

PEARL™ 4W 639NM FIBER-COUPLED



nLIGHT introduces an evolution in high-power fiber-coupled modules based on single emitters leading to improved efficiencies, longer reliability, and greater flexibility.

A wide array of configurations is being manufactured including 50 W modules at 808, 88x, 9xx nm as well as 4 W modules at 639 nm. All modules are coupled into detachable 400 µm core fibers.

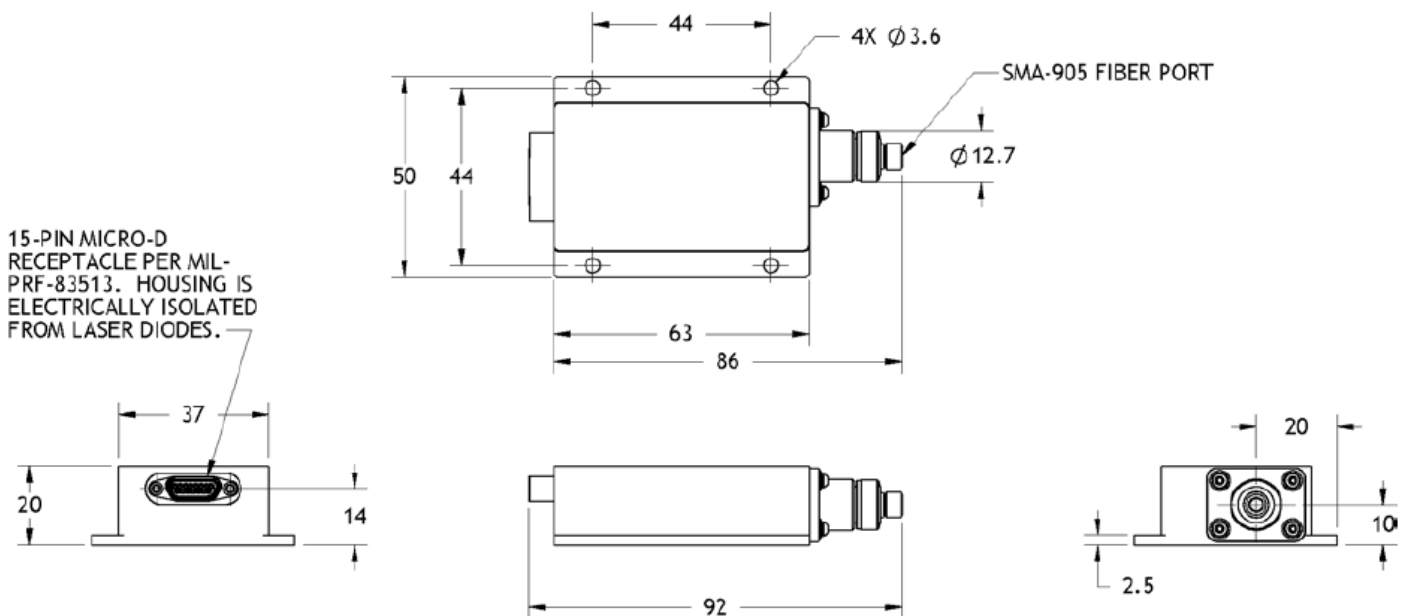
Applications

- Laser TV
- Entertainment
- Dental
- Photodynamic therapy

Features

- High power
- High brightness
- Plug and play
- Detachable fiber
- nXLT™ diode protected

Package dimensions



Typical device specification

		P4-002-0639-4	P4-003-0639-4	P4-004-0639-4
Optical				
Center wavelength	nm	639	639	639
Center wavelength tolerance	nm	± 4	± 4	± 4
CW output power	W	2	3	4
Fiber core diameter	µm	400	400	400
Beam divergence	NA ¹	0.18	0.18	0.18
Spectral width (FWHM)	nm	< 3	< 3	< 3
Slope efficiency	W / A	5.0	6.7	8.4
Electrical				
Power conversion efficiency	%	15	16	17
Threshold current	A	0.65	0.65	0.65
Operating current	A	1.05	1.10	1.13
Operating voltage	V	12.8	17.0	21.3
Series resistance	Ω	0.7	1.0	1.2
Mechanical				
Storage temperature range ²	°C	-30 to +60	-30 to +60	-30 to +60
Overall dimensions	mm	92 x 50 x 20	92 x 50 x 20	92 x 50 x 20
Mass	gr	< 450	< 450	< 450
Thermal				
Thermal resistance ³	°C / W	0.8	0.6	0.5
Operating temperature	°C	+15 to +25	+15 to +25	+15 to +25
Wavelength temperature coefficient ⁴	nm / °C	0.15	0.15	0.15

¹ Numerical aperture (NA) is the sine of the half-angle encircling 90% of the optical energy from the fiber.

