

CHROMALASE 405TM

**405nm Laser Module
50mW Output Power
With
Integrated Drive,
Temperature Stabilization &
Control Electronics**



Performance

The Blue Sky Research CHROMALASE 405TM laser module features a high output power semiconductor 405nm diode laser with thermoelectric cooler (TEC) and integrated drive, and protection electronics in a compact, easy to use package. Standard features include a circular beam, variable optical power control, manual shutter, and 6.5/3.3 V DC operation. The CHROMALASE 405TM package measures 38mm x 158mm, and can be mounted to circular, square, or 44.5mm HeNe tube laser holders. The CHROMALASE 405TM requires no external power conditioning, control boxes, or fan cooler systems.

The CHROMALASE 405TM delivers a highly stable and reliable 50 mW of output power, from a single, self-contained assembly. BSR's proprietary μ lens technology is used to correct the high aspect ratio of a standard 405nm laser diode, circularize it, and increase its' usable 405nm power throughput in optical systems. Standard performance specifications of the CHROMALASE 405TM include; output power to 50 mW, small size, low optical RMS noise of less than 0.3%, low (< 4W) power consumption, and an excellent, 0.25 λ , low-aberration and diffraction limited beam. A simple manual knob on the rear of the module allows easy power adjustment for additional flexibility. BSR has also developed the ChromaLaseTM 635 for visible 635nm OEM and instrumentation applications..

Features

- * Variable power adjustment
- * Integrated drive and power electronics
- * < 4W Power consumption
- * Solid State Reliability
- * to 50mW of 405nm Pout
- * Power stability < 0.5%
- * < 0.3% Optical Noise (RMS)
- * Pointing stability < 30 μ rad

Applications

- * Analytical Instruments
- * Flow Cytometry
- * Entertainment
- * Biomedical & Medical
- * Basic R&D
- * Inspection & Metrology

Contact Information:

BLUE Sky Research * 1537 Centre Pointe Drive * Milpitas, CA 95035 * (408) 941-6068 * FAX (408)941- 6069
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CHROMALASE 405™

Product Specifications

Laser System Characteristics

Parameter	Specification
Wavelength	405 +10nm/ - 5nm
Output Power	to 50mW
Noise, RMS 20Hz to 20MHz	< 0.3%
Power Stability (2hrs)	< 0.5%
Power Stability (24hrs)	< 2.0%
Pointing Stability (8 hrs)	< 30 μ rad

Beam Characteristics

Parameter	Specification
Beam Diameter	1mm typical
Circularity	0.85 - 1.15
Bore site Accuracy	+/- 10mrad
Beam Divergence	<1.15mrad
Polarization	50:1, linear, aligned to mark
Aberrations	<0.25 λ

Electrical Specifications

Parameter	Specification
Input Voltage for laser	6.5Vdc (+ 10%)
Input Voltage for TEC	3.3Vdc (+ 10%)
Power Consumption	\leq 4W

Environmental Specifications

Parameter	Specification
Storage Temperature	-20 C to -60 C
Operating Temperature	10C to 40C
Operating Humidity Range	90 C (Non-Condensing)

Mechanical Specifications

Parameter	Specification
Package Dimensions	38mm x 158mm
Mounting	Circular & Square
Weight	275grams (0.61 lbs)

Options Available:

Electrical Connector	DB9
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Contact Information:

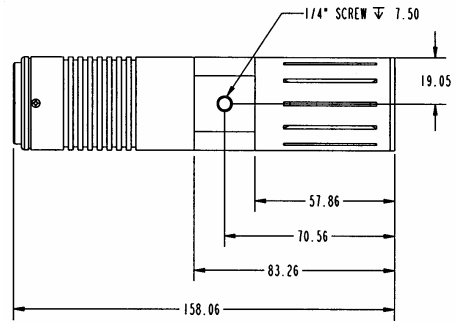
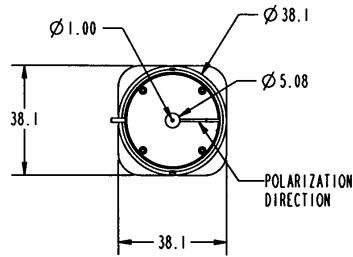
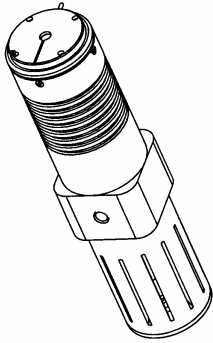
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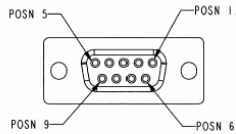


CHROMALASE 405™

Mechanical Layout



DB9 Connector Option



PIN	FUNCTION
1	+6.5V Laser Driver
2	NC
3	Analog Power Set/Mod
4	Power Set/Mod GND
5	GND (Laser Driver)
6	+3.3V TEC Driver
7	NC
8	NC
9	GND (TEC)

DB9 Connector on unit is female.

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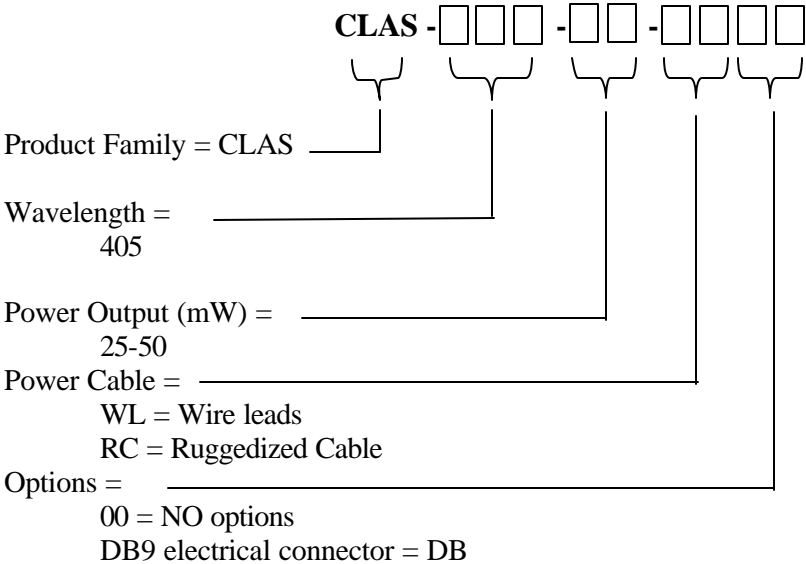
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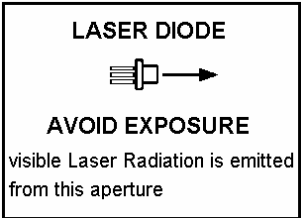


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Ordering Information



Example: CLAS-405-50-WL00, CHROMALASE model, 405nm, 50mW output power, wire power leads



This component does not comply with the Federal Regulations (21 CFR Subchapter1) as administered by the Center for Devices and Radiological health. Purchaser acknowledges that his/her products must comply with these regulations before they can be sold to a customer. The output light from laser diodes is harmful to a human body even if it is invisible. Avoid looking at the output light of a ChromaLase405 directly or even indirectly through a lens during operation. Observance of operation should be through a TV camera or related equipment. Refer to IEC 825-1 and 21 CFR 1040.10-1040.11 as a radiation safety standard for laser products.

Blue Sky Research follows a policy of continuous improvement. Specifications are subject to change without notice.

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