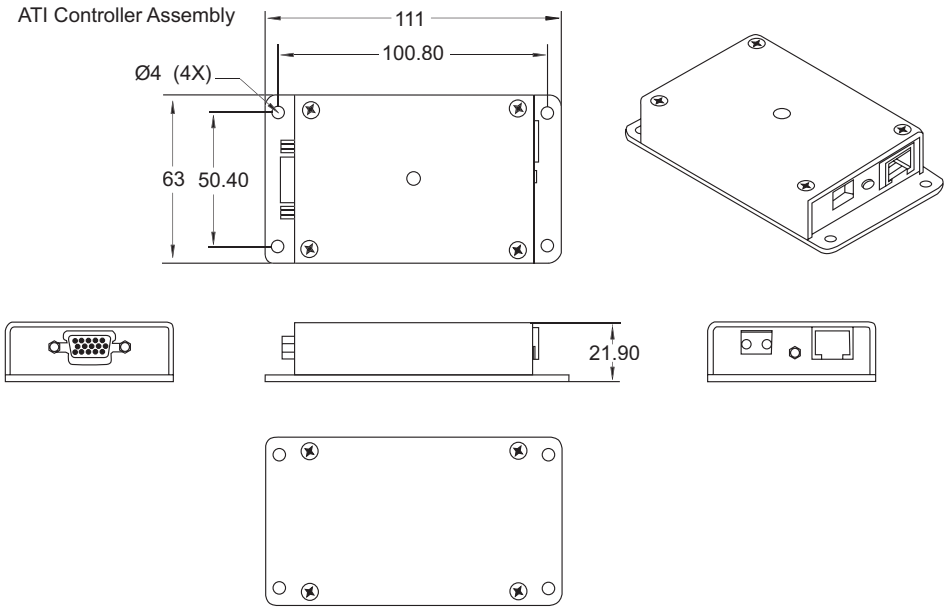
Dimensions Diagram: Controller

(Specifications in mm unless otherwise noted.)



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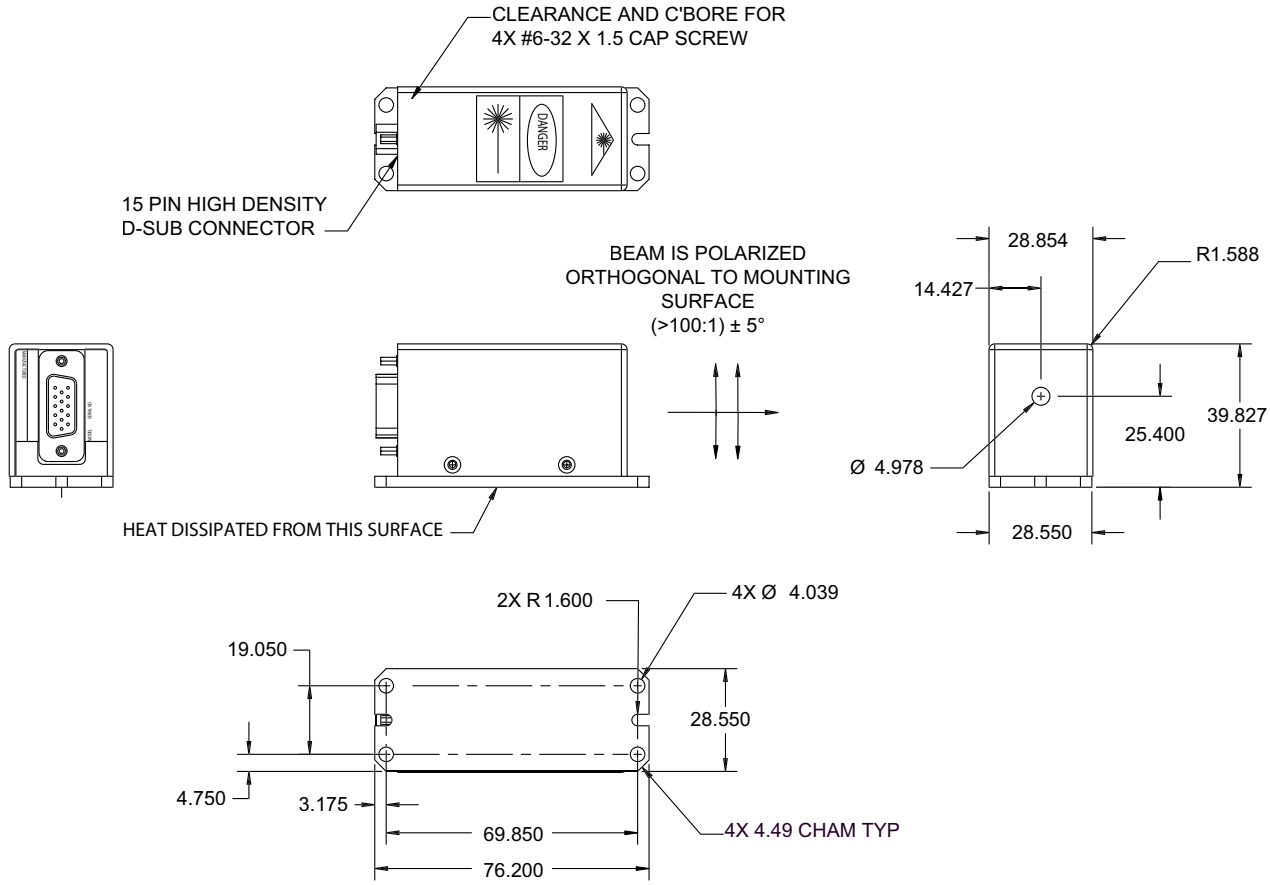
Dimensions Diagram: Laser Head

