

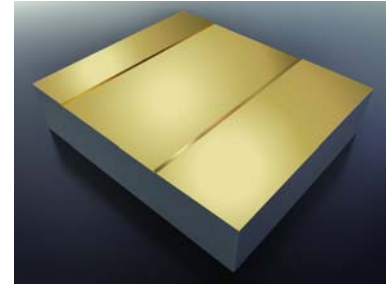
1470 nm high-power unmounted laser chip

ML1802



OVERVIEW

ML1802 is a high-power multi-mode 1470 nm laser designed for applications requiring high-power free-space laser beams at eye-safe wavelengths. This product is an unmounted chip (bare die), which can be used in CW operation, given that the mounting and packaging can handle the thermal load. Due to the inherent thermal sensitivity of this laser product, proper cooling must be ensured during operation.



APPLICATIONS

ELECTRO-OPTICAL CHARACTERISTICS

	Symbol	Typical value	Unit
Threshold Current	I_{TH}	700	mA
Optical Output Power	P_{OPT}	600	mW
Operating Current	I_{OP}	2.2	A
Operating Voltage	V_{OP}	< 1.2	V
Slope Efficiency	η	> 0.35	W/A
Peak Wavelength	λ	1470 ± 15	nm
Wavelength Temperature Coefficient	$\Delta\lambda/\Delta T$	0.6	nm/K
Spectral Width (FWHM)	$\delta\lambda$	< 10	nm
Parallel Beam Divergence (FWHM)	$\theta_{ }$	5...10	°
Perpendicular Beam Divergence (FWHM)	θ_{\perp}	30...35	°

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

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
LD forward current	I_{FLD}	3	A
Operating temperature range	T_{OP}	-10 ... +30	°C
Storage temperature range	T_{STG}	-40 ... +85	°C

1470 nm high-power unmounted laser chip

ML1802



MECHANICAL SPECIFICATIONS

Parameter	Symbol	Value	Unit
Cavity Length	L	1000	μm
Chip Width	W	500	μm
Emitter Width	W_E	100	μm
Chip Thickness	H	100	μm

SAFETY INFORMATION

- The laser light emitted from this laser diode is invisible and may be harmful to the human eye. Avoid eye 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.