CONDUCTION COOLED (CS) DIODE LASER BARS

nLIGHT's industry recognized conduction cooled (CS) diode laser package features a 30% fillfactor bar that is rated at 60 W on an industry standard conduction cooled CS package. By combining nLIGHT's proprietary nXLT™ (eXtended Life Technology) laser chips with AuSn solder on an expansion-matched sub-mount, nLIGHT is able to offer a significant increase in power and brightness while increasing lifetime for CW, pulsed, and high temperature applications.

The standard packaging footprint allows these bars to easily integrate into your product. nLIGHT's proprietary fast-axis lensing capability can further improve the brightness of these conduction cooled bars. This in-house lensing capability makes applications in solid-state laser pumping and materials processing integration into more complex optical systems easier.

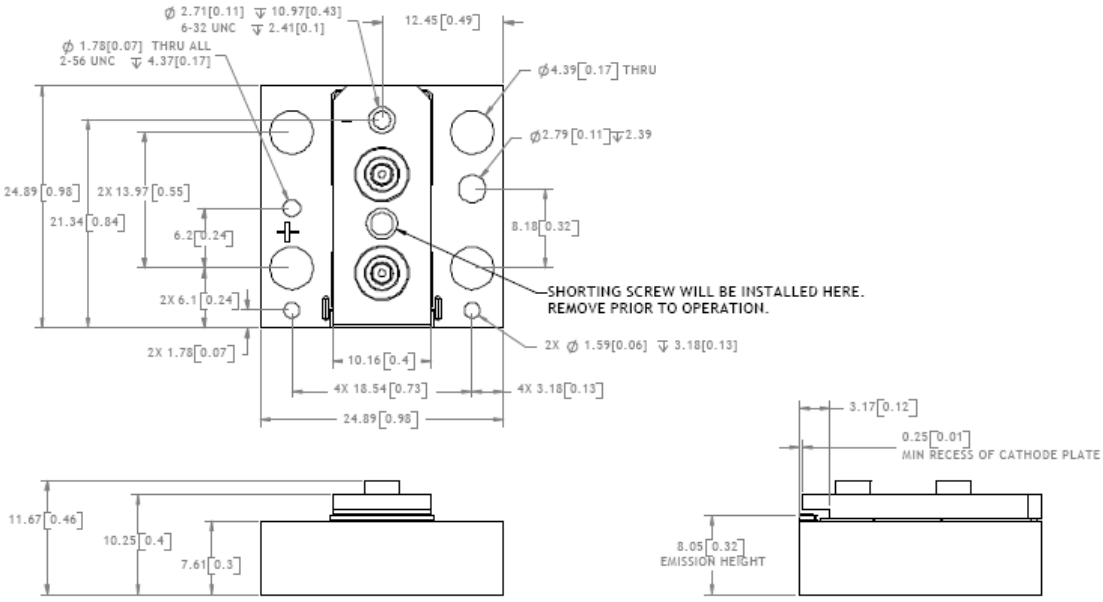
Applications

- Solid-state laser pumping
- Materials processing
- Medical therapeutics
- Graphic arts

Features

- High brightness
- Superior reliability
- Low bar smile
- Superior near field uniformity
- High polarization purity
- High temperature operation

Package dimensions



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Typical device specification

		CS-60-xxx
Optical		
Center wavelength (Range)	nm	790 - 830
CW output power	W	60
Center wavelength tolerance	nm	± 3
Emitter area	µm	150 x 1
Number of emitters	#	19
Emitter size	µm	150
Emitter spacing	µm	500
Spectral width (FWHM)	nm	< 3
Slope efficiency	W / A	> 1.1
Polarization	TM or TE	TE
Fast-axis divergence	Degrees	36°
Slow-axis divergence	Degrees	10°
Wavelength temperature coefficient[1]	nm	0.28 / °C
Electrical		
Total conversion efficiency	%	52
Threshold current	A	10
Operating current	A	60
Operating voltage	V	< 1.9
Series resistance	Ω	0.002
Mechanical		
Storage temperature range[3]	°C	-20 to +80
Thermal		
Thermal resistance[2]	°C / W	0.75
Operating temperature[3]	°C	-20 to 30

[1] The wavelength temperature coefficient is the wavelength shift per °C change at the diode junction.
[2] Thermal resistance is the diode junction temperature shift per incremental Watt of heat load.
[3] A non-condensing environment is required for storage and operation below ambient dew point.

CFR Regulation
These components do not comply with the federal regulation (Title 21 CFR, Chapter 1, Subchapter J) as administered by the Center for Device and radiological Health. Purchaser acknowledges that their products must comply with these regulations before they can be sold to an end-user.

Notice
nLIGHT continually improves its products to provide our customers with outstanding quality and reliability. nLIGHT may make changes to specifications and product descriptions at any time, without notice. In addition, nLIGHT offers a limited warranty to ensure customer satisfaction. For complete details, please contact your nLIGHT sales representative.

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