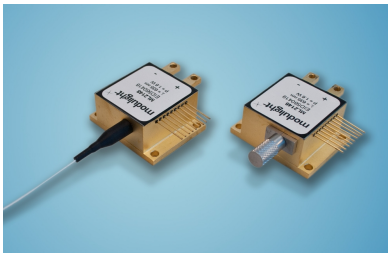
3-chip 635…680 nm modules

Fiber-coupled laser modules 635…680 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 38 x 48 mm and height of 22 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	Fluorescence
Pumping	Photodynamic Therapy

Electro-optical Characteristics, Typical Values

Parameter	Symbol	ML2159	ML2160	ML2154	ML2161	Unit
Wavelength	λ	635	650	670	680	nm
Optical Output Power	P_{OPT}	1	2	2.5	2.5	W
Operating Current	I_{OP}	1.1	1.6	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	0.67	0.67	A

Typical values for operation at 20°C, expect for ML2159, which is operated at 15°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

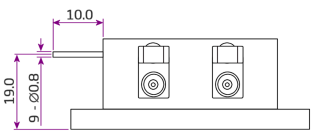
Parameter	Symbol	ML2159	ML2160	ML2154	ML2161	Unit
LD Reverse Voltage	V_{RLD}	0	0	0	0	V
LD Forward Current	I_{FLD}	1.2	1.8	1.8	1.8	A
Output Power	P_{OPT}	1.15	2.2	2.6	2.6	W
Laser Diode Temperature	T_{LD}	10…20	10…25	10…25	10…25	°C
Ambient Temperature	T_{AMB}	30	30	30	30	°C
Storage Temperature	T_{STG}	-20…50	-20…50	-20…50	-20…50	°C

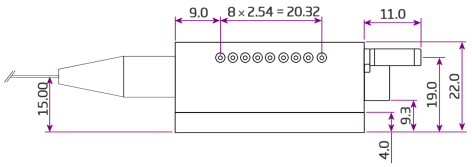
PRELIMINARY

Package Information

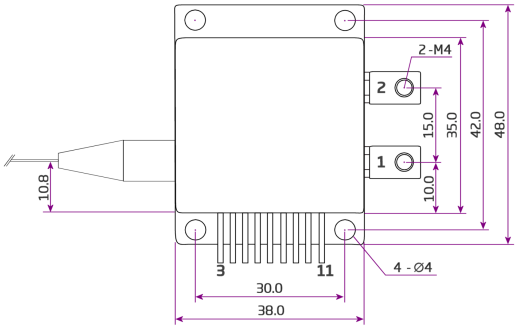
There are two alternative package options. The footprint of both packages is 38 x 48 mm, height being 22 mm.

1. Option: fiber-coupled package, with TEC

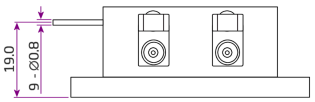


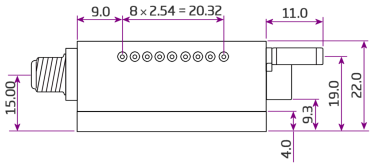


1. LD (+)
2. LD (-)
3. TEC (-)
4. -
5. -
6. PD (N)
7. PD (P)
8. -
9. thermistor
10. thermistor
11. TEC (+)

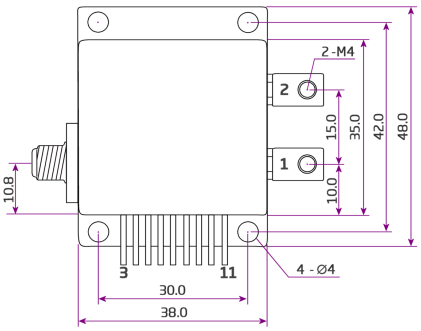


2. Option: receptacle package, with TEC





1. LD (+)
2. LD (-)
3. TEC (-)
4. -
5. -
6. PD (N)
7. PD (P)
8. -
9. thermistor
10. thermistor
11. 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.



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

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