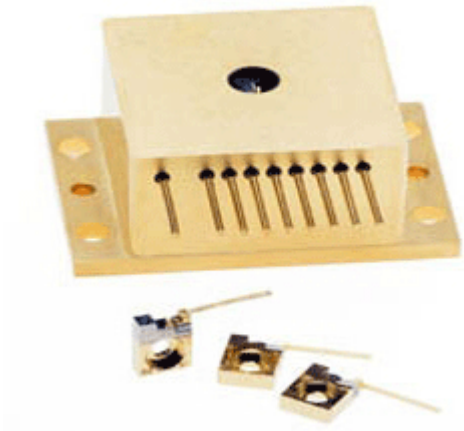
SINGLE EMITTER DIODE LASER DEVICES (NON VISIBLE)



nLIGHT's near-infrared (NIR) single emitter devices, consisting of c-mount and HHL (high-heat-load) packages provide state-of-the-art power and brightness. The small emitting aperture, combined with low beam divergence, make these devices the highest-brightness family of CW diode lasers available in the industry.

NIR single emitter devices are available in wavelengths from 790 nm to 980 nm and 1400 nm to 1600 nm. These commercially recognized formats allow easy integration into your existing products. nLIGHT's diode laser design is based on the company's proprietary MOCVD-grown laser structure, which results in highly reliable, long lifetime products.

Applications

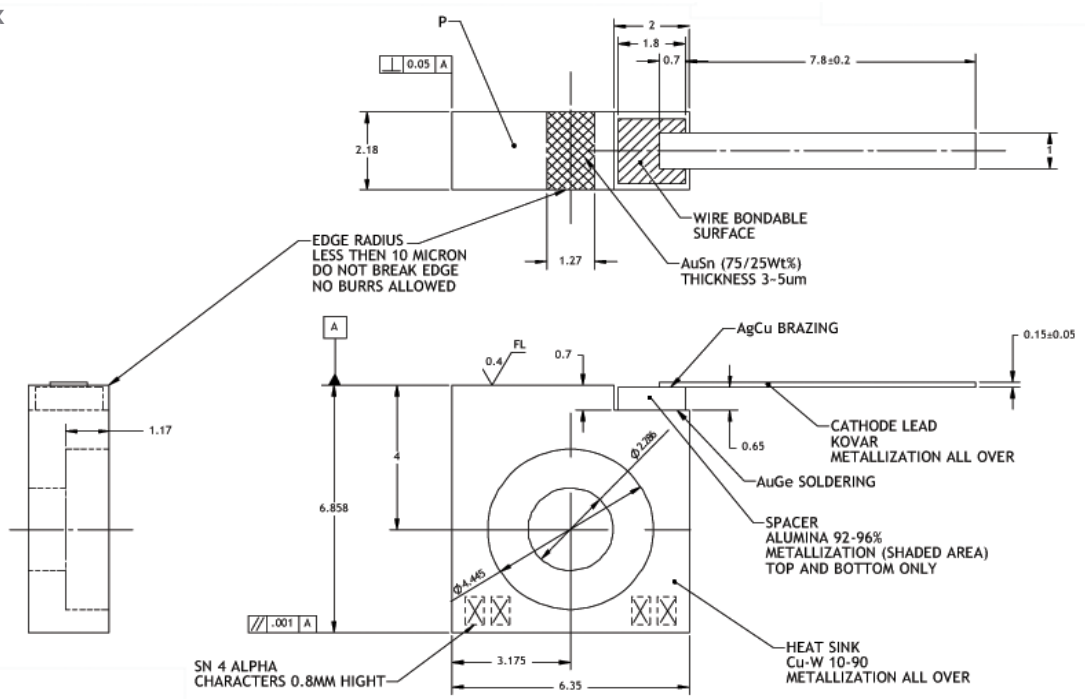
- Solid-state laser pumping
- Materials processing
- Medical therapeutics
- Graphic arts

Features

- High brightness
- High reliability
- Narrow spectral linewidth
- High polarization purity

