

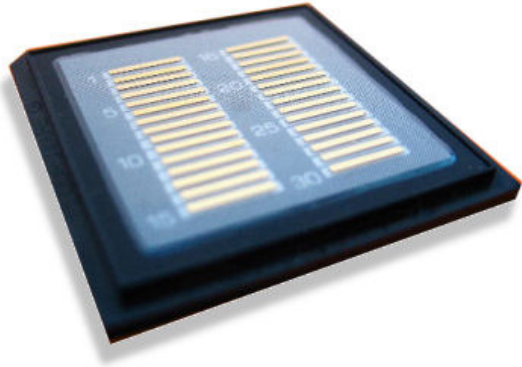
635 nm unmounted high-power laser bar

ML1515

modulight
on your wavelength

OVERVIEW

ML1515 is an unmounted laser bar (laser array) producing up to 7 W of output power. The product is designed for CW operation at 635 nm, providing very good power conversion efficiency. This product is also available on a CS-mount, please refer to product ML1806.



APPLICATIONS

Medical
Imaging

Laser display
Illumination

ELECTRO-OPTICAL CHARACTERISTICS

Parameter	Symbol	Typical value	Unit
Threshold Current	I_{TH}	8	A
Optical Output Power	P_{OPT}	7	W
Operating Current	I_{OP}	15	A
Operating Voltage	V_{OP}	< 2.5	V
Slope Efficiency	η	0.9	W/A
Peak Wavelength	λ	633 ± 3	nm
Wavelength Temperature Coefficient	$\Delta\lambda/\Delta T$	0.2	nm/K
Spectral Width	$\delta\lambda$	1.2	nm
Parallel Beam Divergence (FWHM)	$\theta_{ }$	3	°
Perpendicular Beam Divergence (FWHM)	θ_{\perp}	38	°

All above values are typical for CW operation @ 15°C

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
LD reverse voltage	V_{RLD}	0	V
LD forward current	I_{FLD}	16	A
Operating temperature range ¹	T_{OP}	5...20	°C

¹ A non-condensing environment is required when operating below the dew point.

635 nm unmounted high-power laser bar

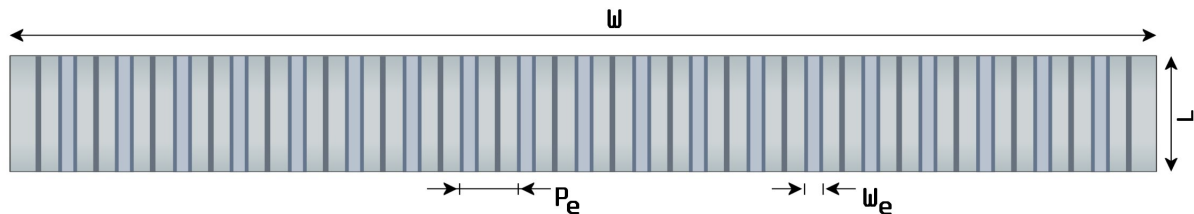
ML1515

modulight
on your wavelength

MECHANICAL SPECIFICATIONS

Parameter	Symbol	Value	Unit
Cavity Length	L	1000	μm
Bar Width	W	10	mm
Emitter Pitch	P_e	500	μm
Emitter Width	W_e	100	μm
Fill Factor	FF	20	%
Bar Thickness	H	135	μm
Emitters in a Bar		19	

BAR LAYOUT



SAFETY INFORMATION

- The laser light emitted from this laser diode, although visible, 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.



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.