

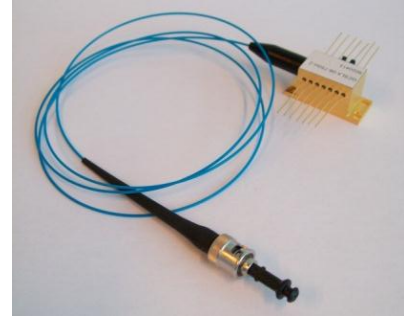
# ML1859

14-pin butterfly packaged 808 nm high-power laser module

## 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 100 μm core fiber and an SMA-905 connector. Other connector and fiber types are available on request.



## Applications

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

## Electro-optical Characteristics

Parameter	Symbol	Typical Value	Unit
Wavelength	$\lambda$	808 ± 10	nm
Optical Output Power	$P_{OPT}$	2.0	W
Operating Current	$I_{OP}$	2.5	A
Operating Voltage	$V_{OP}$	2.0	V
Threshold Current	$I_{TH}$	0.4	A

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

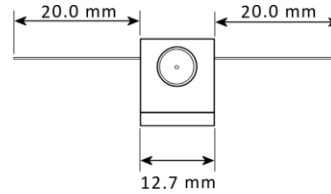
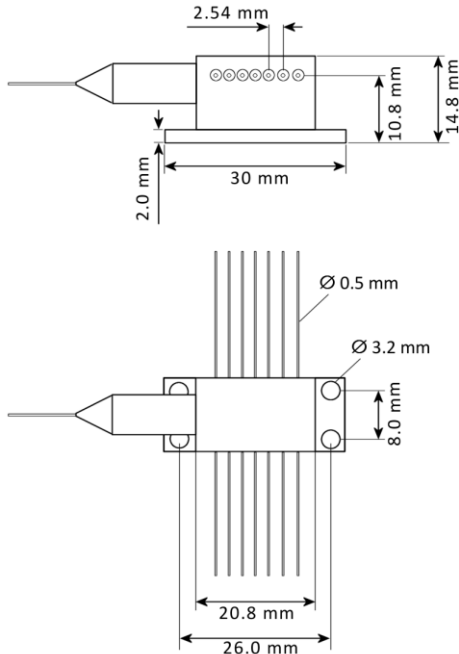
## Fiber Pigtail Characteristics

Parameter	Symbol	Typical Value	Unit
Core Diameter	$\varnothing_{CORE}$	105	μm
Cladding Diameter	$\varnothing_{CLAD}$	125	μm
Fiber Numerical Aperture	NA	0.22	-
Connector at the fiber end		SMA-905	

## Absolute Maximum Ratings

Parameter	Symbol	ML1856	Unit
LD Reverse Voltage	$V_{RLD}$	0	V
LD Forward Current	$I_{FLD}$	3.0	A
Ambient Temperature	$T_{AMB}$	30	°C
Storage Temperature	$T_{STG}$	-20...50	°C
TEC Current	$I_{TEC}$	2.0	A
TEC Voltage	$V_{TEC}$	3.8	V

### Package Information



### Pin assignment

PIN #	Function	PIN #	Function
1	TEC+	8	N/A
2	Thermistor	9	N/A
3	PD (p)	10	LD+
4	PD (n)	11	LD-
5	Thermistor	12	N/A
6	N/A	13	Case
7	N/A	14	TEC-

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 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.