Preliminary

80W 9xxnm 30% Fill Factor High Power Laser Diode Bar on Passive Cu Block Cooler

BPC80C-9xx-01

The Bookham BPC80C-9xx-01 30% fill factor laser diode bar on passive cooler series has been designed to provide the increased brightness and reliability required for collimated pumping of next generation solid-state lasers and direct applications. 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 Cu block package providing very high reliability in CW and pulsed (1-Hz type) applications.

Features:

- Mounted 10mm x 2.4mm laser diode bar
- Passive 1" x 1" Cu block cooler
- 30% fill factor (150µm emitter / 500µm pitch)
- 80W operating power
- Highly reliable single quantum well MBE structure
- Telecom-grade AuSn mounting technology
- Standard wavelengths at 915nm, 940nm, and 980nm (others available on request)
- RoHS compliant

Applications:

- Collimated solid-state laser pumping
- Direct applications such as material processing
- Printing
- Medical



Characteristics

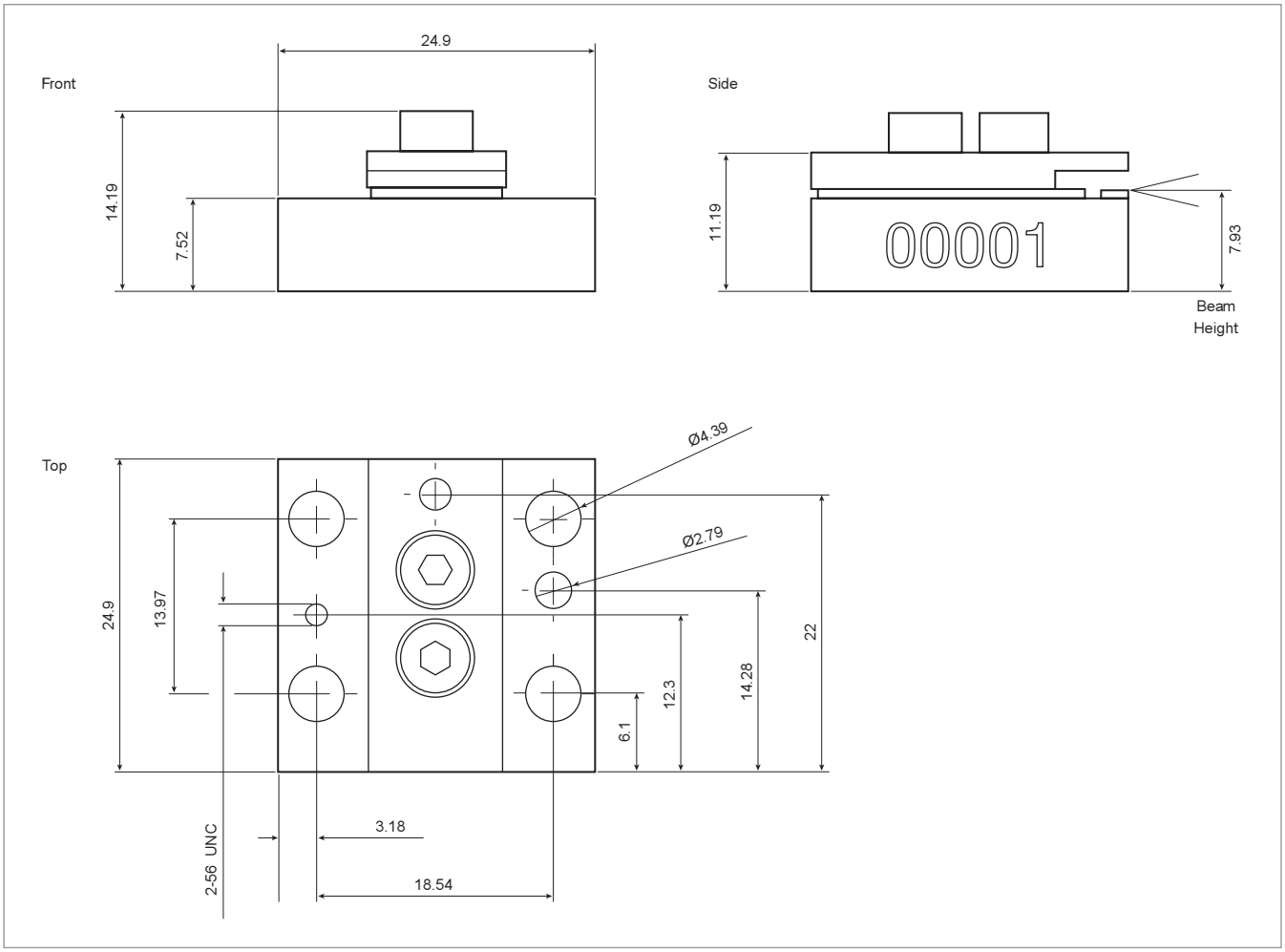
Parameter	Symbol	Typical	Unit
CW Output Power	P_{op}	80	W
Center Wavelength [1] BPC80C-915-01 BPC80C-940-01 BPC80C-980-01	 λ_{c915} λ_{c940} λ_{c980}	 915 ± 10 940 ± 10 980 ± 10	nm
Spectral Width (FWHM)	$\Delta\lambda$	3	nm
Wavelength Shift with Temperature	$d\lambda_c/dT_{op}$	0.3	nm/°C
Beam Divergence Parallel to Junction (90% of Power) Perpendicular to Junction (FWHM) Perpendicular to Junction (90% of Power)	 $\theta_{//}$ $\theta_{\perp}$ $\theta_{\perp}$	 7 26 60	deg
Polarization	–	TE	–
Threshold Current	I_{th}	8	A
Slope Efficiency	$\eta_D=P_{op}/(I_{op}-I_{th})$	1	W/A
Conversion Efficiency	$H=P_{op}/(V_{op}\times I_{op})$	60	%
Series Resistance	R_s	5	mΩ
Operating Current	I_{op}	85	A
Operating Voltage	V_{op}	1.5	V
Operating Temperature	T_{op}	25 ± 5	°C

[1] Reduced wavelength window / extended range available on request (900-1060nm).

Bar Dimensions

Parameter	Symbol	Typical	Unit
Bar Width	b	10	mm
Resonator Length	l	2.4	mm
Number of Emitters	n	19	–
Emitter Spacing	p	500	µm
Emission Width	w	150	µm
Fill Factor	f	30	%

Passive Cu Block Cooler Dimensions (mm)



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:

BPC80C-915-01	80W 915nm 30% Fill Factor Laser Diode Bar on Passive Cu Block Cooler
BPC80C-940-01	80W 940nm 30% Fill Factor Laser Diode Bar on Passive Cu Block Cooler
BPC80C-980-01	80W 980nm 30% Fill Factor Laser Diode Bar on Passive Cu Block Cooler

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Important Notice

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by Bookham before they become applicable to any particular order or contract. In accordance with the Bookham policy of continuous improvement specifications may change without notice. The publication of information in this data sheet does not imply freedom from patent or other protective rights of Bookham or others. Further details are available from any Bookham sales representative.

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

REFERENCE IEC 60825-Edition 1.2

DANGER

THIS PRODUCT COMPLIES WITH 21CFR 1040.10

ISO 9001:2000 Certified

FM 68159

CAUTION STATIC SENSITIVE DEVICE OBSERVE PRECAUTIONS

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