


<b>LB-1064-CS-XXW</b> High power conduction cooled Laser Diode Bar at 1064nm	
	<b>Features:</b> <ul style="list-style-type: none"> <li>• High reliable Au/Sn-technology</li> <li>• Proprietary mirror coating technology enabling long life-time</li> <li>• CW, quasi-CW operation</li> <li>• Low "smile"</li> </ul>
	<b>Applications:</b> <ul style="list-style-type: none"> <li>• Medical</li> </ul>
<b>Specification</b> for engineering samples	DATE: 26 <sup>th</sup> Jan. 2009

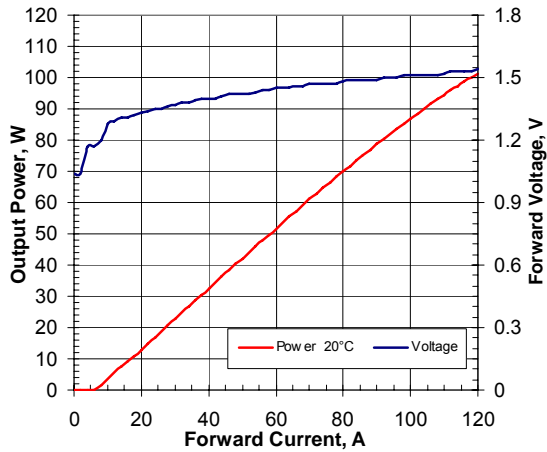
SPECIFICATIONS					
Test conditions: heatsink temperature 25°C, CW operation at P <sub>out</sub>					
Optical Parameters	Symb.	-50W	-60W	-80W	Unit
Output power	P <sub>out</sub>	50	60	80	W
Mean wavelength at P <sub>out</sub>	λ <sub>P</sub>	1064	1064	1064	nm
Central wavelength tolerance		10	10	10	nm
Wavelength temperature tunability	Δλ/ΔT	0.40±0.05	0.40±0.05	0.40±0.05	nm/°C
Spectral width (FWHM)	Δλ	5 ± 3	5 ± 3	5 ± 3	nm
Number of emitters		19	19	19	#
Emitter aperture width	W	130	130	130	μm
Emitters pitch		500	500	500	μm
Emitting area deviation from linear ("Smile") measured at 3A	Smile	<1.5	<1.5	<1.5	μm
Slow axis beam divergence (FWHM)	Θ <sub>  </sub>	8 ± 2	8 ± 2	8 ± 2	deg.
Slow axis beam divergence (95% of total power)	Θ <sub>  </sub>	10 ± 2	10 ± 2	10 ± 2	deg.
Fast axis beam divergence (FWHM)	Θ <sub>⊥</sub>	32 ± 3	32 ± 3	32 ± 3	deg.
Fast axis beam divergence (95% of total power)	Θ <sub>⊥</sub>	62 ± 3	62 ± 3	62 ± 3	deg.
Power drop during 100 hours burn-in test <sup>1</sup>		<1	<1	<1	%
Electrical Parameters					
Threshold current	I <sub>th</sub>	5.0 ± 1.0	6.0 ± 2.0	10.0 ± 3.0	A
Operating current	I <sub>op</sub>	58 ± 3	70 ± 4	94 ± 5	A
Forward voltage	V <sub>f</sub>	1.5± 0.10	1.47± 0.10	1.45± 0.10	V
Thermal Parameters					
Recommended operating temperature	T <sub>op</sub>	25 ± 5	25 ± 5	25 ± 5	°C
Recommended heatsink capacity		65	75	100	W

<sup>1</sup> Burn-in test conditions: heatsink temperature 40°C, CW current I<sub>op</sub>+20A

