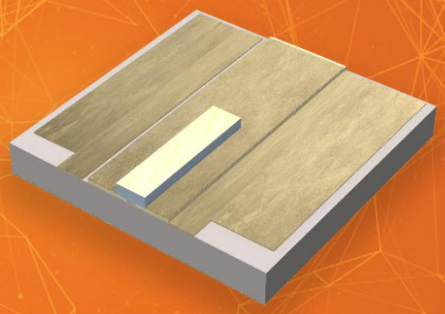
# ML4075

***1550 nm curved stripe gain chip***

Modulight's ML4075 is a 1550 nm curved stripe gain chip on carrier, also known as Reflective Semiconductor Optical Amplifier (RSOA). The chip design incorporates a low antireflecting (AR) coating, which together with the curved stripe provides very low reflection preventing self-lasing and suppressing gain ripples. A high reflecting (HR) coating on the straight end provides high output power.



## Applications

Curved stripe gain chips are used in external cavity operation requiring broad wavelength tuning and narrow linewidth operation.

## Recommended Operating Conditions

| Parameter | Symbol | Min | Max | Unit |
|---|---|---|---|---|
| Submount Temperature | $T_c$ | 5 | 45 | °C |
| Operating Current | $I_{OP}$ | - | 250 | mA |

## Electro-optical Characteristics

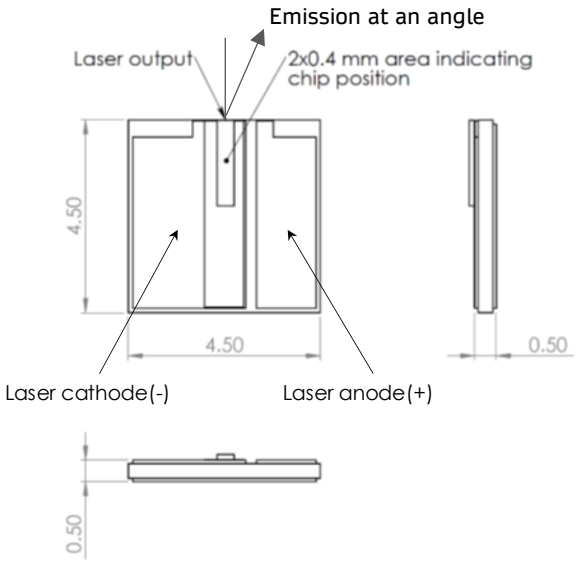
| Parameter | Min. | Typical | Max. | Unit |
|---|---|---|---|---|
| Central Wavelength | 1540 | 1550 | 1560 | nm |
| Front facet reflectivity | | | 0.1 | % |
| Back facet reflectivity | 95 | 99 | | % |
| Forward Voltage | | 1.1 | | V |

## Absolute Maximum Ratings

| Parameter | Symbol | Rating | Unit |
|---|---|---|---|
| LD Forward Current | $I_{FLD}$ | 300 | mA |
| LD Reverse Voltage | $I_{RLD}$ | 0 | V |
| Operating Temperature Range | $T_{OP}$ | 5...65 | °C |
| Storage Temperature Range | $T_{ST}$ | -40...85 | °C |

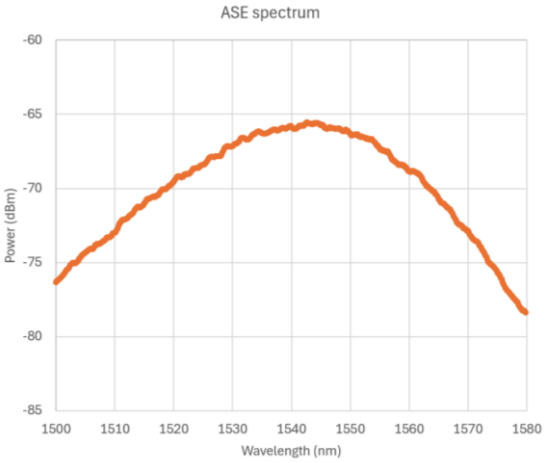
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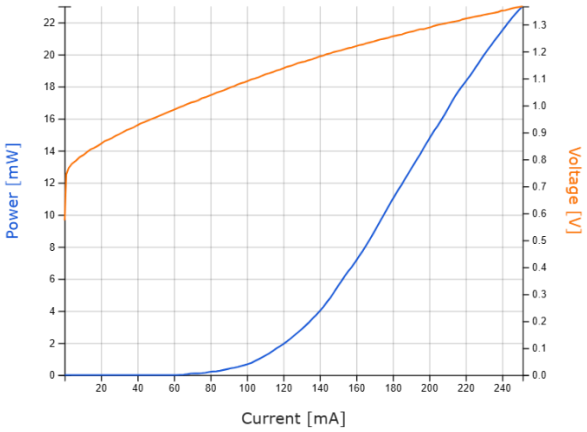
## Mechanical Specification




All dimensions are in millimeters (mm). Overhang available on request.

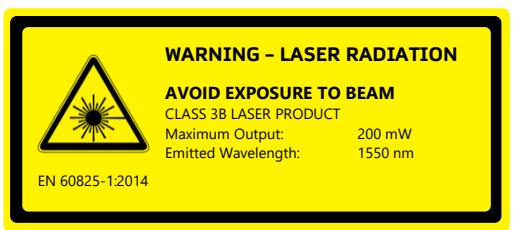
## Typical Performance without feedback




## Safety Information

- ❑ The laser light emitted from this laser diode is invisible and potentially 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.




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

## Handling




- Laser diodes are sensitive to optical feedback, thus optical isolator is recommended in order to reach the specified performance.
- Laser chips are sensitive both mechanically and electrically. Extreme care should be taken when handling the bare dies, in order to avoid any damage to laser facets and waveguide area.
- 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.
- Electrostatic discharge may cause direct or latent damage to laser diodes. During laser handling, precautions for handling electrostatically sensitive devices must be observed. Please store the product in its original package until used.

## Liability note

This document is sole property of Modulight Corp. No part of this document may be copied without written acceptance of Modulight Corp. 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 Corp. reserves the right to make changes in the specifications at any time without prior notice.

## RoHS compliance

The product complies with EU RoHS 2 (Directive 2011/65/EU) and China RoHS II (Management Methods for the Restriction of the Use of Hazardous Substances in Electrical and Electronic Products)

2026-09-23