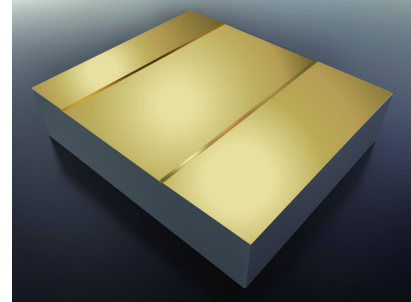


# ML1112

905 nm high-power pulsed laser chip

## Overview

ML1112 is a single-emitter multi-mode laser diode chip with a typical output power of 8 W. This laser diode is designed for short pulse applications at 905 nm. The laser chip is available as bare die chip.



## Applications

Defense	Industrial	Medical
Range-finding Laser radar	Distance measurement Speed detectors	Low-intensity laser therapy

## Electro-optical Characteristics

Parameter	Symbol	Typical value	Unit
Threshold Current	$I_{TH}$	0.4	A
Optical Output Power (peak power)	$P_{OPT}$	8	W
Operating Current	$I_{OP}$	8	A
Operating Voltage	$V_{OP}$	2.0	V
Slope Efficiency	$\eta$	0.8	W/A
Peak Wavelength	$\lambda$	905	nm
Wavelength Temperature Coefficient	$\Delta\lambda/\Delta T$	0.3	nm/K
Spectral Width	$\delta\lambda$	5	nm
Parallel Beam Divergence (FWHM)	$\theta_{  }$	8...12	°
Perpendicular Beam Divergence (FWHM)	$\theta_{\perp}$	35...45	°

All above values are typical for pulsed operation (50 ns, 2 kHz) @ 20°C.

## Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
LD Forward Current	$I_{FLD}$	15	A
Operating Temperature Range	$T_{OP}$	-10...+40 <sup>1</sup>	°C
Storage Temperature Range	$T_{ST}$	-40...+85	°C

<sup>1</sup> A non-condensing environment is required for operation temperatures below 10 °C.

### Mechanical Specification

Parameter	Symbol	Value	Unit
Cavity Length	L	700	μm
Chip Width	W	500	mm
Emitter Width	W <sub>e</sub>	150	μm
Chip Thickness	H	130	μm

### Safety Information

- The laser light emitted from this laser diode is invisible and potentially 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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