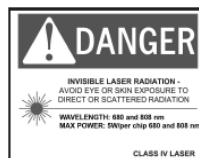
² A non-condensing environment is required for storage and operation.

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-use.



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.

PEARL™ 7W 639NM FIBER-COUPLED MODULE



nLIGHT introduces an evolution in high-power fiber-coupled modules based on single emitters leading to improved efficiencies, longer reliability, and greater flexibility.

A wide array of configurations is being manufactured including 100 W modules at 808, 88x, 9xx nm as well as 7 W modules at 639 nm. All modules are coupled into detachable 400 μm core fibers.

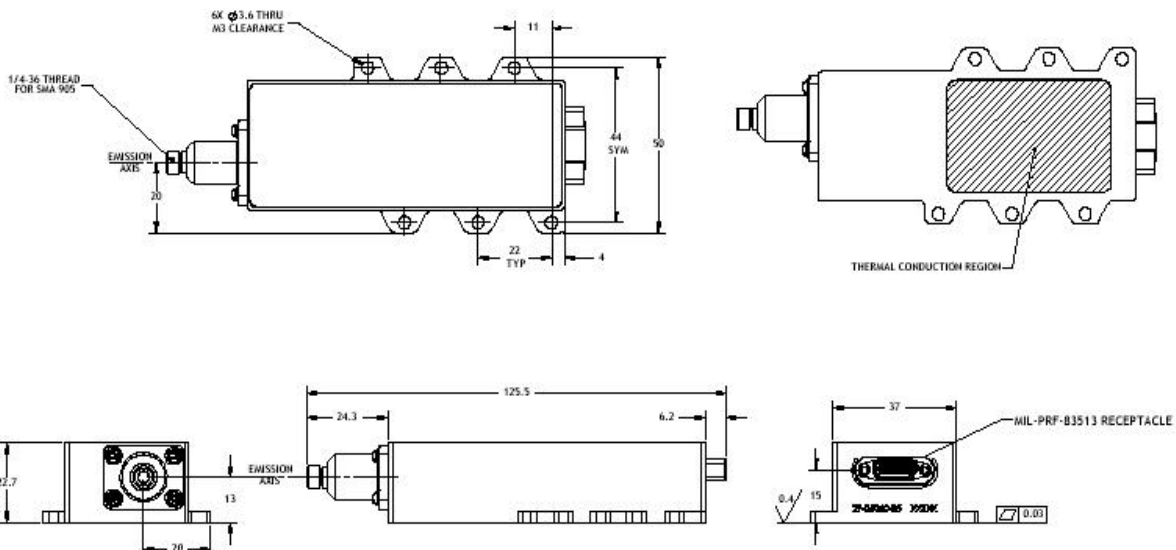
Applications

- Laser TV
- Entertainment
- Dental
- Photodynamic therapy

Features

- High power
- High brightness
- Plug and play
- Detachable fiber
- nXLT™ diode protected

Package dimensions



Typical device specification

P4-007-0639-4

Optical

Center wavelength	nm	639
Center wavelength tolerance	nm	± 4
CW output power	W	7
Fiber core diameter	µm	400
Beam divergence	NA ¹	< 0.2
Spectral width (FWHM)	nm	< 4
Slope efficiency	W / A	14.4

Electrical

Power conversion efficiency	%	18
Threshold current	A	0.7
Operating current	A	1.10
Operating voltage	V	33.0
Series resistance	Ω	1.7

Mechanical

Storage temperature range ²	°C	-30 to +60
Mass	gr	350

Thermal

Thermal resistance ³	°C / W	0.4
Operating temperature	°C	+15 to +25
Wavelength temperature coefficient ⁴	nm / °C	0.15

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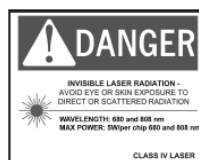
² A non-condensing environment is required for storage and operation.

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.

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