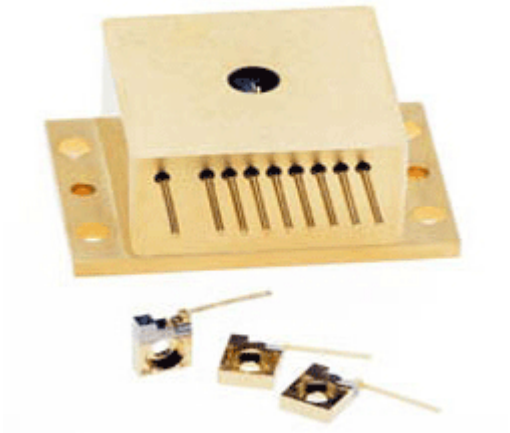
SINGLE EMITTER DIODE LASER DEVICES (VISIBLE)



nLIGHT's visible 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 visible diode lasers available in the industry.

Visible single emitter devices are available in wavelengths at 639 nm, 665 nm, 680 nm, and 690 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.

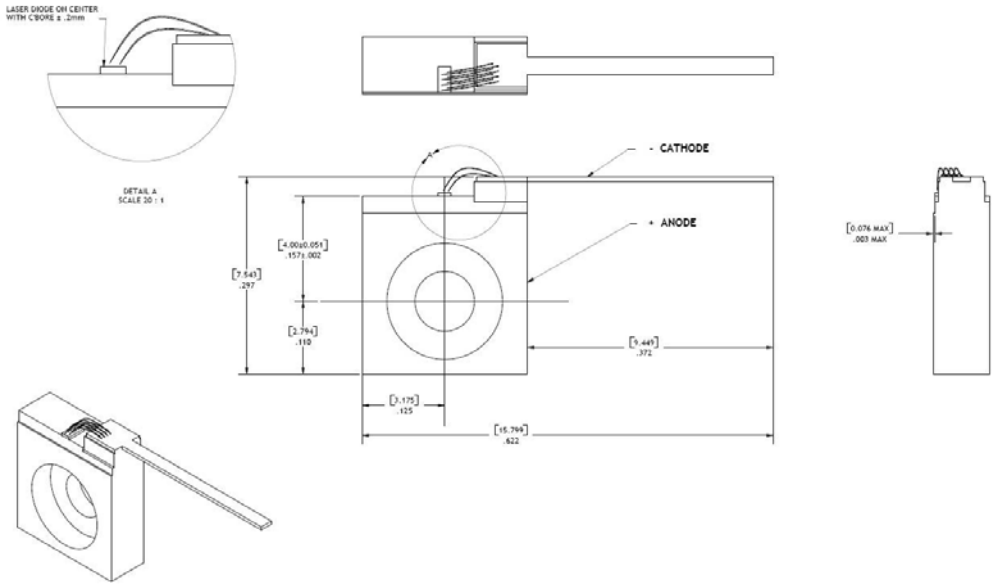
Applications

- Display
- PDT
- Biochemistry
- Military
- Solid-state laser pumping
- Materials processing
- Medical therapeutics
- Graphic arts

Features

- High power
- High brightness
- Long lifetime
- Narrow spectral linewidth
- High polarization purity

Package dimensions



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Typical device specification

		C-0.75-0639	C-1.5-0665	C-1.5-0680	C-1.5-0690
Optical					
Center wavelength	nm	639	665	680	690
CW output power	W	0.75	1.5	1.5	1.5
Center wavelength tolerance	nm	± 4	± 5	± 5	± 5
Emitter size	µm	150	150	150	150
Spectral width (FWHM)	nm	< 3	< 3	< 3	< 3
Slope efficiency	W / A	> 1	> 1	> 1	> 1
Polarization	TM or TE	TM	TE	TE	TE
Fast-axis divergence	Degrees	42°	43°	43°	43°
Slow-axis divergence	Degrees	10°	10°	10°	10°
Wavelength temperature coefficient[1]	nm / °C	0.15	0.15	0.15	0.15
Electrical					
Total conversion efficiency	%	20	25	25	25
Threshold current (I_{TH})	mA	700	660	668	680
Operating current (I_{OP})	mA	1500	1900	1900	1900
Operating voltage (V_{OP})	V	2.2	2.08	2.08	2.08
Series resistance (R_S)	Ω	0.15	0.1	0.1	0.1
Mechanical					
Lead soldering temperature (C-mount)	°C	150 (< 5 sec)	150 (< 5 sec)	150 (< 5 sec)	150 (< 5 sec)
Lead soldering temperature (HHL)	°C	250 (< 5 sec)	250 (< 5 sec)	250 (< 5 sec)	250 (< 5 sec)
Thermal					
Thermal resistance[2]	°C / W	10	10	10	10
Operating temperature range (C-mount)[3]	°C	-20 to +30	-20 to +30	-20 to +30	-20 to +30
Operating temperature range (HHL)[3]	°C	-20 to +50	-20 to +50	-20 to +50	-20 to +50
Storage temperature range[3]	°C	-20 to +80	-20 to +80	-20 to +80	-20 to +80
Thermoelectric cooler (HHL only)					
Drive current (Typical)	A	1.7	1.7	1.7	1.7
Drive voltage (Typical)	V	3.5	3.5	3.5	3.5
Thermistor resistance (25°C)	kΩ	10	10	10	10
Monitor photodiode (HHL only)					
Sensivity	µA/mW	1 to 10	1 to 10	1 to 10	1 to 10
Capacitance	pF	6	6	6	6
Breakdown voltage	V	25	25	25	25
Operating voltage	V	10	10	10	10

[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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