BROAD AREA LASER

GaAs Semiconductor Laser Diode
Single Emitter Structure

RWE / RWL BAL DFB / DBR TPL / TPA

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	Measurement Conditions / Comments
Storage Temperature	T_S	°C	-40		85	non condensing
Operational Temperature at Case	T_C	°C	5		40	non condensing
Forward Current	I_F	A			13	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 realibility and may lead to reduced operational life.
Reverse Voltage	V_R	V			0	
Output Power	P_{opt}	W			9	

Recommended Operational Conditions

	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Operational Temperature at Case	T_C	°C	15		30	measured at position A (see drawing on p. 3)
Forward Current	I_F	A			12	
Output Power	P_{opt}	W			8	

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

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Center Wavelength	λ_C	nm	793	808	823	see images on page 4
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			total output measured with integrating sphere
Slope Efficiency	η_d	W / A	0.7	0.9		
Threshold Current	I_{th}	A			2.5	

PRELIMINARY SPECIFICATION

BA Laser

EYP-BAL-0808-08000-4020-CMT04-0000

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

Parameter	Symbol	Unit	min	typ	max	Measurement Conditions / Comments
Operational Current @ P_{opt} = 8 W	I_{op}	A			12	
Stripe Width	W_s	µm		200		
Cavity Length	L	µm		4000		
Divergence parallel (FWHM)	$\Theta_{\|\|}$	°		10		
Divergence perpendicular (FWHM)	$\Theta_{\perp}$	°		30		
Spectral Mode (longitudinal)				Multi Mode		
Polarization				TM		Polarization in perpendicular plane

BROAD AREA LASER

GaAs Semiconductor Laser Diode
Single Emitter Structure

RWE / RWL BAL DFB / DBR TPL / TPA

PRELIMINARY SPECIFICATION

BA Laser

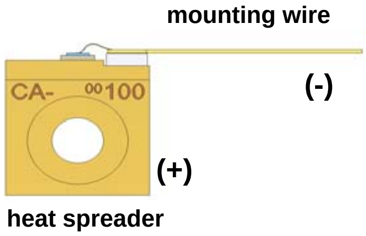
EYP-BAL-0808-08000-4020-CMT04-0000

Package Dimensions

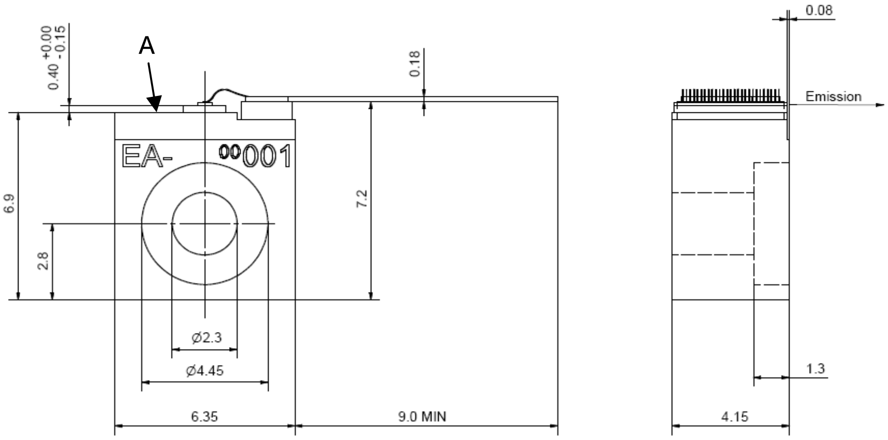
	Symbol	Unit	min	typ	max
Emission Plane	l	mm	7.05	7.20	7.35
C-Mount Thickness	d	mm		4	

Package Pinout

Cathode (-)	Mounting Wire
Anode (+)	Housing



Package Drawings



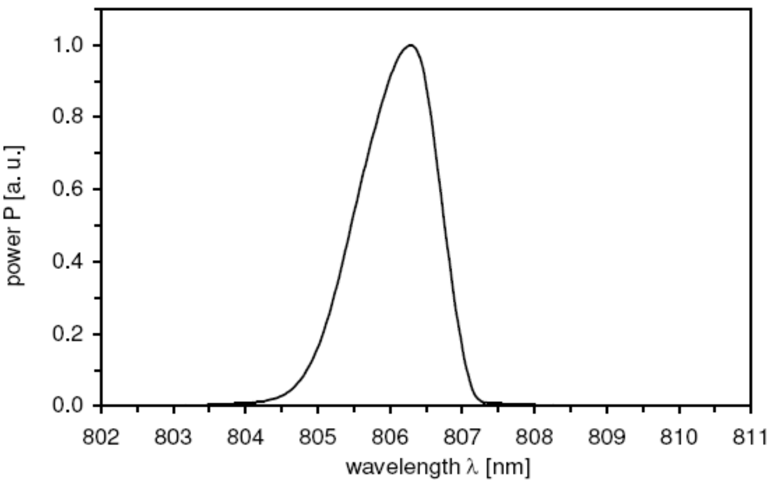
PRELIMINARY SPECIFICATION

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.

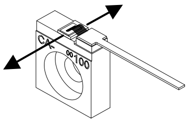
Unpacking, Installation and Laser Safety

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.

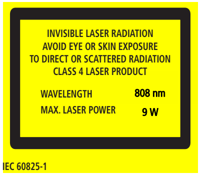
The BAL diode type is known to be sensitive against thermal stress. Operating at moderate temperatures on propper heat sinks willl contribute to a long lifetime of the diode.

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 thread to the human eye.

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



Laser Emission



INVISIBLE LASER RADIATION
AVOID EYE OR SKIN EXPOSURE
TO DIRECT OR SCATTERED RADIATION
CLASS 4 LASER PRODUCT

WAVELENGTH 808 nm
MAX. LASER POWER 9 W

IEC 60825-1

DANGER

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

GaAs SEMICONDUCTOR LASER DIODE
9 W MAX OUTPUT AT 808 nm
CLASS IV LASER PRODUCT

Complies with 21 CFR 1040.10 and 1040.40