PEARL™ HIGH-POWER SERIES

The Pearl™ high-power series delivers up to 100 Watts from a 400 or 600 micron fiber at 8xx or 9xx nm, and up to 7 Watts from a 400 micron fiber or Afocal at 639 nm. This product has been specifically designed to meet the requirements of laser pumping, materials processing and display applications.

The Pearl™ product family offers unparalleled reliability and efficiency by coupling nLIGHT's high-brightness nXLT™ single emitters with a proprietary optical design for efficient fiber coupling.

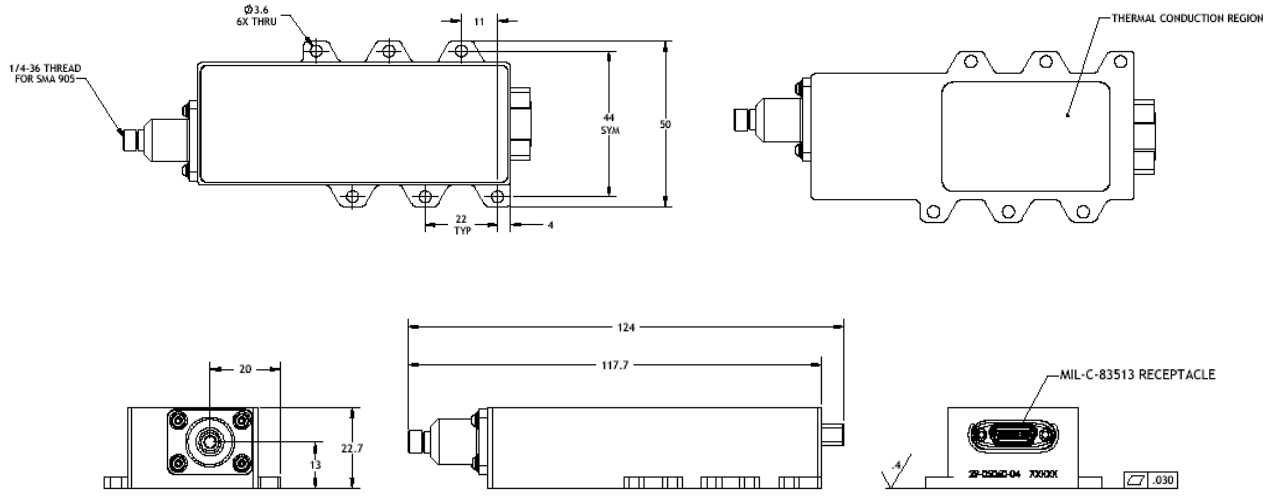
Applications

- DPSS laser pumping
- Fiber laser pumping
- Disc laser pumping
- Dermatology
- Materials processing
- Illumination
- Projection display
- Entertainment

Features

- Single emitter diodes with nXLT™ diode protection
- >50% wall-plug efficiency
- nDure™ detachable fiber
- Plug and play

Package dimensions



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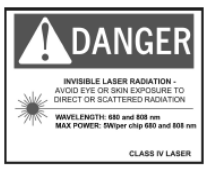
Typical device specification

		P4-100-0808-3	P4-100-0880-3	P4-100-0980-3
Optical				
Center wavelength	nm	808	880	980
Center wavelength tolerance	nm	± 3	± 3	± 3
CW output power	W	100	100	100
Fiber core diameter	µm	400 or 600	400 or 600	400 or 600
Beam divergence	NA[1]	< 0.22	< 0.22	< 0.22
Spectral width (FWHM)	nm	< 3	< 3.5	< 3.5
Slope efficiency	W / A	17.9	15.8	15.3
Electrical				
Power conversion efficiency	%	50	51	54
Threshold current	A	1.0	1.0	0.7
Operating current	A	6.6	7.2	7.2
Operating voltage	V	30.6	27.2	25.3
Series resistance	Ω	0.6	0.6	0.6
Mechanical				
Storage temperature range[2]	°C	-30 to +60	-30 to +60	-30 to +60
Mass	gr	TBD	TBD	TBD
Thermal				
Thermal resistance[3]	°C / W	0.2	0.2	0.2
Operating temperature	°C	+15 to +35	+15 to +35	+15 to +35
Wavelength temperature coefficient[4]	nm / °C	0.28	0.28	0.28

[1] Numerical aperture (NA) is the sine of the half-angle encircling 90% of the optical energy from the fiber.
[2] A non-condensing environment is required for storage and operation.
[3] Thermal resistance is the diode junction temperature shift per incremental Watt of heat load.
[4] The wavelength temperature coefficient is the wavelength shift per °C change at the diode junction.

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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