40W / 30W 980nm High Brightness Single-Mode Laser Diode Bar on Passive Cu Block Cooler

SPCxxC-980-01

The Bookham SPCxxC-980-01 high brightness single-mode laser diode bar on passive cooler series has been designed to provide the highest brightness and reliability required for collimated fiber laser pumping 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 3.6mm laser diode bar
- Passive 1" x 1" Cu block cooler
- High brightness single-mode emitter array laser (SEAL) diode bar
- Low fill factor narrow stripe emitter at 200µm pitch
- 40W / 30W operating power
- Highly reliable single quantum well MBE structure
- Telecom grade AuSn mounting technology
- Standard wavelength at 980nm (others available on request)
- RoHS compliant

Applications:

- High brightness fiber laser pumping
- Direct applications such as material processing
- Printing
- Medical

Characteristics

Parameter	Symbol	Typical	Unit
CW Output Power [1] SPC40C-980-01 SPC30C-980-01	P_{op}	 40 30	W
Center Wavelength [2]	λ_{c980}	980 ± 10	nm
Spectral Width	$\Delta\lambda$	10	nm
Wavelength Shift with Temperature	$d\lambda_c/dT_{op}$	0.3	nm/°C
Beam Divergence (FWHM) Parallel to Junction Perpendicular to Junction	 $\theta_{//}$ $\theta_{\perp}$	 7 22	deg
Polarization	–	TE	
Threshold Current	I_{th}	1.6	A
Slope Efficiency	$\eta_D=P_{op}/(I_{op}-I_{th})$	0.9	W/A
Conversion Efficiency	$H=P_{op}/(V_{op}\times I_{op})$	55	%
Series Resistance	R_s	12	mΩ
Operating Current SPC40C-980-01 SPC30C-980-01	I_{op}	 50 40	A
Operating Voltage	V_{op}	1.8	V
Operating Temperature	T_{op}	25 ± 5	°C

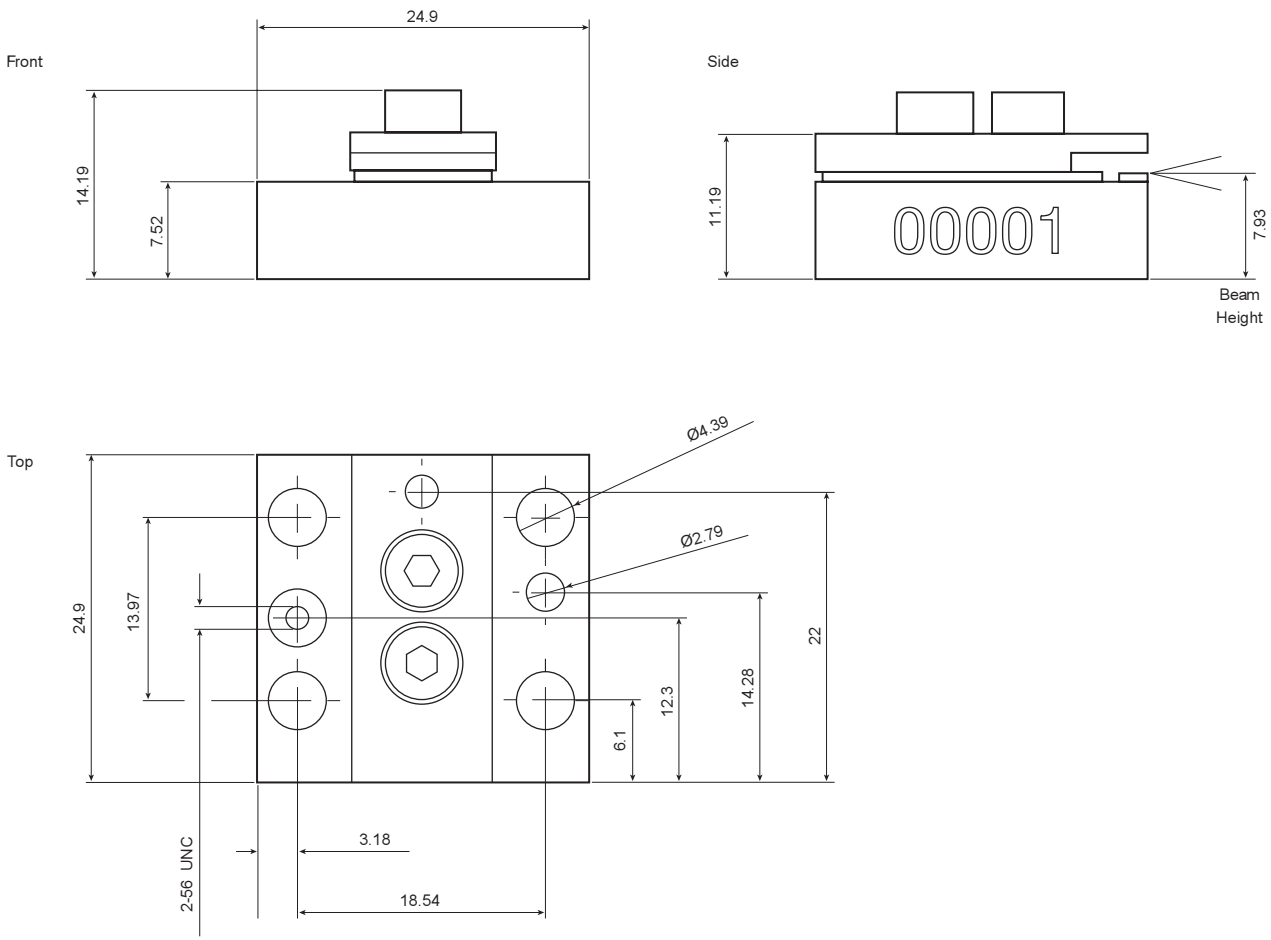
[1] Please contact factory for application specific output power level recommendation.

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

Bar Dimensions

Parameter	Symbol	Typical	Unit
Bar Width	b	10	mm
Resonator Length	l	3.6	mm
Number of Emitters	n	49	–
Emitter Spacing	p	200	µm
Emission Width	w	Narrow Stripe	–

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:

SPC40C-980-01	40W 980nm High Brightness Single-Mode Laser Diode Bar on Passive Cu Block Cooler
SPC30C-980-01	30W 980nm High Brightness Single-Mode Laser Diode Bar on Passive Cu Block Cooler

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Important Notice

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INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION CLASS 4 LASER PRODUCT
REFERENCE IEC 60825-Edition 1.2

DANGER
INVISIBLE LASER RADIATION - AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION
MAX POWER 40W WAVELENGTH 900 – 1070nm
CLASS IV LASER PRODUCT
THIS PRODUCT COMPLIES WITH 21CFR 1040.10

ISO 9001:2000 Certified
BSI REGISTERED
FM 68159

CAUTION
STATIC SENSITIVE DEVICE
OBSERVE PRECAUTIONS

BH12910 Rev 2.1 June 2007