

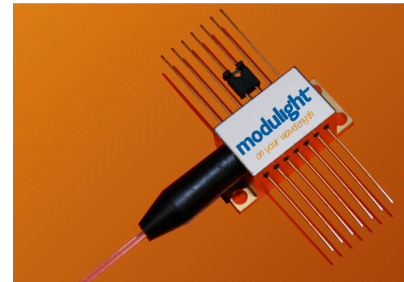
# Butterfly Module

14-pin butterfly packaged high-power laser module 635...1550 nm

## Overview

The 14-pin butterfly package laser diode series offers compact means of utilizing the performance of Modulight single emitter chips.

The package withholds an internal TEC and photodiode. Standard configuration includes a 200  $\mu\text{m}$  core fiber and an SMA-905 connector. Other connector and fiber types are available on request.



## Applications

Defense	Industrial	Medical
Illumination Sensing	Optical pumping Measurement and analysis	Therapeutic procedures Diagnostics Aesthetic treatments

## Electro-optical Characteristics, Typical Values

Parameter	Symbol	ML1862	ML1523	ML1859	ML1864	ML1855	ML1856	Unit
Wavelength	$\lambda$	635	680	808	940	1350	1550	nm
Optical Output Power	$P_{\text{OPT}}$	350	750	2000	3000	700	700	mW
Operating Current	$I_{\text{OP}}$	1.1	1.3	2.5	5.0	4.7	3.2	A
Operating Voltage	$V_{\text{OP}}$	2.3	2.0	2.0	1.8	1.3	1.3	V
Threshold Current	$I_{\text{TH}}$	600	600	400	400	1050	550	mA

All the above values are typical for CW operation @ 20°C.

## Fiber Pigtail Characteristics

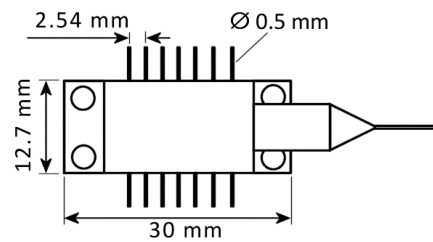
Parameter	Symbol	Typical Value	Unit
Core Diameter	$\varnothing_{\text{CORE}}$	200	$\mu\text{m}$
Cladding Diameter	$\varnothing_{\text{CLAD}}$	220	$\mu\text{m}$
Coating Diameter	$\varnothing_{\text{COAT}}$	~500	$\mu\text{m}$
Fiber Numerical Aperture	NA	0.22	-
Minimum Bending Radius (short-term)	$R_{\text{MIN1}}$	22	mm
Minimum Bending Radius (long-term)	$R_{\text{MIN2}}$	44	mm
Fiber Core Material		Pure silica	
Fiber Cladding Material		Fluorine doped silica	
Fiber Coating Material		Acrylate	
Connector at the fiber end		SMA-905	

### Absolute Maximum Ratings

Parameter	Symbol	ML1862	ML1523	ML1859	ML1864	ML1855	ML1856	Unit
LD Reverse Voltage	$V_{RLD}$	0	0	1.5	0	0	0	V
LD Forward Current	$I_{FLD}$	1.4	1.5	2.8	5.5	5.0	3.5	A
Ambient Temperature	$T_{AMB}$	30	30	30	30	30	30	°C
Storage Temperature	$T_{STG}$	-20...50	-20...50	-20...50	-20...50	-20...50	-20...50	°C

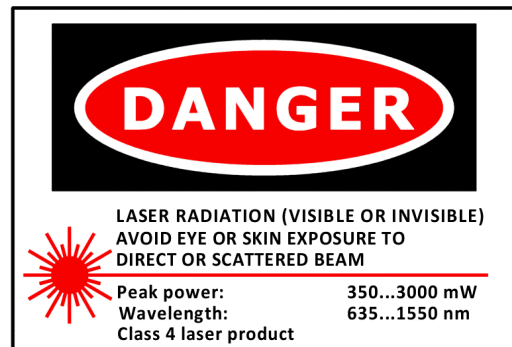
### Package Information

The butterfly module has a small footprint (30.0 × 12.7 mm) and many integrating options. The butterfly modules can be customized to accommodate special pin arrangements per request, and can be optionally equipped with simple output connector on a PCB. The butterfly laser module is offered as a thermoelectrically cooled version with an integrated photodiode and a thermistor.



### Safety Information

- The laser light emitted from this laser device may be visible or invisible, depending on the laser selected. The laser light is 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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