

nLIGHT's nanosecond pulsed Fiber Laser, the PFL250™, provides a cost-effective solution for complex micro-materials processing applications. Designed to meet the highest quality and reliability standards for maintenance-free 24/7 industrial operation; the air-cooled system outputs a near diffraction limited beam at 532nm. The small footprint of the laser head coupled with an intuitive user interface allows for the ease of integration into any laser machine tool.

The PFL250™ platform integrates nLIGHT's industry-leading technologies to deliver a high-performance pulsed fiber laser solution:

- Powered by nLIGHT Pearl™ single-emitter diode laser modules, which set the standard of excellence in high-brightness, high-reliability diode lasers
- Incorporates nLIGHT LIEKKI™ active fiber with proprietary Direct Nano-particle Deposition (DND) technology that provides high efficiency and minimizes photodarkening

## Features

- High peak power, 40 kW
- Short pulse width: <1.5 ns
- Standardized user interface for both IR and Green
- Linearly polarized, near diffraction-limited beam
- Compact footprint

## Applications

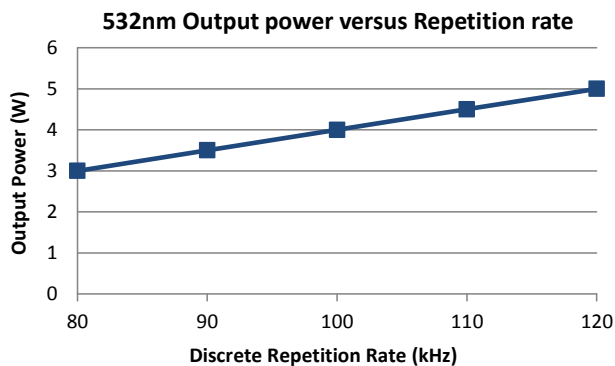
- PV scribing
- PV edge deletion
- Marking and engraving
- Trimming
- Micro-machining
- Precision drilling

**Proven Performance**

## Typical Device Performance

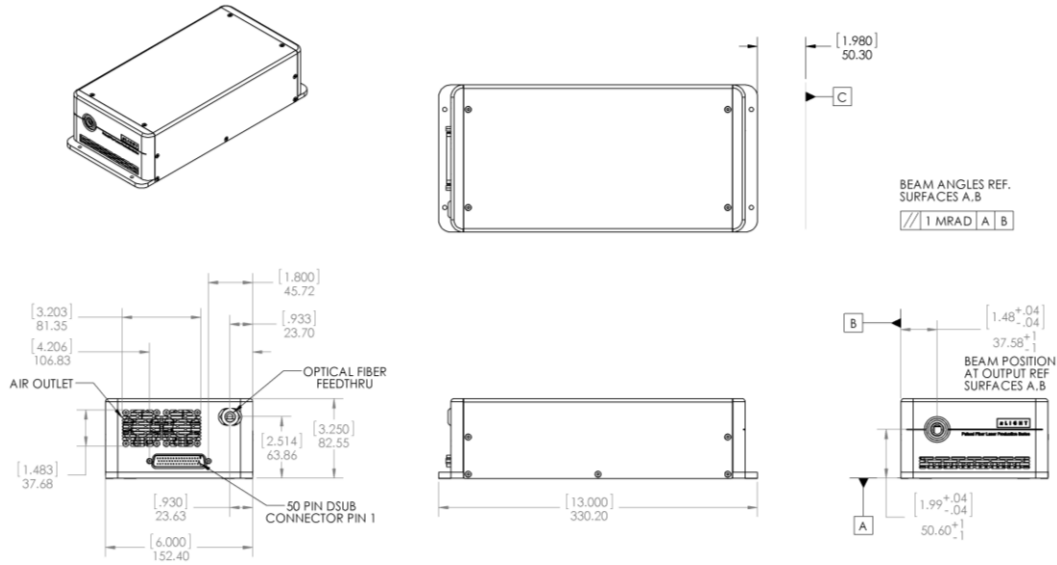
| Optical                         |                | NL-FL250-532-1500     |     |     |
|---------------------------------|----------------|-----------------------|-----|-----|
|                                 |                | Min                   | Typ | Max |
| Mode of operation               |                | Pulsed                |     |     |
| Wavelength                      | nm             | 532                   |     |     |
| Average power                   | W              | 5                     |     |     |
| Operating power range           | W              | 1 - 5                 |     |     |
| Pulse width                     | ns             | 0.8                   |     | 1.3 |
| Pulse repetition rate           | kHz            | 80, 90, 100, 110, 120 |     |     |
| Beam quality                    | M <sup>2</sup> | < 1.3                 |     |     |
| Maximum Pulse energy            | μJ             | 40                    |     |     |
| Pulse energy stability          | %              | < 3                   |     |     |
| Average power stability (8 hrs) | %              | < 3                   |     |     |
| <b>Electrical</b>               |                |                       |     |     |
| DC Operating voltage            | V              | 24                    |     |     |
| DC Operating current            | A              | < 13                  |     |     |
| Control                         |                | Analog / RS232        |     |     |
| <b>Mechanical</b>               |                |                       |     |     |
| Cooling method                  |                | Air                   |     |     |
| <b>Thermal</b>                  |                |                       |     |     |
| Operating temperature*          | °C             | 10 - 40               |     |     |
| Storage temperature*            | °C             | -20 - 70              |     |     |

