



LBA-02 806nm Series High Power Laser Bar Array Macrochannel Cooler Based

LBA060C-806-02

LBA120C-806-02

LBA140C-806-02

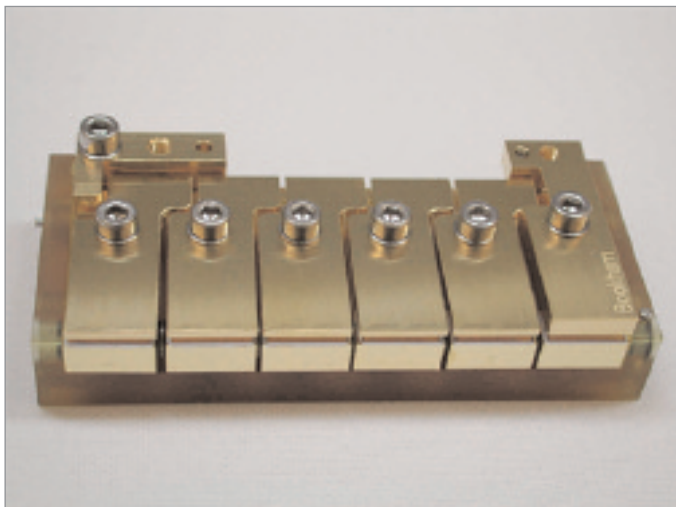
The Bookham LBA-02 lateral laser diode bar array on macrochannel cooler series has been designed to provide the high output power and high reliability required for side pumping of Nd:YAG solid-state lasers. The proprietary E2 front mirror passivation process, developed at our Zurich site, prevents Catastrophic 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 microchannel 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 Packing options available
- Also available in the wavelength range 780-1060nm

Applications

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



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Characteristics

Parameter	Symbol	Typical	Unit
CW Output Power			
LBA060	P_{opt}	60	W
LBA120	P_{opt}	120	W
LBA140	P_{opt}	140	W
Central Wavelength 1)	λ_c	808 ± 3	nm
Spectral Width	$\Delta\lambda$	3.5	nm
Beam Divergence (FWHM)			
Parallel to junction	$\theta_{//}$	10	deg
Perpendicular to junction	$\theta_{\perp}$	36	deg
Polarization	-	TE	
Slope Efficiency	$\eta_D = P_{opt}/(I_{op} - I_{thr})$	1.1	W/A
Conversion Efficiency	$H = P_{opt}/(V_{op} \times I_{op})$	45	%
Operating Current	I_{op}	<30	A
Operating Voltage per bar	V_{op}	2.1	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

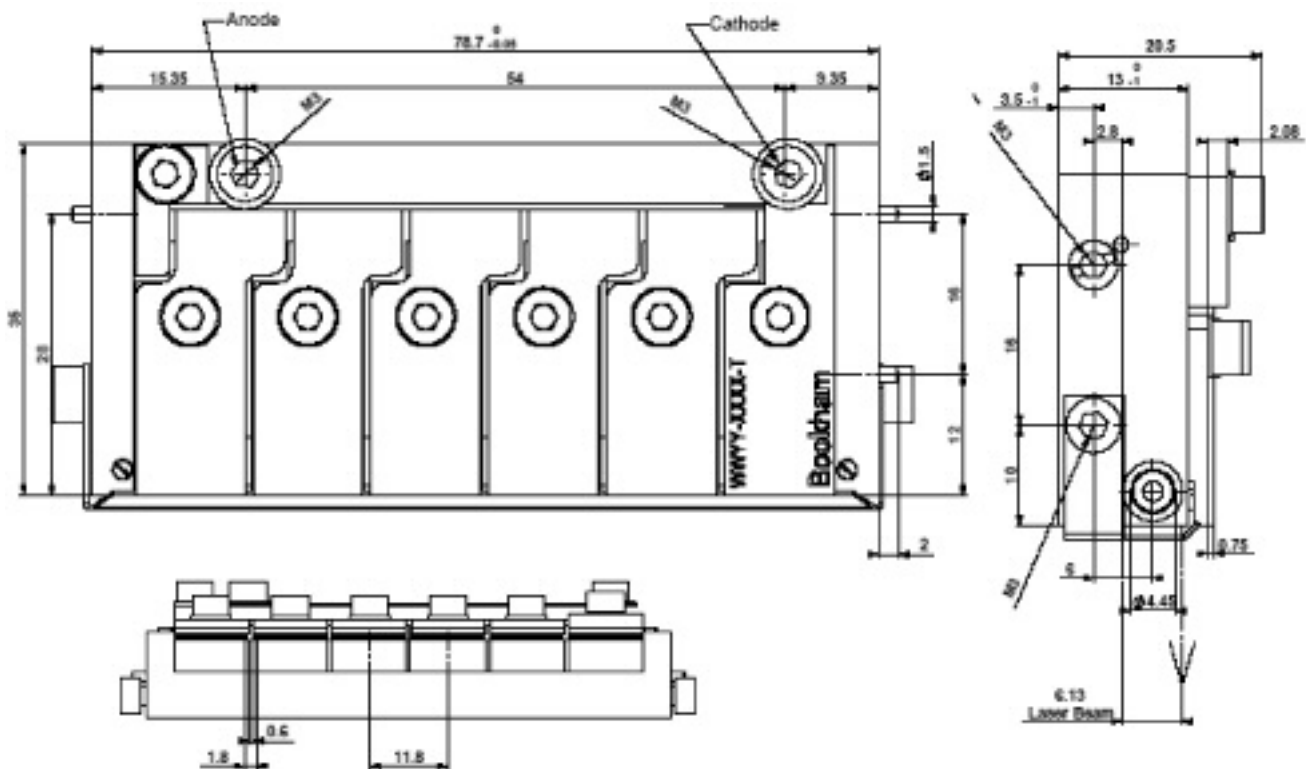
1) Wavelength window / extended range available on request (780-1060nm)

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

Bar 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	20.2	20.5	20.5	mm
Electrical Connection	Screws M3 x 5 both for (+) and (-) polarity			mm
Coolant Connection	O-Rings 5 x 1			mm
Water Conductivity	5 - 8			$\mu\text{S/cm}$
Water Filtering	Filters for $\varnothing 10\text{-}15\text{mm}$ particles			-
Materials recommended in the cooling circuit	Copper, Stainless Steel, Plastic - No Brass, No Nickel			

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



Ordering Information

LBA060C-806-02	60W	806nm macrochannel cooler based Lateral Diode Laser Bar Array
LBA120C-806-02	120W	806nm macrochannel cooler based Lateral Diode Laser Bar Array
LBA140C-806-02	140W	806nm macrochannel cooler based Lateral Diode Laser Bar Array

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REFERENCE IEC 60825-1 Edition 1.2



THIS PRODUCT COMPLIES
WITH 21CFR 1040.10

ISO 9001:2000
Certified



FM 68159

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