

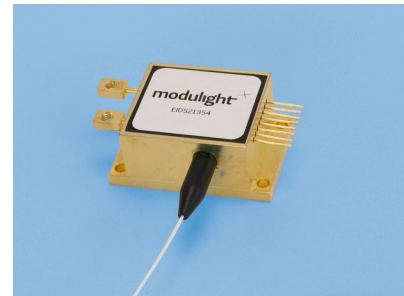
# 3-chip 635...690 nm modules

Fiber-coupled laser modules 635...690 nm

## Overview

Modulight's new addition to FiberLight laser series comprises of multi-chip diode laser modules in the ChiliLase wavelengths. The package is robust and it has a small footprint of 35 x 52 mm and height of 22 mm.

Default output is 200  $\mu$ m NA=0.22 fiber terminated with SMA-905 connector. The package includes a thermistor, a TEC-element and a photodiode.



## Applications

| Industrial                         | Medical  |
|------------------------------------|--|
| Illumination<br>Imaging<br>Pumping | Aesthetic Treatments<br>Fluorescence<br>Photodynamic Therapy |

## Electro-optical Characteristics, Typical Values

| Parameter            | Symbol    | ML2018 | ML2019 | ML1983 | ML2071 | Unit |
|----------------------|-----------|--------|--------|--------|--------|------|
| Wavelength           | $\lambda$ | 635    | 650    | 670    | 680    | nm   |
| Optical Output Power | $P_{OPT}$ | 1      | 2      | 2.5    | 2.5    | W    |
| Operating Current    | $I_{OP}$  | 1.1    | 1.8    | 1.6    | 1.6    | A    |
| Operating Voltage    | $V_{OP}$  | 6.9    | 6.9    | 6.7    | 6.7    | V    |
| Threshold Current    | $I_{TH}$  | 0.6    | 0.65   | 0.66   | 0.66   | A    |

ML2018 and ML2075 are specified for CW operation @ 15°C. ML2019 and ML2076 are specified for CW operation @ 20°C.

## Fiber Pigtail Characteristics

| Parameter                               | Symbol               | Typical Value                    | Unit    |
|---|----------------------|----------------------------------|---------|
| Core Diameter                           | $\varnothing_{CORE}$ | 200                              | $\mu$ m |
| Fiber Numerical Aperture                | NA                   | 0.22                             | -       |
| Standard fiber Length                   | L                    | 100                              | cm      |
| Connector at the fiber end <sup>1</sup> | -                    | SMA-905 / ST / FC / no connector | -       |
| Minimum Bend Radius                     | d                    | 50                               | mm      |

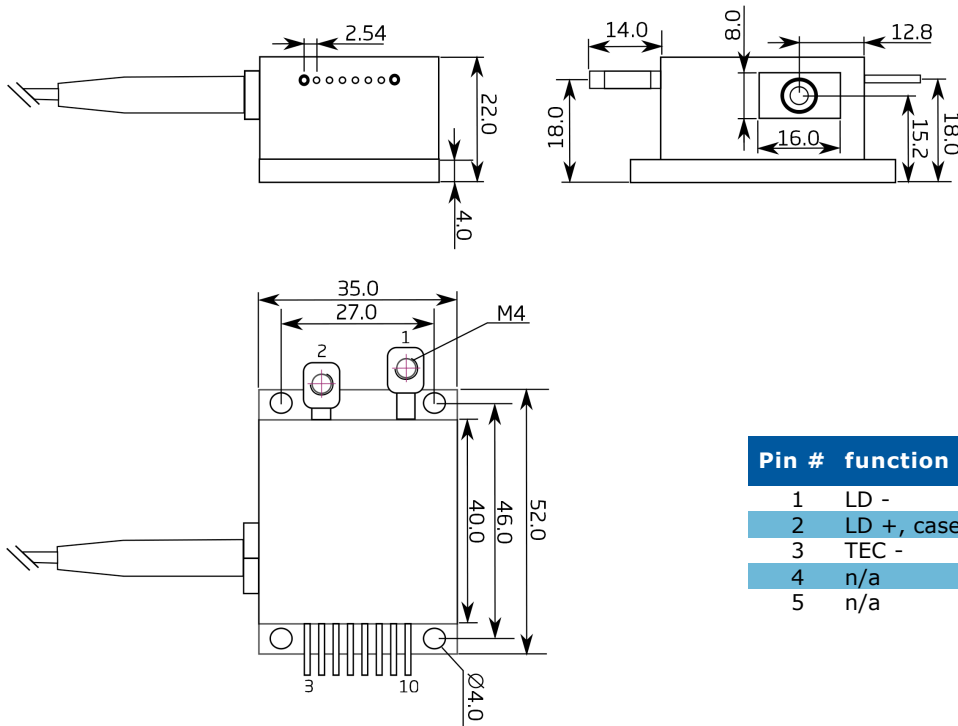
<sup>1</sup> Standard connector: SMA-905. Other connectors and fibers are available per request.

## Absolute Maximum Ratings

| Parameter               | Symbol    | ML2018   | ML2019   | ML1983   | ML2071   | Unit |
|-------------------------|-----------|----------|----------|----------|----------|------|
| LD Reverse Voltage      | $V_{RLD}$ | 0        | 0        | 0        | 0        | V    |
| LD Forward Current      | $I_{FLD}$ | 1.3      | 2        | 1.8      | 1.8      | A    |
| Output Power            | $P_{OPT}$ | 1.2      | 2.2      | 2.6      | 2.6      | W    |
| Laser Diode Temperature | $T_{LD}$  | 10...20  | 10...25  | 10...25  | 10...25  | °C   |
| Ambient Temperature     | $T_{AMB}$ | 30       | 30       | 30       | 30       | °C   |
| Storage Temperature     | $T_{STG}$ | -20...50 | -20...50 | -20...50 | -20...50 | °C   |

### Package Information

10-pin package with footprint of 35 x 52 mm. Height 22 mm.



| Pin # | function   | Pin # | function   |
|-------|------------|-------|------------|
| 1     | LD -       | 6     | PD (p)     |
| 2     | LD +, case | 7     | PD (n)     |
| 3     | TEC -      | 8     | thermistor |
| 4     | n/a        | 9     | thermistor |
| 5     | n/a        | 10    | TEC +      |

### Safety Information

- The laser light emitted from this laser device is visible and harmful to the human eye. Avoid eye and skin 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.

DANGER

**VISIBLE LASER RADIATION**  
 AVOID EYE OR SKIN EXPOSURE TO  
 DIRECT OR SCATTERED BEAM

Peak power: 1...3 W  
 Wavelength: 635...690 nm  
 Class 4 laser product

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

### Liability note

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