


LBA-02 806nm Macrochannel Cooler Based Lateral Laser Diode Bar Arrays

LBAxxxC-806-02

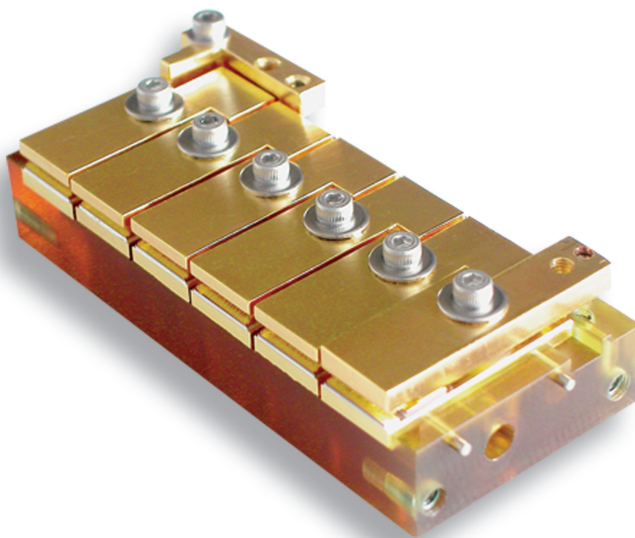
The Bookham LBA-02 macrochannel cooler based lateral laser diode bar array series has been designed to provide the high output power and high reliability required for side pumping of Nd:YAG solid-state lasers. The proprietary E2 front mirror passivation process, developed at our Zurich site, prevents Catastrophic Optical Damage (COD) to the laser diode facet even at extremely high output powers. The laser diode bars are mounted on an expansion matched CuW submount onto a water-cooled macrochannel package providing very high reliability in CW and pulsed (1-Hz type) applications.

Features:

- Horizontally arranged laser diode bars
- Active macrochannel cooler (water-cooled)
- 20W operating power per bar
- Highly reliable single quantum well MBE structure
- Telecom-grade AuSn mounting technology
- Custom assembly options available
- RoHS compliant 

Applications:

- Solid-state laser pumping
- Direct applications such as material processing
- Illumination



Characteristics

Parameter	Symbol	Typical	Unit
CW Output Power LBA60W LBA120W LBA140W	P_{op}	60 120 140	W
Center Wavelength [1]	λ_c	806 ± 3	nm
Spectral Width (FWHM)	$\Delta\lambda$	3	nm
Beam Divergence Parallel to Junction Perpendicular to Junction	$\theta_{//}$ θ_{\perp}	10 34	deg
Polarization	-	TE	
Slope Efficiency	$\eta_D = P_{op} / (I_{op} - I_{th})$	1.1	W/A
Conversion Efficiency	$H = P_{op} / (V_{op} \times I_{op})$	45	%
Operating Current	I_{op}	<30	A
Operating Voltage per Bar	V_{op}	2	V
Operating Temperature	T_{op}	25 ± 5	°C
Water Flow	Q_w	1	l/min
Differential Pressure Drop per Bar	P_w	0.1	bar

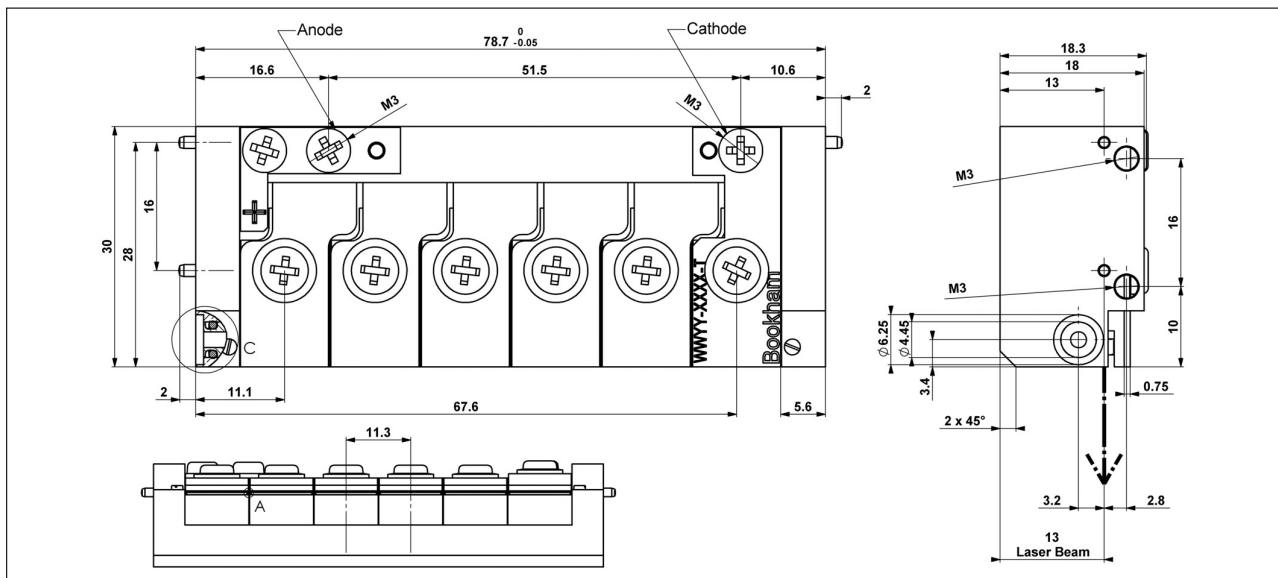
[1] Wavelength window / extended range available on request (780-1060nm).

For pumping applications further bins in wavelength and / or in operating current may be offered.

Dimensions

Dimensions	LBA060	LBA120	LBA140	Unit
Number of Bars	3	6	7	
Length	56.9	78.7	90.5	mm
Width	35	35	35	mm
Height	20.5	20.5	20.5	mm
Electrical Connection	Screws M3 x 5 both (+) and (-) polarity			mm
Coolant Connection	O-Rings 5 x 1			mm
Water Conductivity	5 - 8			$\mu\text{S/cm}$
Water Filtering	Filters for $\varnothing 15\text{mm}$ particles			-
Materials recommended	Copper, Stainless Steel, Plastic – No Brass, No Nickel in the cooling circuit			

Technical Drawing for LBA120C-806-02 (mm) (Drawings for other configurations upon request)



RoHS Compliance



Bookham 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:

LBA060C-806-02	60W 806nm Macrochannel Cooler Based Lateral Laser Diode Bar Array
LBA120C-806-02	120W 806nm Macrochannel Cooler Based Lateral Laser Diode Bar Array
LBA140C-806-02	140W 806nm Macrochannel Cooler Based Lateral Laser Diode Bar Array

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REFERENCE IEC 60825-Edition 1.2



This product complies with 21CFR 1040.10