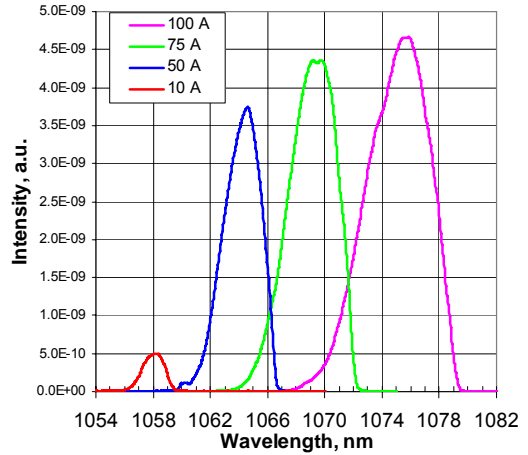
ABSOLUTE MAXIMUM RATINGS				
Parameters	Min.	Typ.	Max.	Unit
Laser Bar reverse voltage			2	V
CW forward current			I <sub>op</sub> +20	A
Storage temperature range (in original sealed pack)	5		80	°C
Operating temperature range	above dew point		40	°C

**TYPICAL PERFORMANCE (of ~60W Laser Bar)**  
 Test condition: CW operation, Laser Bar screwed to 20°C-water-cooled heatsink

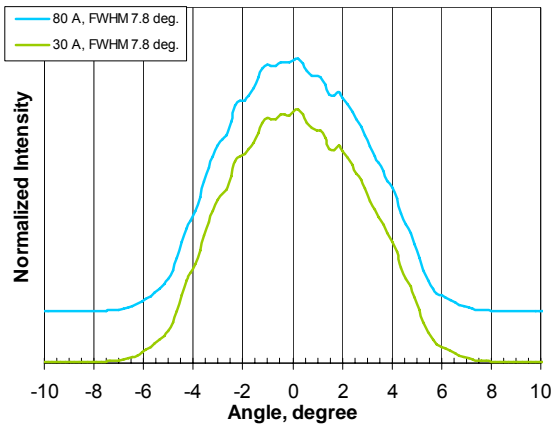
**Light-Current-Voltage Characteristics**



