

CHROMALASE 635TM

**635nm Laser Module
25mW Output Power**

**With
Integrated Drive,
Temperature Stabilization
& Control Electronics**



Performance

The Blue Sky Research CHROMALASE 635TM laser module features a high output power semiconductor 635nm diode laser with thermoelectric cooler (TEC) and integrated drive, and protection electronics in a compact, easy to use package. MTTF of the Hitachi LD and the CHROMALASE 635TM assembly is estimated at +40Khrs. Standard features include integrated power supplies, variable optical power control, manual shutter, and 5V dc operation. The CHROMALASE 635TM package measures 38mm x 158mm, and can be mounted to circular, square, or 44.5mm HeNe tube laser holders. The CHROMALASE 635TM is a complete laser system, and requires no external power conditioning, control boxes, or fan cooler systems.

The CHROMALASE 635TM module's unique solid-state design has several advantages over traditional HeNe laser sources. The CHROMALASE 635TM delivers a highly stable and reliable 25mW of output power, from a single, self-contained assembly. With +40K hrs MTTF, high output power, small size, low optical noise, low (< 4W) power consumption, and excellent diffraction limited beam quality - the CHROMALASE 635TM obsoletes HeNe lasers for most applications. A simple manual knob on the rear of the module allows easy power adjustment for additional flexibility. Power output of 25mW is currently available, and BSR is developing versions at 405nm and 532nm in the same package.

Features

- * Variable power adjustment
- * Integrated drive and power electronics
- * < 4W Power consumption
- * Solid State Reliability, MTTF +40K hrs
- * to 25mW of 635nm Pout
- * Power stability < 0.5%
- * < 0.25% Optical Noise (RMS)
- * Pointing stability < 25 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
www.blueskyresearch.com * email: Sales @blueskyresearch.com

CHROMALASE 635TM Rev. 11/14/2004

**BLUE SKY
RESEARCH**

CHROMALASE 635™

Product Specifications

Laser System Characteristics

Parameter	Specification
Wavelength	635 +7nm/ - 2nm
Output Power	to 25mW
Noise, RMS 20Hz to 20MHz	< 0.25%
Power Stability (2hrs)	< 0.5%
Power Stability (24hrs)	< 1.0%
Pointing Stability	< 30µrad
MTTF (estimated)	+40,000 hrs

Beam Characteristics

Parameter	Specification
Beam Diameter	1mm typical
Circularity	0.85 - 1.15
Bore site Accuracy	+/- 15mrad
Beam Divergence	<1.15mrad
Polarization	100:1, linear, within 3 degrees
Aberrations	0.25λ

Electrical Specifications

Parameter	Specification
Input Voltage	5Vdc (+ 10%) and 3.3V (+/- 10%)
Power Consumption	≤ 0.6W (5V)
Power Consumption	< 3.3W (3.3V)

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
----------------------	-----

Contact Information:

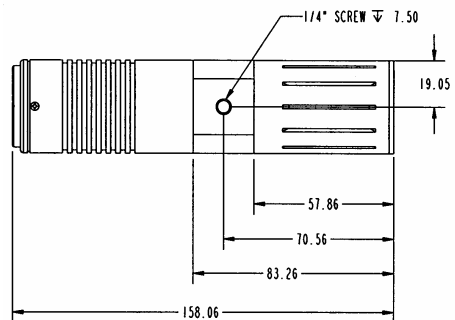
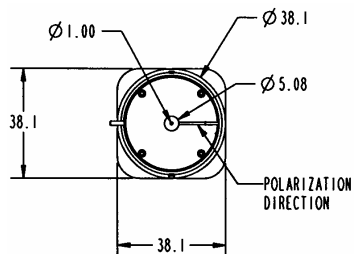
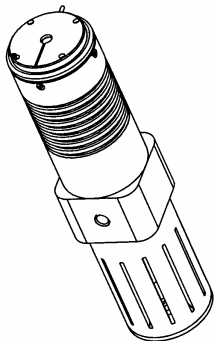
BLUE Sky Research * 1537 Centre Pointe Drive * Milpitas, CA 95035 * (408) 941-6068 * FAX (408)941 - 6069
www.blueskyresearch.com * email: Sales @blueskyresearch.com

