

**BROAD AREA LASER**

GaAs Semiconductor Laser Diode  
Single Emitter Structure



## PRELIMINARY SPECIFICATION

## BA Laser

**EYP-BAL-0808-08000-4020-CMT04-0000****General Product Information**

Product	Application
808 nm Broad Area Laser	Material Processing
mounted on C-Mount	Medical

**Absolute Maximum Ratings**

	Symbol	Unit	min	typ	max
Storage Temperature	$T_S$	°C	-40		85
Operational Temperature at Case	$T_C$	°C	5		40
Forward Current	$I_F$	A			13
Reverse Voltage	$V_R$	V			0
Output Power	$P_{opt}$	W			9

**Measurement Conditions / Comments**

non condensing

non condensing

Stress in excess of the Absolute Maximum Ratings can cause permanent damage to the device. Operation at the Absolute Maximum Rating for extended periods of time can adversely affect the device reliability and may lead to reduced operational life.

**Recommended Operational Conditions**

	Symbol	Unit	min	typ	max
Operational Temperature at Case	$T_C$	°C	15		30
Forward Current	$I_F$	A			12
Output Power	$P_{opt}$	W			8

**Measurement Conditions / Comments**

measured at position A (see drawing on p. 3)

**Characteristics at  $T_{amb}$  25 °C at Begin Of Life**

Parameter	Symbol	Unit	min	typ	max
Center Wavelength	$\lambda_C$	nm	793	808	823
Spectral Width (FWHM)	$\Delta\lambda$	nm			6
Temperature Coefficient of Wavelength	$d\lambda / dT$	nm / K		0.4	
Output Power @ $I_F = 12$ A	$P_{opt}$	W	8		
Slope Efficiency	$\eta_d$	W / A	0.7	0.9	
Threshold Current	$I_{th}$	A			2.5

**Measurement Conditions / Comments**

see images on page 4

total output measured with integrating sphere

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RWE/RWL



BAL



DFB/DBR



TPL/TPA

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**EYP-BAL-0808-08000-4020-CMT04-0000****Characteristics at  $T_{amb}$  25 °C at Begin Of Life**

Parameter	Symbol	Unit	min	typ	max
Operational Current @ $P_{opt} = 8$ W	$I_{op}$	A			12
Stripe Width	$W_s$	$\mu\text{m}$		200	
Cavity Length	L	$\mu\text{m}$		4000	
Divergence parallel (FWHM)	$\Theta_{  }$	$^{\circ}$		10	
Divergence perpendicular (FWHM)	$\Theta_{\perp}$	$^{\circ}$		30	
Spectral Mode (longitudinal)				Multi Mode	
Polarization				TM	

## Measurement Conditions / Comments

Polarization in perpendicular plane

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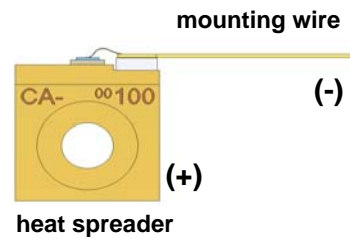
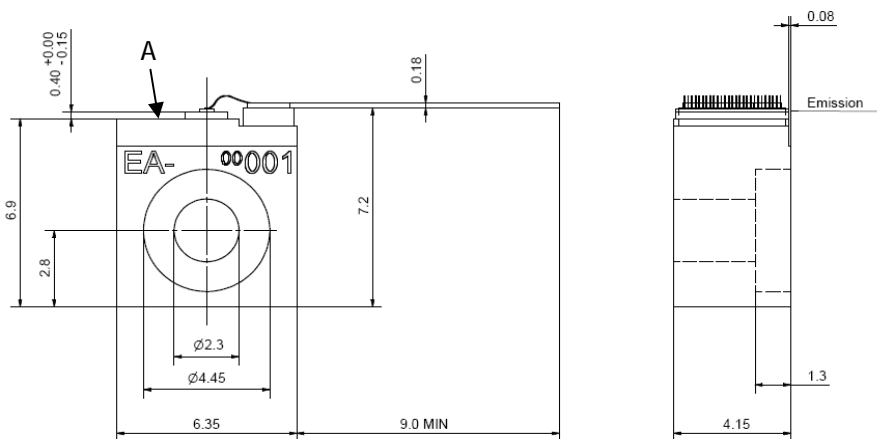
## BA Laser

**EYP-BAL-0808-08000-4020-CMT04-0000****Package Dimensions**

	Symbol	Unit	min	typ	max
Emission Plane	l	mm	7.05	7.20	7.35
C-Mount Thickness	d	mm		4	

**Package Pinout**

Cathode (-)	Mounting Wire
Anode (+)	Housing

**Package Drawings**

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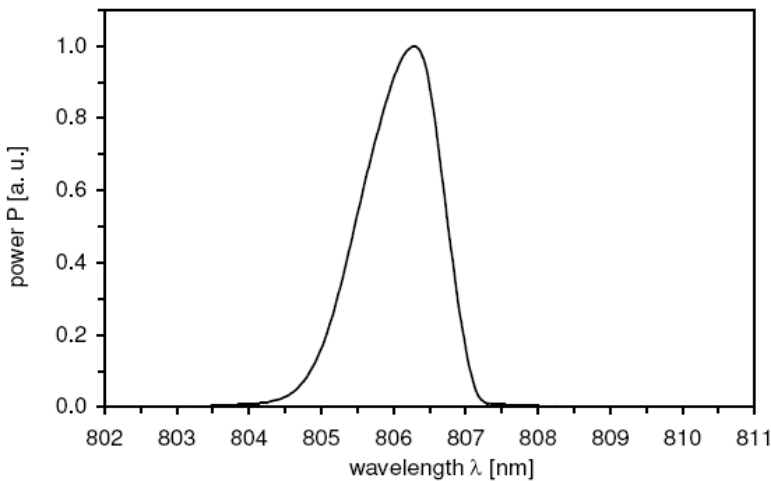


## PRELIMINARY SPECIFICATION

## BA Laser

**EYP-BAL-0808-08000-4020-CMT04-0000****Typical Measurement Results**

Spectrum at Specified Optical Output Power



Performance figures, data and any illustrative material provided in this specification are typical and must be specifically confirmed in writing by eagleyard Photonics before they become applicable to any particular order or contract. In accordance with the eagleyard Photonics policy of continuous improvement specifications may change without notice.

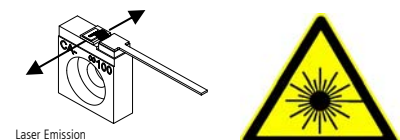
**Unpacking, Installation and Laser Safety**

Unpacking the laser diodes should only be done at electrostatic safe workstations (EPA). Though protection against electro static discharge (ESD) is implemented in the laser package, charges may occur at surfaces. Please store this product in its original package at a dry, clean place until final use. During device installation, ESD protection has to be maintained.

The BAL diode type is known to be sensitive against thermal stress. Operating at moderate temperatures on proper heat sinks will contribute to a long lifetime of the diode.

The laser emission from this diode is close to the invisible infrared region of the electromagnetic spectrum. Avoid direct and/or indirect exposure to the free running beam. Collimating the free running beam with optics as common in optical instruments will increase threat to the human eye.

Each laser diode will come with an individual test protocol verifying the parameters given in this document.



Laser Emission



Complies with 21 CFR 1040.10 and 1040.40



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