Package dimensions

C-2.5-08xx



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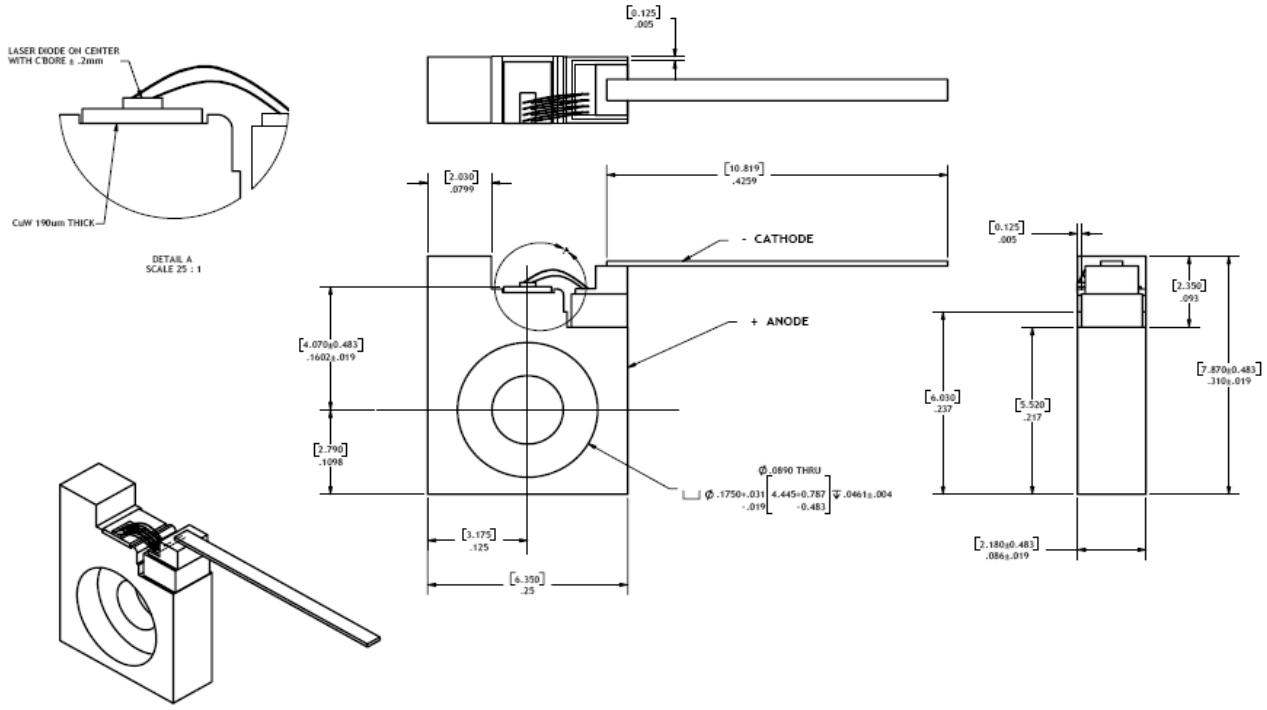
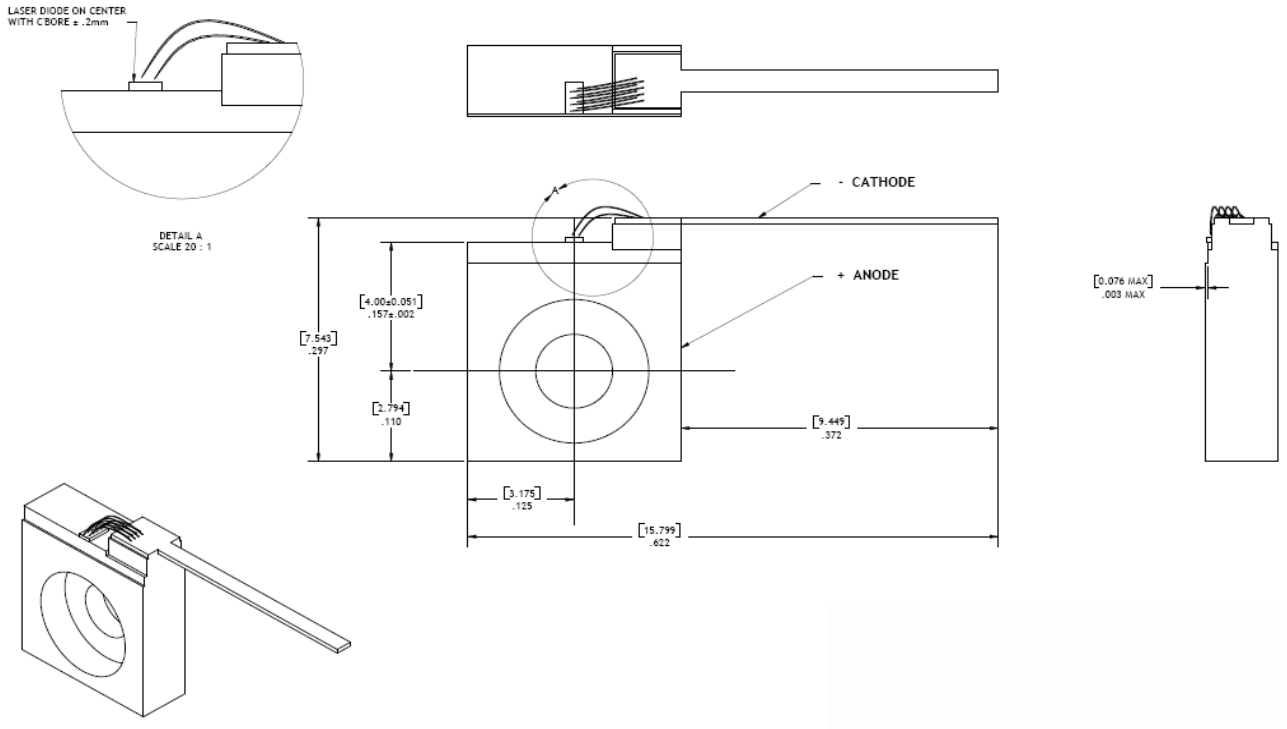
Package dimensions

