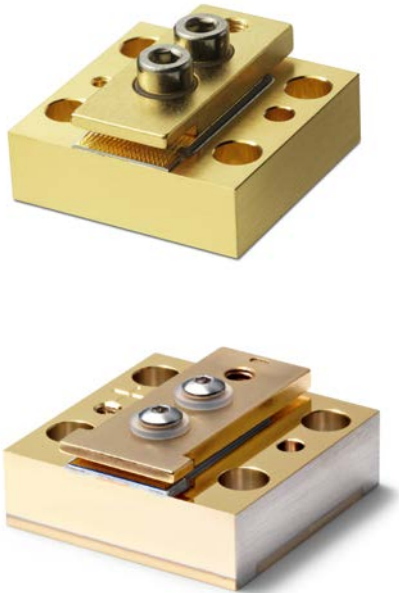


## BPC/OPC 80W


at 9xxnm & 10xxnm, 80W 20% Fill Factor  
High Power Laser Diode Bar on Passive Cooler



The II-VI Laser Enterprise BPC9xx-80C-660, BPC10xx-80C-660, OPC9xx-80C-660 and OPC10xx-80C-660 20% 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 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
- 20% fill factor (100 $\mu$ m / 500  $\mu$ m pitch)
- 80W operating power
- Highly reliable single quantum well structure
- Telecom-grade AuSn mounting technology
- Standard wavelengths at 915nm, 940nm, 980nm and 1030nm (others available on request)
- RoHS compliant 

### Applications:

- Direct applications such as material processing (heat treatment, annealing, hardening, etc.)
- Collimated solid-state laser pumping
- Fiber laser pumping
- 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				OPC			
CW Output Power	$P_{op}$	W	80	80	80	80	80	80	80	80
Center Wavelength <sup>[2]</sup>	$\lambda_c$	nm	915	940	980	1030	915	940	980	1030
Spectral Width (FWHM)	$\Delta\lambda$ (FWHM)	nm	3.0	3.0	3.0	4	3.0	3.0	3.0	4
	$\Delta\lambda$ (90%PC)	nm								
Wavelength Shift with Temperature	$d\lambda_c/dT_{op}$	nm/°C	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Beam Divergence	$\theta_{//}$ (FWHM)	deg	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5
	$\theta_{//}$ (90%PC)		6	6	6	6	6	6	6	6
	$\theta_{\perp}$ (FWHM)		26	26	26	26	26	26	26	26
	$\theta_{\perp}$ (90%PC)		45	45	45	45	45	45	45	45
Polarization TE <sup>[3]</sup>	–	%	95	95	95	95	95	95	95	95
Threshold Current	$I_{th}$	A	8	8	8	8	8	8	8	8
Slope Efficiency	$\eta_D$	W/A	1.1	1.1	1.1	1.1	1.1	1.1	1.1	1.1
Conversion Efficiency	H	%	62	62	62	62	62	62	62	62
Operating Current <sup>[4]</sup>	$I_{op}$	A	81	81	81	83	81	81	81	83
Operating Voltage	$V_{op}$	V	1.65	1.65	1.65	1.5	1.65	1.65	1.65	1.5
Operating Temperature <sup>[5]</sup>	$T_{op}$	°C	25 ± 5	25 ± 5	25 ± 5	25 ± 5	25 ± 5	25 ± 5	25 ± 5	25 ± 5
Bar Width	b	mm	10	10	10	10	10	10	10	10
Number of Emitters	n	–	19	19	19	19	19	19	19	19
Emitter Spacing	p	µm	500	500	500	500	500	500	500	500
Emitter Width	w	µm	100	100	100	100	100	100	100	100
Fill Factor	f	%	20	20	20	20	20	20	20	20

**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 (910-1070nm).
- [3] Direction of polarization is parallel to the bar.
- [4] Use bus bars for current connection when operating at >100A.
- [5] 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:**

BPCxxx-80C-660r 80W 20% Fill Factor Laser Diode Bar on Passive Cu Block Cooler xxx is the center wavelength between 910 and 1030nm, r indicates wavelength tolerance and smile (see table).

OPCxxx-80C-660r 80W 20% Fill Factor Laser Diode Bar On Passive Cu Block Cooler xxx is the center wavelength between 910 and 1030nm, r indicates wavelength tolerance and smile (see table).

Bar Smile \ WL-Tolerance	> ±5nm	≤ ±5nm	≤ ±3nm
> ±2.0µm	A	B	C
≤ ±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.



Caution - use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

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