CHROMALASE 635™ Rev. 11/14/2004

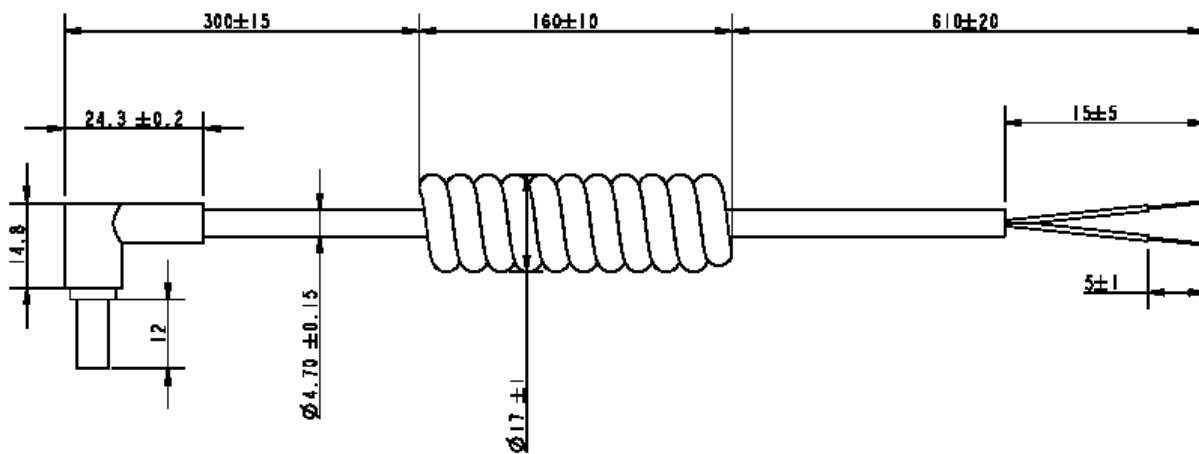


CHROMALASE 635™

Mechanical Layout



Rugged cable:



* Not to scale and center plug of connector is positive voltage.

Contact Information:

BLUE Sky Research * 1537 Centre Pointe Drive * Milpitas, CA 95035 * (408) 941-6068 * FAX (408)941 - 6069
www.blueskyresearch.com * email: Sales @blueskyresearch.com

