



## BCS Series

Semiconductor laser bars are linear arrays of high power laser emitters fabricated on a single, monolithic substrate. This configuration results in a very compact, high intensity, high power light source, useful for a number of industrial processing and medical tasks.

In addition to superior performance, our products are also designed and manufactured for maximum reliability. We are able to achieve high quality on a volume basis because of our total vertical integration within a single manufacturing facility. This gives us complete control over every aspect of our production process – from wafer processing through final packaging.

The standard products listed here are representative of our capabilities, however, the majority of our products are designed and built to meet specific customer requirements. We utilize a variety of materials, including phosphorous-based materials (more recently referred to as "Aluminum Free"), to provide the optimum combination of performance and price for each customer.

## Features:

- High brightness
- High reliability
- Available in volume

## Applications:

- Solid state laser pumping
- Graphic arts
- Illuminations
- Materials processing
- Medical

$P_o^{(1)}$ (W)	$I_{th}^{(2)}$ (A)	$I_{op}^{(3)}$ (A)	$\lambda_o^{(4)}$ (nm)	Part Number
20	$\leq 12$	$\leq 35$	808	BCS-808-20-01
			830	BCS-830-20-01
			915	BCS-915-20-01
			975	BCS-975-20-01
40	$\leq 15$	$\leq 60$	808	BCS-808-40-01
			915	BCS-915-40-01

**Notes:**

- (1)....  $P_o$  typical output power in cw regime
- (2)....  $I_{th}$  typical current threshold
- (3)....  $I_{op}$  typical operating current
- (4)....  $\lambda_o$  center wavelength @ 25°C case temperature, +/- 5nm tolerance.  
Typical wavelength temperature coefficient : 0.2-0.3 nm/°C

**Common Specifications:**

**Optical**

Spectral Width (FWHM)	<4nm
Typical Conversion Efficiency	< 40%
Polarization	TE
Beam Divergence (FWHM)	40°± x 12°// at max. power
Center Wavelength Tolerance	±5nm standard

**Electrical**

Operating Voltage	< 2 Volts
Reverse Voltage	< 3 Volts
Negative Current Transient	< 25µA

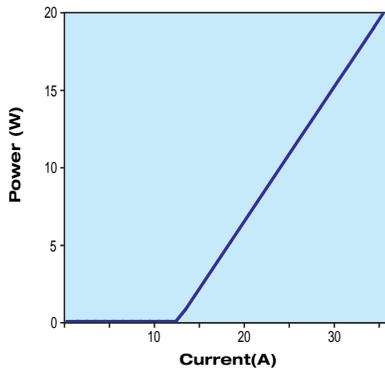
**Mechanical**

Monolithic Array Length	12.5 mm
Storage Temp Range	-30°C to 80°C
Dimensions	see figure

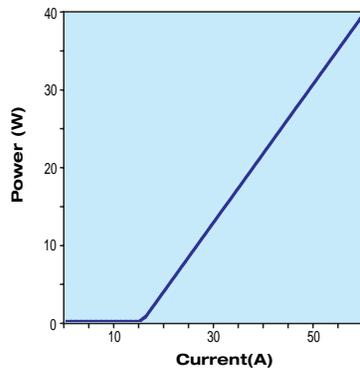
**Environmental**

Recommended Case Temp.	25°C
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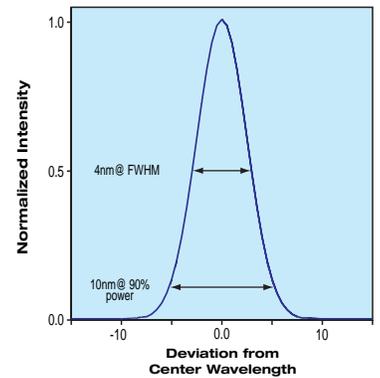
20W BCS series  
Power vs. Current(Typical)