C-3.0-08xx and C-5.0-08xx



C-1.5-14xx and C-1.0-15xx

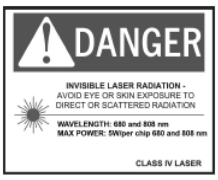


Typical device specification

		C-2.5-08xx	C-3.0-08xx	C-5.0-08xx	C-1.5-14xx	C-1.0-15xx
Optical						
Center wavelength (Range)[1]	nm	790 - 825	808	808	1400 - 1500	1500 - 1600
CW output power	W	2.5	3	5	2	1
Center wavelength tolerance	nm	± 3	± 3	± 3	± 5	± 5
Emitter size	µm	150	100	200	100	100
Spectral width (FWHM)	nm	< 3	< 3	< 3	< 10	< 10
Slope efficiency	W / A	> 1.1	> 1.1	> 1.1	> 0.4	> 0.4
Polarization	TM or TE	TM	TM	TM	TE	TE
Fast-axis divergence	Degrees	36°	36°	36°	27°	27°
Slow-axis divergence	Degrees	10°	10°	10°	10°	10°
Wavelength temperature coefficient	nm / °C	0.28	0.28	0.28	0.4	0.4
Electrical						
Power conversion efficiency	%	54	55	54	32	25
Threshold current (I_{TH})	mA	450	400	650	450	700
Operating current (I_{OP})	mA	2500	2800	4800	3700	5000
Operating voltage (V_{OP})	V	1.85	1.85	1.9	1.2	1.4
Series resistance (R_S)	Ω	0.12	0.12	0.12	0.15	0.12
Mechanical						
Lead soldering temperature (C-mount)	°C	250 (< 5 sec)	250 (< 5 sec)	250 (< 5 sec)	250 (< 5 sec)	250 (< 5 sec)
Lead soldering temperature (HHL)	°C	250 (< 5 sec)	250 (< 5 sec)	250 (< 5 sec)	250 (< 5 sec)	250 (< 5 sec)
Thermal						
Thermal resistance[3]	°C / W	10	10	10	10	10
Operating temperature range (C-mount)[2]	°C	-20 to +30	-20 to +30	-20 to +30	-20 to +30	-20 to +30
Operating temperature range (HHL)[2]	°C	-20 to +50	-20 to +50	-20 to +50	-20 to +50	-20 to +50
Storage temperature range	°C	-20 to +80	-20 to +80	-20 to +80	-20 to +80	-20 to +80
Thermoelectric cooler (HHL only)						
Drive current	A	1.6	1.6	3.5	1.8 (Typical)	3.5 (Maximum)
Drive voltage	V	3.0	3.0	3.5	3.7 (Typical)	8.0 (Maximum)
Thermistor resistance (25°C)	kΩ	10	10	10	10	10
Monitor photodiode (HHL only)						
Sensivity	µA/mW	1 to 10	1 to 10	1 to 10	1 to 10	1 to 10
Capacitance	pF	6	6	6	6	6
Breakdown voltage	V	25	25	25	25	25
Operating voltage	V	10	10	10	10	10

[1] xxx denotes wavelength.
[2] The wavelength temperature coefficient is the wavelength shift per °C change at the diode junction.
[3] A non-condensing environment is required for storage and operation below the 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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