(Specifications in mm unless otherwise noted.)



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Specifications

Parameter	Specification
Optical	
Wavelength	532 ± 1 nm
Output power	
CDPS532S-010	10 mW
CDPS532S-020	20 mW
Power stability (1 hour, 25±3 °C)	<1.5%
Mode quality M^2	<1.3
Beam diameter ($1/e^2$ point, at a distance of 250 mm)	1.9±0.2 mm
Beam divergence (full angle)	<8 mrad
Polarization ratio (E-vector is vertical)	>100:1
Noise (rms, 20 Hz to 1 MHz)	<0.5%
Ellipticity	<10%
Pointing stability (after 2 hour warm-up, 25±3 °C)	±30 µrad
Static alignment	
Beam position	±1.0 mm
Beam angle	±1.5 °
Environmental	
Base plate temperature	
Operating	10 to 45 °C
Non-operating	0 to 60 °C
Shock (11 ms duration)	
Operating	1 g
Non-operating	25 g
Vibration (sinusoidal, 5 to 500 Hz)	
Operating	0.3 g
Non-operating	2 g
Heat sink requirements	
Surface flatness	25 µm
Torque specification	0.5 Nm

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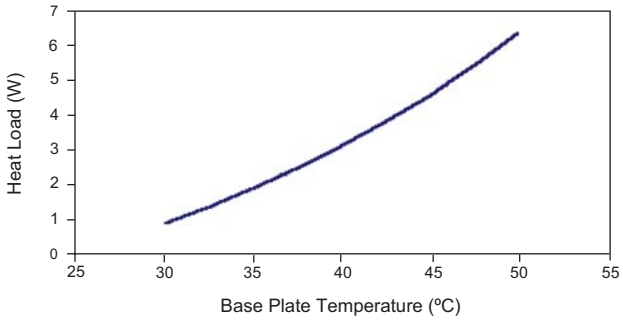
Cooling Requirements

Follow these cooling recommendations when integrating the laser into an original equipment manufacturer (OEM) system or application. The laser head is mounted to a heat sink for proper operation. The maximum base plate temperature is maintained below 45°C. The recommended heat sink capacity at a temperature of 45°C is 10 W. The required heat sink properties are estimated with this chart (right).



Ordering Information

For more information on this or other products and their availability, please contact your local JDSU account manager or JDSU directly at 1-800-498-JDSU (5378) in North America and +800-5378-JDSU worldwide or via e-mail at customer.service@jdsu.com.

Sample: CDPS532S-010

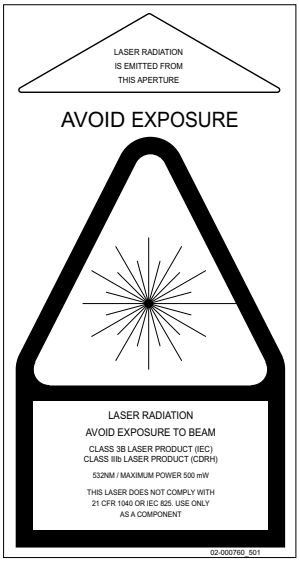
CDPS532S- □□□

Code	Output Power
010	10 mW
020	20 mW

Compliance with Regulatory Requirements

The CDPS532S laser system is an OEM version of a JDSU diode-pumped solid state laser. As such, it is intended only for integration into other equipment. The CDPS532S laser does not comply with Center for Devices and Radiological Health (CDRH) standards. The customer is responsible for CDRH certification of any system that incorporates the CDPS532S laser.

Warranty



JDSU diode-pumped solid state lasers are warranted to be free of defects in materials and workmanship for 12 months from the date of shipment, or 5,000 hours, whichever comes first.