

element

The brightest fiber coupled semiconductor lasers for pumping solid state and fiber lasers, and direct diode material processing.



With a robust portfolio to meet diverse needs, nLIGHT® element® semiconductor lasers deliver unparalleled brightness and performance for high-volume solid state and fiber laser pumping. These single emitter semiconductor lasers feature a proprietary optical design for efficient fiber coupling. The nLIGHT element platform optimizes cost and performance while allowing you to operate at a wide range of power levels and wavelengths from 793 to 976nm. These semiconductor lasers give you the quality and reliability you and your customers can depend on.

Key Features

- Modular architecture and manufacturing process delivers the industry's brightest diodes.
- Broad selection of optimized configurations allow you to meet your unique needs.
- Special wavelengths give you optimization for most efficient absorption or pumping ranges.
- Wavelength stabilization yields consistent performance across a range of operating conditions.
- nLIGHT reliability produces the uptime and performance you and your customers demand.

Specifications Overview

- Wavelengths: 793, 808, 878.6, 885, 915, 940, 969, 976nm
- Fiber core: 105, 200, 400µm
- Power: 15 – 420W

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Solid State Laser Pumping Specifications

| Wavelength (nm) | Model Number | Fiber Core (μm) | Power (W) | Excitation NA | Efficiency (%) | Housing Type |
|-----------------|---------------|-----------------|-----------|---------------|----------------|--------------|
| 808 ± 3 | e03.020808200 | 200 | 20 | 0.14 | 45 | e03 |
| | e06.045808200 | 200 | 45 | 0.19 | 47 | e06 |
| | e12.085808200 | 200 | 85 | 0.15 | 41 | e12 |
| | e18.130808200 | 200 | 130 | 0.18 | 42 | e18 |
| | e03.025808400 | 400 | 25 | 0.12 | 44 | e03 |
| | e06.050808400 | 400 | 50 | 0.12 | 47 | e06 |
| 878.6 ± 1 | e03.030879200 | 200 | 30 | 0.14 | 48 | e03 |
| | e06.065879200 | 200 | 65 | 0.19 | 49 | e06 |
| | e12.115879200 | 200 | 115 | 0.19 | 46 | e12 |
| | e18.175879200 | 200 | 175 | 0.16 | 44 | e18 |
| 940 ± 3 | e06.070940105 | 105 | 70 | 0.15 | 47 | e06 |
| | e18.135940105 | 105 | 135 | 0.16 | 40 | e18 |
| | e06.075940200 | 200 | 75 | 0.14 | 48 | e06 |
| | e18.220940200 | 200 | 220 | 0.18 | 47 | e18 |
| 940 ± 1 | e06.055940105 | 105 | 55 | 0.15 | 44 | e06 |
| | e18.120940105 | 105 | 120 | 0.15 | 42 | e18 |
| | e06.070940200 | 200 | 70 | 0.14 | 48 | e06 |
| | e18.190940200 | 200 | 190 | 0.18 | 44 | e18 |
| 969 ± 1 | e06.060969105 | 105 | 60 | 0.15 | 48 | e06 |
| | e12.135969105 | 105 | 135 | 0.17 | 48 | e12 |
| | e18.195969105 | 105 | 195 | 0.19 | 45 | e18 |
| | e06.080969200 | 200 | 80 | 0.14 | 45 | e06 |
| | e12.145969200 | 200 | 145 | 0.14 | 51 | e12 |
| | e18.225969200 | 200 | 225 | 0.17 | 51 | e18 |

Fiber Laser Pumping & Direct Diode Material Processing Specifications

| Wavelength (nm) | Model Number | Fiber Core (μm) | Power (W) | Excitation NA | Efficiency (%) | Housing Type |
|-----------------|----------------|-----------------|-----------|---------------|----------------|--------------|
| 793 ± 3 | e03.015793105 | 105 | 15 | 0.12 | 58 | e03 |
| | e06.030793105 | 105 | 30 | 0.15 | 54 | e06 |
| | e12.060793105 | 105 | 60 | 0.14 | 41 | e12 |
| | e18.090793105 | 105 | 90 | 0.15 | 41 | e18 |
| | e06.050793200 | 200 | 50 | 0.18 | 47 | e06 |
| | e12.090793200 | 200 | 90 | 0.14 | 42 | e12 |
| | e18.135793200 | 200 | 135 | 0.17 | 43 | e18 |
| | e24i.190793200 | 200 | 190 | 0.16 | 46 | e24i |
| 915 ± 5 | e06.070915105 | 105 | 70 | 0.15 | 47 | e06 |
| | e12.155915105 | 105 | 155 | 0.16 | 45 | e12 |
| | e18.200915105 | 105 | 200 | 0.15 | 45 | e18 |
| | e18.240915200 | 200 | 240 | 0.18 | 47 | e18 |
| | e24i.420915200 | 200 | 420 | 0.16 | 53 | e24i |
| 976 ± 3 | e03.035976105 | 105 | 35 | 0.11 | 49 | e03 |
| | e06.065976105 | 105 | 65 | 0.15 | 46 | e06 |
| | e12.140976105 | 105 | 140 | 0.15 | 47 | e12 |
| | e06.080976200 | 200 | 80 | 0.13 | 49 | e06 |
| | e18.230976200 | 200 | 230 | 0.18 | 49 | e18 |
| | e24i.400976200 | 200 | 400 | 0.16 | 54 | e24i |
| 976 ± 1 | e06.065976105 | 105 | 65 | 0.14 | 49 | e06 |
| | e12.140976105 | 105 | 140 | 0.16 | 50 | e12 |
| | e18.205976105 | 105 | 205 | 0.19 | 49 | e18 |
| | e18.230976200 | 200 | 230 | 0.17 | 53 | e18 |

Performance characteristics are typical at 30° C housing temperature.
Additional configurations available upon request.

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