

BW Series

808/810 nm Fiber Coupled High Power Diode Laser Bars



The II-VI Laser Enterprise BW series products consist of a diode laser bar packaged in a watertight housing, efficiently coupled to a small-diameter fiber bundle. This diode laser bar is a linear array of many individual emitters, fabricated on a single monolithic substrate for low power degradation and high reliability.

BW diode lasers are coupled into a low-numerical aperture fiber bundle using proprietary lensing technology. The "bundle" construction — comprised of many single fibers — confines more power in a smaller cone angle to deliver a high intensity, high-brightness light source with very flexible delivery capabilities.

With a simple, compact, and rugged design, the BW series products require no user maintenance or special handling, lowering the cost of ownership. The BW series also offers a wide variety of packaging options with different bundle lengths, jacket materials, connector types, aiming fiber options, and photodiode options for maximum end-user flexibility. The watertight package also enables customers to run the laser in high-humidity environments with high reliability and long lifetimes.

Designed and built to meet specific customer requirements, BW diode lasers are built on the field-proven DCS heatsink platform that has demonstrated high reliability in thousands of hours of customer use. The BW series offers a highly uniform output beam with proven performance and reliability for demanding industrial and scientific applications.

Features:

- Up to 30 W from an 800 μm diameter fiber aperture
- Multiple wavelength ranges available from 800 nm to 815 nm for flexible usage
- Rugged construction for easy operation in industrial environments
- Expected lifetime of standard products >10,000 hours
- Watertight housing for increased reliability in high-humidity environments
- Passive cooling for low maintenance and cost-effective end products
- Neutral casing, bundle lengths, and jacket materials tailored to customer needs

Applications:

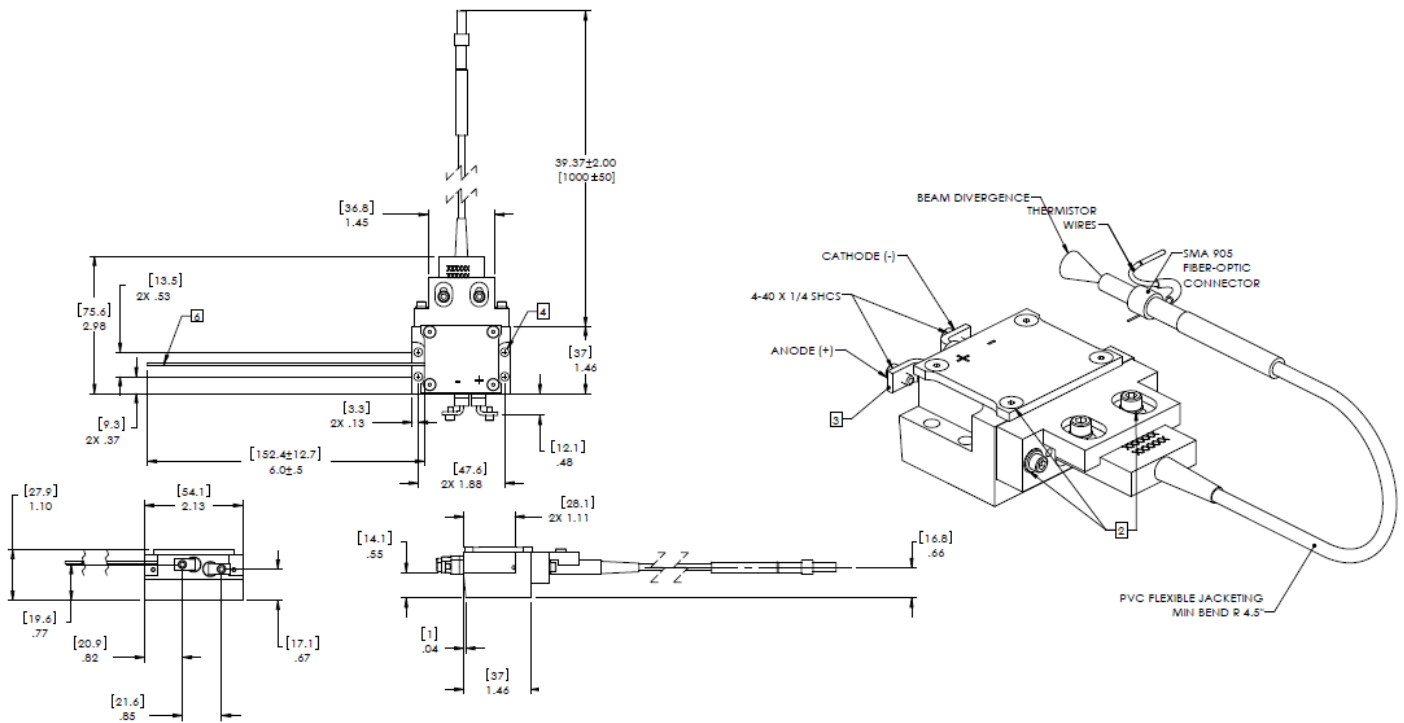
- Solid state laser pumping
- Printing/Reprographics
- Material processing
- Medical/Life and health sciences
- Defense and security
- Illumination