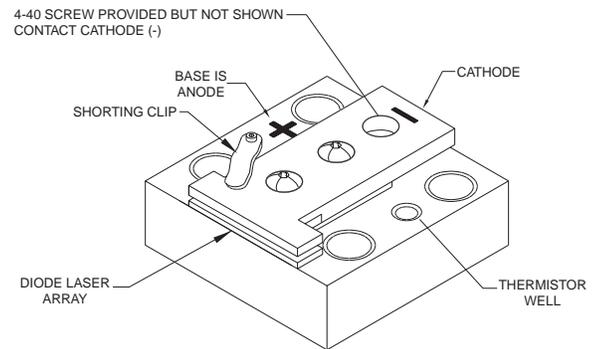
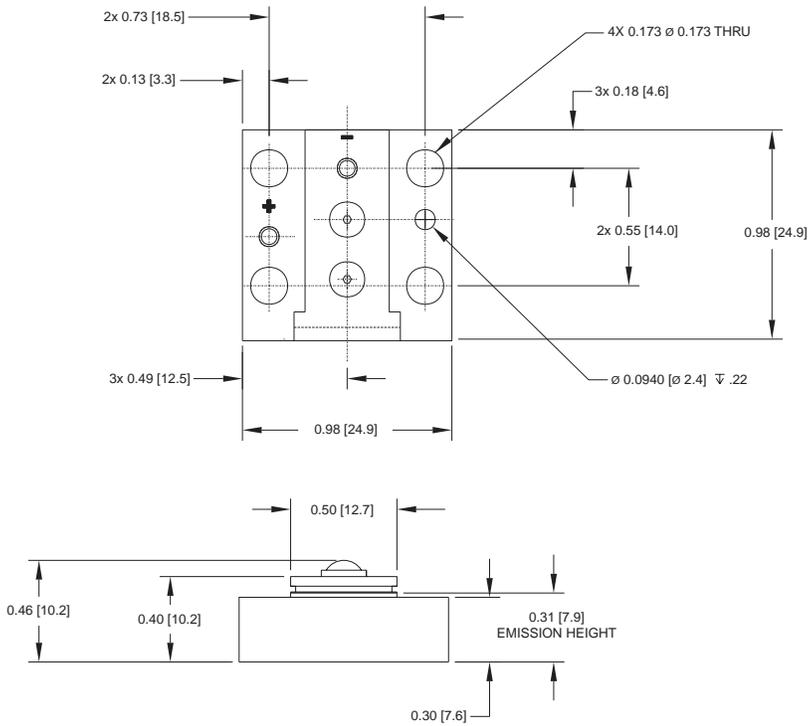


40W BCS series  
Power vs. Current(Typical)



Spectral Profile  
(Typical)





Not shown actual size - Dimensions in inches[mm]

Laser energy emitted from these products is invisible and harmful to the human eye. Avoid eye or skin exposure to direct or scattered radiation. Proper laser safety eyewear must be worn during operation. Use of controls, or adjustments or performance of procedures other than those specified may result in hazardous radiation exposure. Use of collimating optics may increase the radiation hazard of these products. Pursuant to the Health and Safety Act of 1968, Radiation Control sections 21 CFR 1040.10 & 1040.11, laser safety warning labels, compliant as of date of manufacture, are provided on shipping containers.

Information and specifications contained herein are deemed to be reliable and accurate. SPSL reserves the right to change, alter or modify the design and specifications of these products at any time without notice

**Spectra-Physics**  
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Model No. \_\_\_\_\_  
 Serial No. \_\_\_\_\_  
 Manufactured: \_\_\_\_\_  
 P.O. # \_\_\_\_\_

This product conforms to 21 CFR 1040.10 & 1040.11 at the date of manufacture.

Semiconductor Laser

**DANGER**

INVISIBLE LASER RADIATION  
 AVOID EYE OR SKIN EXPOSURE TO  
 DIRECT OR SCATTERED RADIATION

GaAlAs Diode 200W max at 780-1000nm

AVOID EXPOSURE  
 Invisible laser  
 radiation is emitted  
 from this  
 aperture.

SPSL-120 CLASS IV LASER PRODUCT