4-chip IR laser modules

Fiber-coupled laser modules 808…1550 nm

Overview

Modulight's new addition to FiberLight laser series comprises of multi-chip diode laser modules in the wavelength range of 808…1550 nm. The package is robust and it has a small footprint of 38 x 48 mm and height of 18 mm.



Default output is 200 µm NA=0.22 fiber terminated with SMA-905 connector. The package includes a photodiode for power monitoring and a thermistor and TEC for temperature controlling.

Applications

Industrial	Medical
Illumination	Aesthetic Treatments
Imaging	Surgery
Pumping	Dental

Electro-optical Characteristics, Typical Values

Parameter	Symbol	ML2199	ML2198	ML2200	ML2201	Unit
Wavelength	λ	808	980	1470	1550	nm
Optical Output Power	P_{OPT}	30	40	12	10	W
Operating Current	I_{OP}	9.5	12	10.5	11	A
Operating Voltage	V_{OP}	8	7	6	5.6	V
Threshold Current	I_{TH}	1.5	0.65	0.5	0.7	A

Typical values for operation at 25°C, expect for ML2200 and ML2201 which are operated at 20°C.

Fiber Pigtail Characteristics

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

[1] Standard connector: SMA-905. Receptacle model and other fiber specifications available on request.

Absolute Maximum Ratings

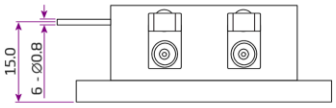
Parameter	Symbol	ML2199	ML2198	ML2200	ML2201	Unit
LD Reverse Voltage	V_{RLD}	8	7	2	2	V
LD Forward Current	I_{FLD}	11	14	12	12	A
Output Power	P_{OPT}	32	42	14	12	W
Laser Diode Temperature	T_{LD}	10…40	10…40	10…25	10…25	°C
Storage Temperature	T_{STG}	-20…80	-20…80	-20…50	-20…50	°C

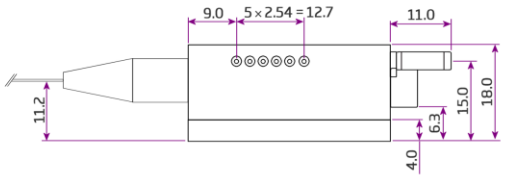
PRELIMINARY

Package Information

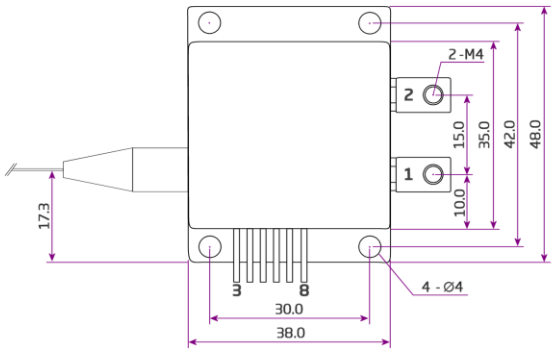
There are two alternative package options. The footprint of both packages is 38 x 48 mm, height being 18 mm.

1. Option: fiber-coupled package

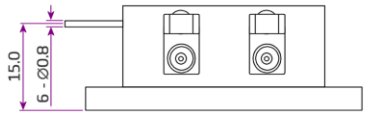


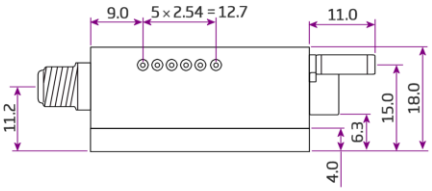


1. LD (+)
2. LD (-)
3. -
4. -
5. PD (N)
6. PD (P)
7. thermistor
8. thermistor

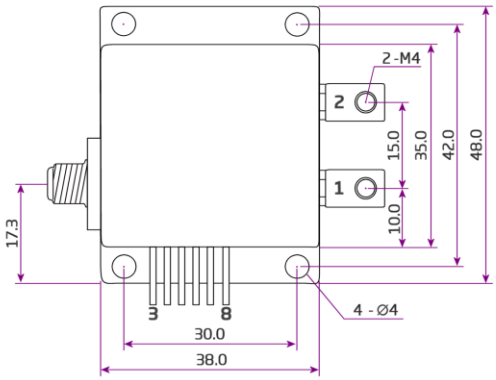


2. Option: receptacle package





1. LD (+)
2. LD (-)
3. pilot beam LD (+)
4. pilot beam LD (-)
5. PD (N)
6. PD (P)
7. thermistor
8. thermistor



Safety Information

- The laser light emitted from this laser device is invisible 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.



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.