

Fiber-coupled high-power laser module FiberLight

635 to 1550 nm

modulight
on your wavelength

OVERVIEW

FiberLight is a compact fiber-coupled laser bar (laser array) module designed for reliable CW operation at high power levels. Due to its proprietary beam shaping technique, we can offer high brightness and coupling efficiency. Options: Pigtail for aiming beam, photodiode for power monitoring.



APPLICATIONS

Illumination Medical
Optical pumping Industrial

ELECTRO-OPTICAL CHARACTERISTICS

| Parameter | Symbol | Typical value | | | | | Unit |
|----------------------|-----------|---------------|--------|--------|--------|--------|------|
| | | ML1496 | ML1825 | ML1826 | ML1828 | ML1497 | |
| Wavelength | λ | 635 | 808 | 980 | 1470 | 1550 | nm |
| Optical Output Power | P_{OPT} | 3 | 35 | 35 | 12 | 12 | W |
| Operating Current | I_{OP} | 8 | 55 | 55 | 70 | 70 | A |
| Threshold Current | I_{TH} | 5 | 5 | 5 | 6 | 6 | A |

All above values are typical for CW operation @ 25°C

FIBER PIGTAIL CHARACTERISTICS

Connector type: SMA-905, others per request.

| Parameter | Symbol | Typical value | Unit |
|-----------------------------------|----------------|---------------|---------------|
| Core diameter | d_{CORE} | 365 | μm |
| Cladding diameter | $d_{CLADDING}$ | 400 | μm |
| Protective tubing diameter | d_{TUBE} | 5.1 | mm |
| Fiber numerical aperture | NA | 0.22 | - |
| Fiber length, module to connector | l | 1.5 | m |
| Minimum short term bending radius | r_{MIN1} | 40 | mm |
| Minimum long-term bending radius | r_{MIN2} | 120 | mm |

| Pigtail layer | Material |
|-------------------|-----------------------|
| Core | Pure silica |
| Cladding | Fluorine doped silica |
| Protective tubing | Stainless Steel |

Fiber-coupled high-power laser module FiberLight

635 to 1550 nm

modulight
on your wavelength

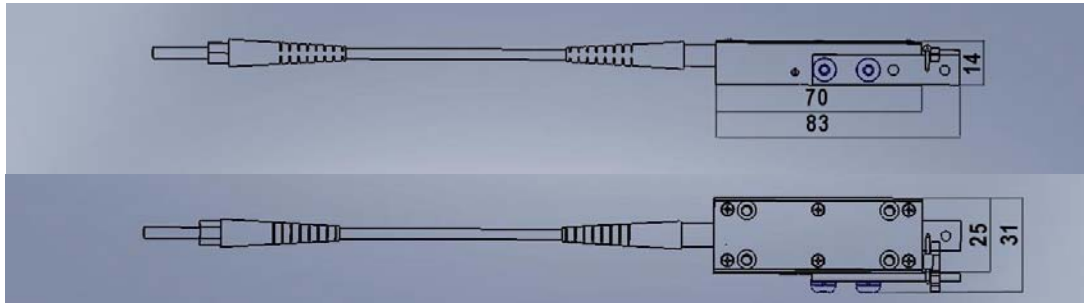
ABSOLUTE MAXIMUM RATINGS

| Parameter | Symbol | Rating | Unit |
|--|-----------|----------------|------|
| LD reverse voltage | V_{RLD} | 0 | V |
| LD forward current | I_{FLD} | $I_{OP} + 5 A$ | A |
| Operating temperature range ¹ | T_{OP} | 0...30 | °C |

¹ A non-condensing environment is required when operating below the dew point.

PACKAGE INFORMATION

The footprint of the package is 25 x 70 mm² + output fiber. The module should be placed on actively cooled heat sink. More specific package information is available per request.



SAFETY INFORMATION

- The laser light emitted from this laser diode is invisible and may be harmful to the human eye. Avoid eye exposure to the beam, both direct and reflected.
- Products are subject to the risks normally associated with sensitive electronic devices including static discharge, transients, and overload. Please ensure ESD protection prior to handling the products.
- These Modulight products are not intended for use in systems where product malfunction can reasonably be expected to result in personal injury.



Peak power and wavelength are for safety analysis only, not to present device performance.

LIABILITY NOTE

- This document is sole property of Modulight, Inc. No part of this document may be copied without written acceptance of Modulight, Inc.
- All statements related to the products herein are believed to be reliable and accurate. However, the accuracy is not guaranteed and no responsibility is assumed for any inaccuracies or omissions. Modulight, Inc. reserves the right to make changes in the specifications at any time without prior notice.