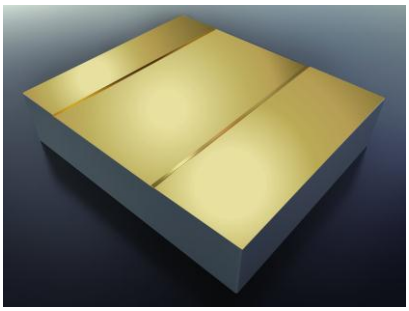
ML1112

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-level laser therapy

Electro-optical Characteristics

Parameter	Symbol	Typical value	Unit
Peak Wavelength	λ	905	nm
Optical Output Power (peak power)	P_{OPT}	8	W
Operating Current	I_{OP}	8	A
Operating Voltage	V_{OP}	2.0	V
Slope Efficiency	η	0.8	W/A
Threshold Current	I_{TH}	0.4	A
Wavelength Temperature Coefficient	$\Delta\lambda/\Delta T$	0.3	nm/K
Spectral Width	$\delta\lambda$	5	nm
Parallel Beam Divergence (FWHM)	$\theta \parallel$	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 [1]	°C
Storage Temperature Range	T_{ST}	-40…+85	°C

[1] 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	µm
Emitter Width	W_e	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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