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

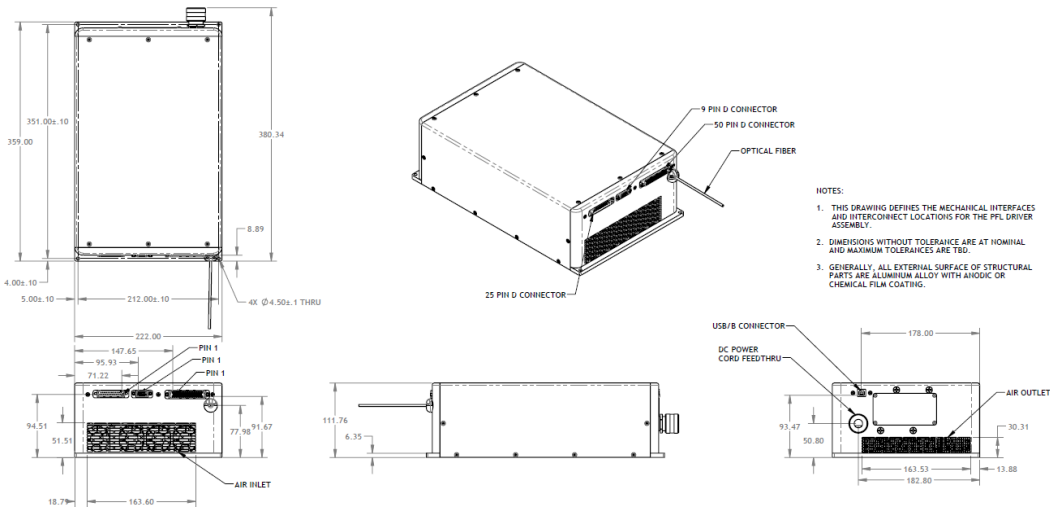


# Package Dimensions

## Laser Head



## Driver




### CFR Regulation

This laser does NOT comply with IEC 60825-1 or 21 CFR 1040 for complete laser products and is solely intended to be integrated into a certified laser product. This device is for US export, or for use as an OEM or replacement component only. 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.



**INVISIBLE LASER RADIATION**  
 AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION  
**CLASS 4 LASER PRODUCT**  
 Classified per EN/IEC 60825 2007

Power 10 W, MAX PULSE ENERGY: 150 µJ, PULSE DURATION: 1.0 - 1.5 ns, WAVELENGTH: 1064 nm



**VISIBLE AND INVISIBLE LASER RADIATION**  
 AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION  
**CLASS 4 LASER PRODUCT**  
 Classified per EN/IEC 60825 2007

POWER 5 W, MAX PULSE ENERGY: 50 µJ, PULSE DURATION: 0.8 - 1.3 ns, WAVELENGTH: 532 nm  
 Residual <1 mW at 1064 nm