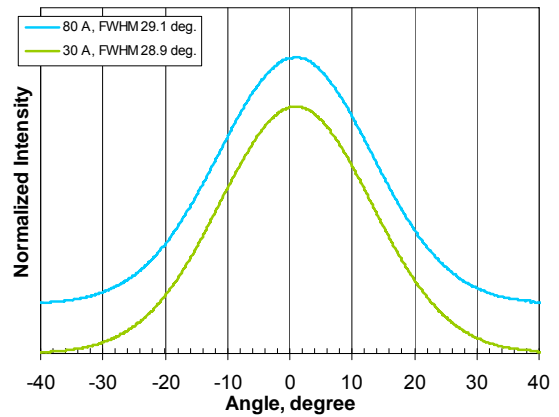
**Spectra Characteristics**



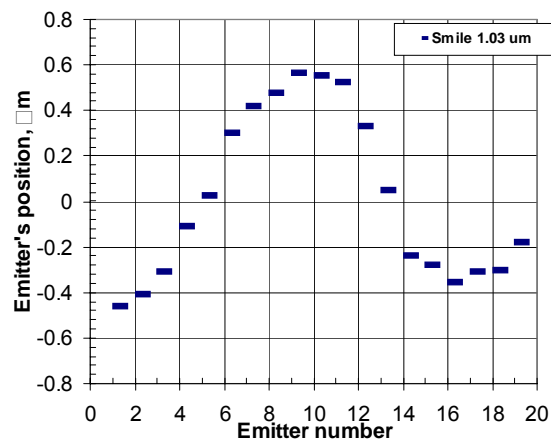
**Slow Axis Far Field**

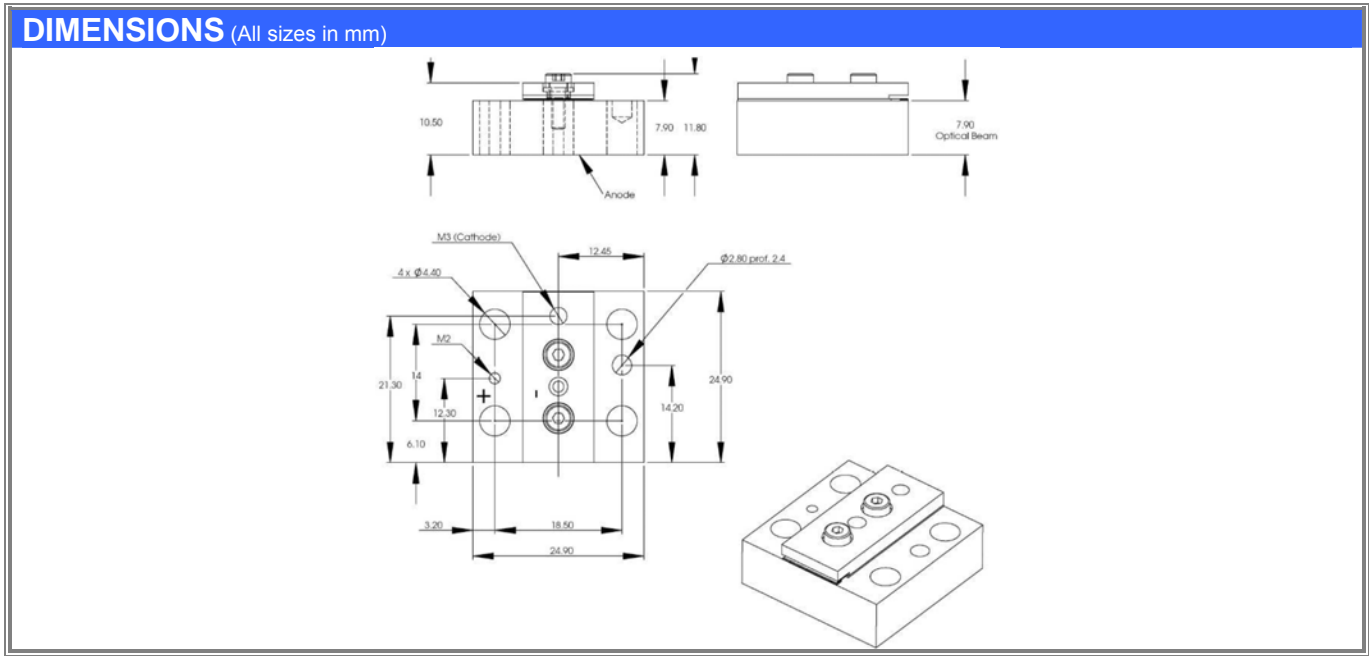


**Fast Axis Far Field**



**Near Field ("Smile") measured at CW 3A**






### SAFETY AND OPERATING CONSIDERATIONS

The laser light emitted from this device is invisible and will harmful to the human eye. Avoid looking directly into the Laser Bar or into the collimated beam along its optical axis when the device is in operation. Proper laser safety eyewear must be worn during operation.

Operating the Laser Bar outside of its maximum ratings may cause device failure or a safety hazard. Power supplies used with the component must be employed such that the maximum peak optical power cannot be exceeded. A proper heatsink for the Laser Bar is required. Exposure to maximum ratings for extended period of time or exposure above one or more max ratings may cause damage or affect the reliability of the device.

ESD PROTECTION – Electrostatic discharge is the primary cause of unexpected laser diode failure. Take extreme precaution to prevent ESD. Use wrist straps, grounded work surfaces and rigorous antistatic techniques when handling laser diodes.



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

**CAUTION**  
 STATIC SENSITIVE DEVICE  
 OBSERVE PRECAUTIONS

DANGER

VISIBLE AND/OR INVISIBLE LASER RADIATION  
 AVOID EYE OR SKIN EXPOSURE TO  
 DIRECT OR SCATTERED RADIATION

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DIODE LASER  
 MAX POWER 100W  
 WAVELENGTH 1000 - 1400 nm  
 CLASS IV LASER PRODUCT

Part Number Identification:

- LB-1064-CS-50W -> 50W specification
- LB-1064-CS-60W -> 60W specification
- LB-1064-CS-80W -> 80W specification

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**NOTE: Innolume product specifications are subject to change without notice.**