

50W 9xxnm 18% Fill Factor High Power Laser Diode Half-Bar on Passive Cu Block Cooler

HPC9xx-50C-677 & HPC10xx-50C-677

Features:

- Mounted 5mm wide low smile laser diode bar
- Passive 1" x 1" Cu block cooler
- 18% fill factor (90 μ m / 500 μ m pitch)
- 50W operating power
- Highly reliable single quantum well MBE structure
- Telecom-grade AuSn mounting technology
- Standard wavelengths at 915nm, 940nm, 980nm, 1030nm and 1060nm (others available on request)
- RoHS compliant 

Applications:

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



The Oclaro HPC9xx-50C-677 & HPC10xx-50C-677 18% fill factor laser diode half-bar on passive cooler series has been designed to provide high reliability and the exceptional high brightness required for collimated pumping of next generation solid-state lasers and direct applications. Low bar smile values well below 1 μ m further and small emitter width of 90 μ m only enhance the fiber coupling efficiencies, especially for low core diameters. 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 submount onto a Cu block package providing very high reliability in CW and pulsed (1-Hz type) applications.

Characteristics (typical values)

Parameter	Symbol	Unit	HPC915-50C-677 HPC940-50C-677 HPC980-50C-677	HPC1030-50C-677 HPC1060-50C-677
CW Output Power	P_{op}	W	50	50
Center Wavelength ^[1]	λ_c	nm	915 ± 10 940 ± 10 980 ± 10	1030 ± 10 1060 ± 10
Spectral Width (FWHM)	$\Delta\lambda$	nm	3	4
Wavelength Shift with Temperature	$d\lambda_c/dT_{op}$	nm/°C	0.3	0.3
Beam Divergence	$\theta_{//}$ (FWHM)	deg	5.5	5.5
	$\theta_{//}$ (90%PC)		6	6
	θ_{\perp} (FWHM)		26	26
	θ_{\perp} (90%PC)		45	45
Polarization TE ^[2]	–	%	95%	95%
Threshold Current	I_{th}	A	4.5	4.5
Slope Efficiency	η_D	W/A	1.1	1.0
Conversion Efficiency	H	%	62	62
Operating Current	I_{op}	A	51	54
Operating Voltage	V_{op}	V	1.65	1.5
Operating Temperature	T_{op}	°C	25 ± 5	25 ± 5

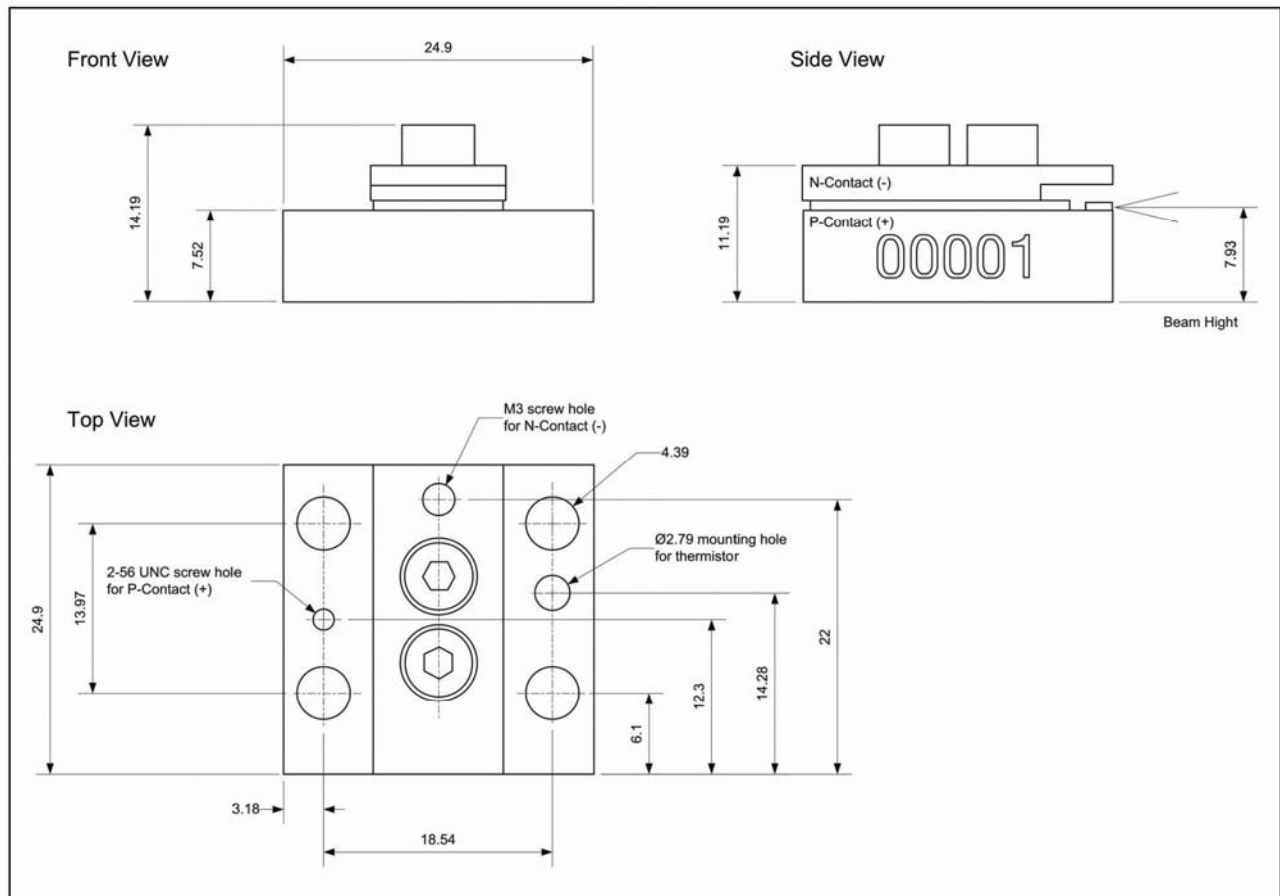
[1] Reduced wavelength window / extended range available on request (910-1070nm).

[2] Direction of polarization is parallel to the bar.

Bar Dimensions

Parameter	Symbol	Typical	Unit
Bar Width	b	5.4	mm
Number of Emitters	n	10	-
Emitter Spacing	p	500	µm
Emission Width	w	90	µm
Fill Factor	f	18	%
Bar Smile (when mounted)	s	<1	µm

Passive Cu Block Cooler Dimensions (mm)



RoHS Compliance



Oclaro 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:

HPCxxx-50C-677r 50W 18% Fill Factor Laser Diode Bar on Passive Cu Block Cooler
 xxx is the center wavelength between 910 and 1070nm,
 r indicates wavelength tolerance and smile (see table)

smile \ WL	> ±5nm	≤ ±5nm	≤ ±3nm
> ±2.0µm	A	B	C
≤ ±2.0µm	F	G	H
≤ ±1.5µm	L	M	N

Contact Information

www.oclaro.com

Important Notice

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