Output Characteristics	BWA0800-808-15-01	BWA0800-808-30-01
Wavelength ¹	808±3	808±3
Typical Spectral Width (FWHM)	<3 nm	<3 nm
Maximum Spectral Width (FWHM)	5 nm	5 nm
Output Power P _o ²	15 W	30 W
Typical Operating Current I _{op}	22 A	45 A
Maximum Operating Current I _{op}	26 A	55 A
Typical Threshold Current I _{th}	5 A	9 A
Maximum Threshold Current I _{th}	6 A	12 A
Typical wavelength temperature coefficient	0.20-0.30 nm/°C	0.20-0.30 nm/°C
Fiber Aperture Diameter ³	800 μm	800 μm
Number of Fibers in Bundle	19	19
General Specifications		
Optical		
Typical Conversion Efficiency	35% @ I _{op}	35% @ I _{op}
Typical Beam Divergence	90% of rated power within 0.12 NA	90% of rated power within 0.12 NA
Electrical		
Maximum Operating Voltage	2 V	2 V
Maximum Reverse Voltage	3 V	3 V
Maximum Negative Current Transient	25 μA	25 μA
Mechanical		
Housing Dimensions	See Drawing	See Drawing
Fiber Cable Length	1 m, PVC	1 m, PVC
Fiber Connector Type	SMA 905	SMA 905
Environmental		
Operating Temperature Range	20°C to 35°C	20°C to 35°C
Operating Humidity	Non-condensing	Non-condensing
Storage Temperature Range	-20°C to 50°C	-20°C to 50°C

Notes:

1. Centroid wavelength at 25°C, measured at the integrated thermistor
2. Guaranteed minimum optical output power
3. Other fiber types available

BWA Package (Dimensions in Inch [mm])



NOTES:

- 1 RECOMMEND MOUNTING TORQUE: 10 in-lb [1N]
- 2 INDICATOR PAINT, DESIGNATES PROHIBITED SERVICE THESE ARE NOT TO BE TAMPERED WITH
- 3 SHORTING CLIP MUST BE USED DURING ASSEMBLY AND STORAGE
- 4 MOUNTING SCREWS PROVIDED: 8-32 X 3/4" SS
5. VALUES SHOWN IN BRACKETS ARE METRIC AND
- 6 THERMISTOR WIRES 28 AWG STRANDED SILVER

Data Sheet



RoHS Compliance

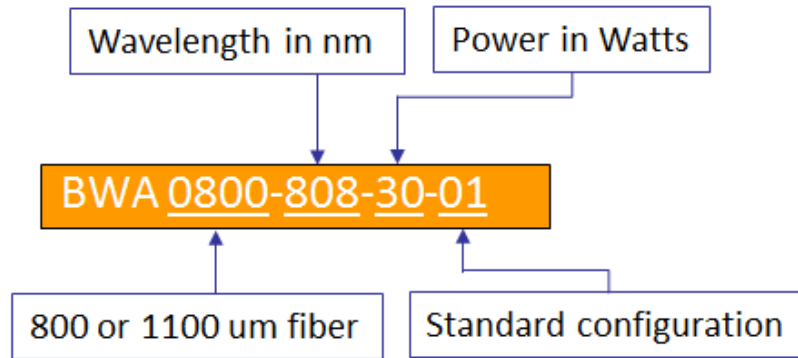


II-VI Laser Enterprise is fully committed to environment protection and sustainable development and has set in place a comprehensive program for removing polluting and hazardous substances from all of its products. The relevant evidence of RoHS compliance is held as part of our controlled documentation for each of our compliant products. RoHS compliance parts are available to order, please refer to the ordering information section for further details.

Ordering Information:

Please discuss with your local II-VI Laser Enterprise sales representatives on your application requirements and use conditions.

BW Series FC Module Part number Scheme



Contact Information

www.II-VI.com

Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by II-VI Laser Enterprise before they become applicable to any particular order or contract. In accordance with the II-VI policy of continuous improvement specifications may change without notice. Further details are available from any II-VI sales representative.



Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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