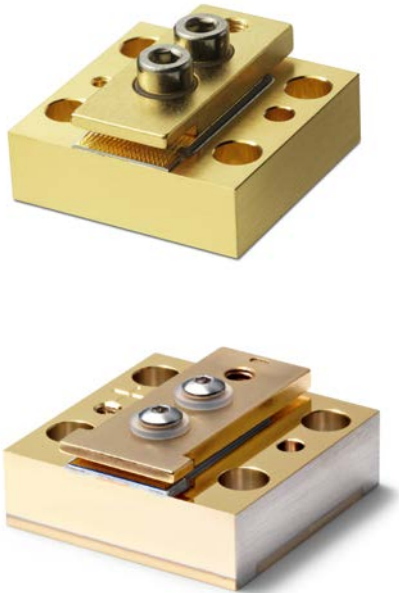


## BPC/OPC 40W, 60W & 80W

at 79nm & 8xxnm, 27%, 30% & 80W Fill Factor  
High Power Laser Diode Bar on Passive Cooler



The II-VI Laser Enterprise BPC/OPC 40W, 60W and 80W 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 submount onto a Cu block package providing very high reliability in CW and pulsed (1-Hz type) applications.

### Features:

- Mounted 10mm laser diode bar
- Passive 1" x 1" Cu block cooler
- 40W 30% fill factor (150 $\mu$ m / 500  $\mu$ m pitch)
- 60W 27% fill factor (135 $\mu$ m / 500  $\mu$ m pitch)
- 80W 50% fill factor (100 $\mu$ m / 200  $\mu$ m pitch)
- Highly reliable single quantum well structure
- Telecom-grade AuSn mounting technology
- Standard wavelengths at 790nm, 808nm, 880nm (others available on request)
- RoHS compliant 

### Applications:

- Collimated solid-state laser pumping
- Direct applications such as material processing (plastics welding, heat treatment, annealing, hardening, etc.)
- Printing
- Medical

## Optical Characteristics (typical values)

The following parametric limits detailed are for a cold plate [1] temperature of 20°C.

Parameter	Symbol	Unit	BPC	BPC / OPC			
CW Output Power	$P_{op}$	W	40	60	60	80	60
Center Wavelength <sup>[2]</sup>	$\lambda_c$	nm	808	790	808	808	880
Spectral Width	$\Delta\lambda$ (FWHM)	nm	2.5	2.0	2.5	2.5	2.5
	$\Delta\lambda$ (90%PC)	nm	3.0	3.0	3.0	3.0	3.5
Wavelength Shift with Temperature	$d\lambda_c/dT_{op}$	nm/°C	0.26	0.25	0.25	0.25	0.3
Beam Divergence	$\theta_{//}$ (FWHM)	deg	7.0	7.0	7.0	7.0	7.0
	$\theta_{//}$ (90%PC)		7.5	7.5	7.5	8.0	7.5
	$\theta_{\perp}$ (FWHM)		33	26	26	27	26
	$\theta_{\perp}$ (90%PC)		55	45	45	45	45
Polarization TE <sup>[3]</sup>	–	%	95	95	97	95	97
Threshold Current	$I_{th}$	A	7	11	10	24	10
Slope Efficiency	$\eta_D$	W/A	1.2	1.3	1.3	1.1	1.3
Conversion Efficiency	H	%	56	58	59	55	61
Operating Current	$I_{op}$	A	39	58	56	92	58
Operating Voltage	$V_{op}$	V	1.8	1.8	1.8	1.8	1.7
Operating Temperature <sup>[4]</sup>	$T_{op}$	°C	25 ± 5	25 ± 5	25 ± 5	25 ± 5	25 ± 5
Bar Width	b	mm	10	10	10	10	10
Number of Emitters	n	–	19	19	19	48	19
Emitter Spacing	p	µm	500	500	500	100	500
Emitter Width	w	µm	150	150	135	200	135
Fill Factor	f	%	30	30	27	50	27

### Notes:

[1] The cold plate is the defined as the top surface of the device the BPC/OPC is mounted to for cooling.

[2] For other center wavelengths contact Product Line Manager (790-890nm).

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

[4] The temperature measured on the cold plate adjacent to the long side of the BPC/OPC not more than 4mm from the front facet.



**RoHS Compliance**



II-VI Laser Enterprise 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:**

**BPCxxxx-40C-622r** 40W Laser Diode BPC type **B**ar on **P**assive **Cu** Block **C**ooler: xxx is the center wavelength between 790 and 890nm, r indicates wavelength tolerance and smile (see table).

**BPCxxxx-60C-641r** 60W Laser Diode BPC type **B**ar on **P**assive **Cu** Block **C**ooler xxx is the center wavelength between 790 and 890nm, r indicates wavelength tolerance and smile (see table).

**OPCxxxx-60C-641r** 60W Laser Diode OPC type **B**ar on **P**assive **Cu** Block **C**ooler xxx is the center wavelength between 790 and 890nm, r indicates wavelength tolerance and smile (see table).

**OPCxxxx-80C-663r** 80 W Laser Diode OPC type **B**ar on **P**assive **Cu** Block **C**ooler xxx is the center wavelength between 790 and 890nm, r indicates wavelength tolerance and smile (see table).

Bar Smile \ WL-Tolerance	> ±5nm	≤ ±5nm	≤ ±3nm
	> ±2.0µm	A	B
≤ ±2.0µm	F	G	H
≤ ±1.5µm	L	M	N

**Notes:**

Contact Product Line Manager for other than given values.

**Contact Information: [www.laserenterprise.com](http://www.laserenterprise.com)**

**Important Notice**

Performance figures, data and any illustrative material provided in this data sheet are typical and must be specifically confirmed in writing by II-VI Laser Enterprise before they become applicable to any particular order or contract. In accordance with the II-VI Laser Enterprise 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 II-VI Laser Enterprise or others. Further details are available from any II-VI Laser Enterprise sales representative.



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