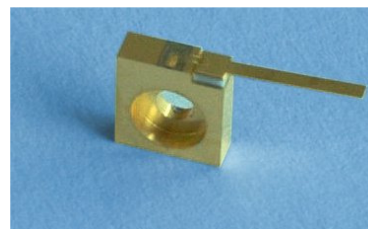


635...1550 nm C-mounts

Mounted high-power laser chips

Overview

C-mounted single-emitter chips are versatile and convenient for bringing laser light in many different applications. The ChiliLase, LumiLase and RangerLase high-power laser chips cover a range of 635...1550 nm, from visible red to near-IR. These multimode lasers provide efficient and robust stable laser light output in CW operation. Adequate cooling should be ensured during operation.



Applications

Defense	Industrial	Medical
Illumination Range-finding	Laser projectors Optical pumping	Aesthetic treatments Low-intensity laser therapy

Electro-optical Characteristics, Typical Values

Parameter	Symbol	ML1770 ¹	ML1810 ¹	ML1923 ²	ML1917 ²	ML1846 ²	Unit
Peak Wavelength	λ	635 ± 3	650 ± 5	808 ± 3	1470 ± 20	1550 ± 20	nm
Optical Output Power	P_{OPT}	0.5	1	5	1.5	1	W
Operating Current	I_{OP}	0.9	1.6	5.2	4.2	3.3	A
Operating Voltage	V_{OP}	2.25	2.1	2.0	1.35	1.3	V
Threshold Current	I_{TH}	0.4	0.6	1	0.22	0.34	A
Slope Efficiency	η	1.0	0.9	1.1	0.38	0.34	W/A
Wavelength - Temp. Coefficient	$\Delta\lambda/\Delta T$	0.2	0.2	0.3	0.6	0.6	nm/K
Spectral Width (FWHM)	$\delta\lambda$	1	1.5	3	10	10	nm
Parallel Beam Divergence (FWHM)	$\theta_{ }$	5	4	10	8	8	°
Perpendicular Beam Divergence (FWHM)	θ_{\perp}	40	35	36	32	32	°
Emitter width	W_e	100	150	200	100	100	μm

¹ Values of ML1770 and ML1810 are typical for CW operation @ 20°C.

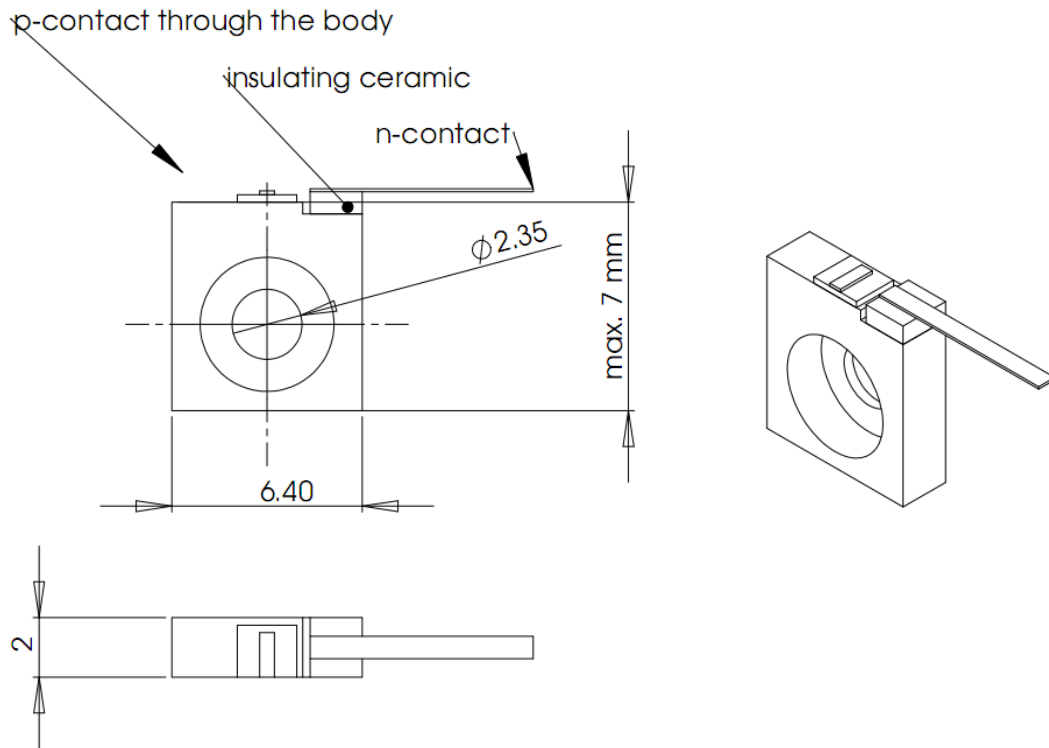
² Values of ML1923, ML1917 and ML1846 are typical for CW operation @ 25°C.

Absolute Maximum Ratings

Parameter	Symbol	ML1770	ML1810	ML1923	ML1917	ML1846	Unit
LD Reverse Voltage	V_{RLD}	0	0	2	2	2	V
LD Forward Current	I_{FLD}	1	1.8	5.5	4.4	3.5	A
Operating Temperature	T_{OP}	0...25 ¹	0...25 ¹	0...30 ¹	0...30 ¹	0...30 ¹	°C
Storage Temperature	T_{STG}	-40...85	-40...85	-40...85	-40...85	-40...85	°C

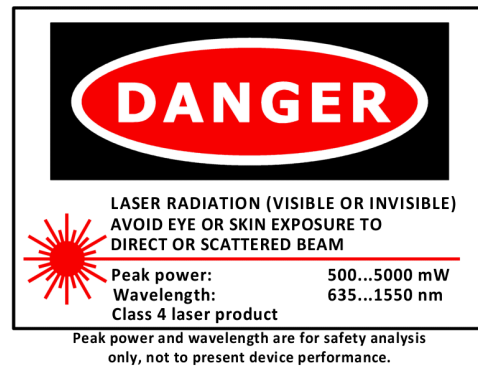
¹ A non-condensing environment should be ensured over the useful temperature range.

Package Information



Safety Information

- The laser light emitted from this laser device may be visible or invisible, depending on the laser selected. The laser light is 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.



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.