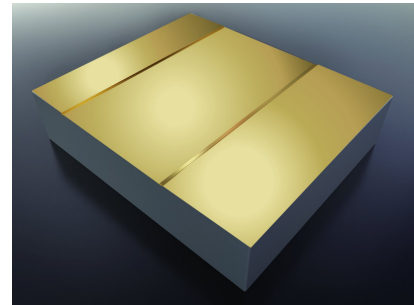


# ML1111

808 nm high-power laser chip

## Overview

ML1111 is a high-power unmounted laser chip (bare die) designed for CW and pulsed applications. A member of the LumiLase product family, ML1111 provides efficient and stable laser light output in CW and pulsed operation. Adequate cooling should be ensured during operation. This laser chip is also available C-mounted (please refer to product ML1522).



## Applications

Defense	Industrial	Medical
Illumination	Materials Processing	Aesthetic Treatments

## Electro-optical Characteristics

Parameter	Symbol	Typical value	Unit
Peak Wavelength	$\lambda$	808	nm
Optical Output Power	$P_{OPT}$	2	W
Operating Current	$I_{OP}$	2.1	A
Operating Voltage	$V_{OP}$	2.0	V
Slope Efficiency	$\eta$	1.1	W/A
Threshold Current	$I_{TH}$	0.5	A
Wavelength - Temp. Coefficient	$\Delta\lambda/\Delta T$	0.3	nm/K
Spectral Width	$\delta\lambda$	4	nm
Parallel Beam Divergence (FWHM)	$\theta_{  }$	8	°
Perpendicular Beam Divergence (FWHM)	$\theta_{\perp}$	33	°

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

## Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
LD Reverse Voltage	$V_{RLD}$	2	V
LD Forward Current	$I_{FLD}$	3	A
Operating Temperature	$T_{OP}$	0...40 <sup>1</sup>	°C
Storage Temperature	$T_{STG}$	-40...85	°C

<sup>1</sup> A non-condensing environment should be ensured over the useful temperature range.

### Mechanical Specification

Parameter	Symbol	Value	Unit
Cavity Length	L	1000	μm
Chip Width	W	500	μm
Emitter Width	W <sub>e</sub>	150	μm
Chip Thickness	H	130	μm

### 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.

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