CHROMALASE 635™ Rev. 11/14/2004

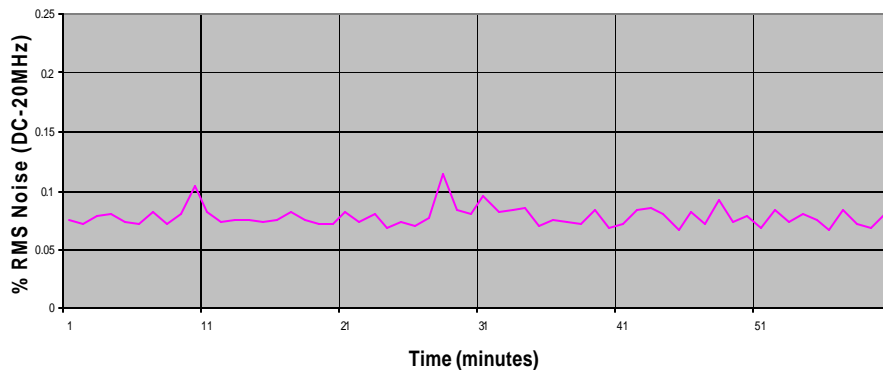
BLUE SKY
RESEARCH

CHROMALASE 635™

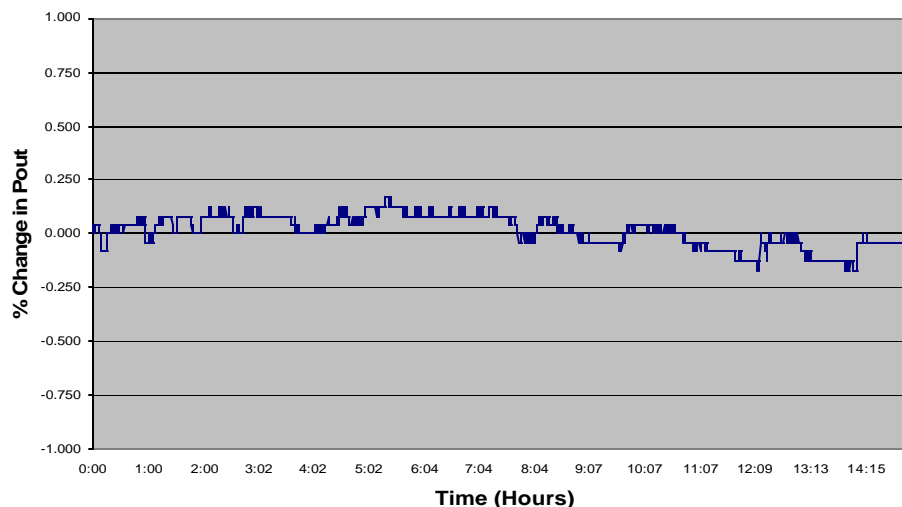
PIN	FUNCTION
1	5V (LD)
2	NC
3	V-SET
4	GND (Vset)
5	GND (LD)
6	3.3V (TEC)
7	NC
8	NC
9	GND (TEC)

Typical Performance Curves

ChromaLase 635 % RMS Noise vs. Time



ChromaLase 635 % Change Power Out vs. Time



Contact Information:

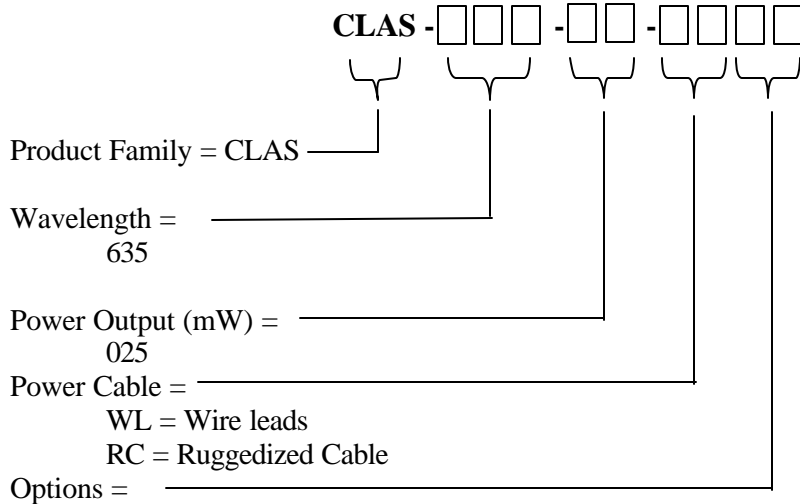
BLUE Sky Research * 1537 Centre Pointe Drive * Milpitas, CA 95035 * (408) 941-6068 * FAX (408)941 – 6069
www.blueskyresearch.com * email: Sales @blueskyresearch.com

CHROMALASE 635™ Rev. 11/14/2004



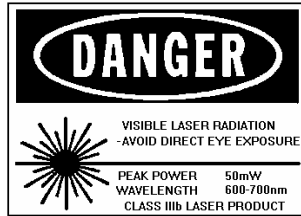
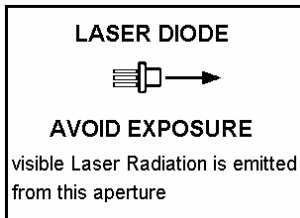
CHROMALASE 635™

Ordering Information



DB9 electrical connector = DB

Example: CLAS-635-25-WLAR, CHROMALASE model, 635nm, 25mW 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 ChromaLase635 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.

Contact Information:

BLUE Sky Research * 1537 Centre Pointe Drive * Milpitas, CA 95035 * (408) 941-6068 * FAX (408)941 - 6069
www.blueskyresearch.com * email: Sales @blueskyresearch.com

CHROMALASE 635™ Rev. 11/14/2004

