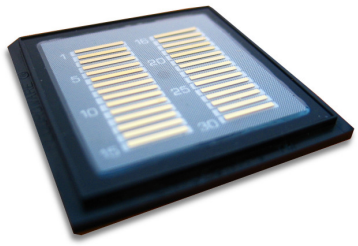
1470 nm high-power laser bar for CW applications

ML1818

Modulight

OVERVIEW

ML1818 is an unmounted laser bar (laser array) producing up to 20 W of output power at 1470 nm. The product is designed for reliable CW operation.



APPLICATIONS

Material processing	Medical
Industrial	Pumping

ELECTRO-OPTICAL CHARACTERISTICS

Parameter	Symbol	Typical value	Unit
Threshold Current	I_{TH}	< 10	A
Optical Output Power	P_{OPT}	20	W
Operating Current	I_{OP}	80	A
Operating Voltage	V_{OP}	< 1.4	V
Slope Efficiency	η	0.30	W/A
Peak Wavelength	λ	1470 ± 15	nm
Wavelength Temperature Coefficient	$\Delta\lambda/\Delta T$	0.6	nm/K
Spectral Width	$\delta\lambda$	< 12	nm
Parallel Beam Divergence (FWHM)	$\theta\|\|$	5...10	°
Perpendicular Beam Divergence (FWHM)	$\theta\perp$	30...35	°

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

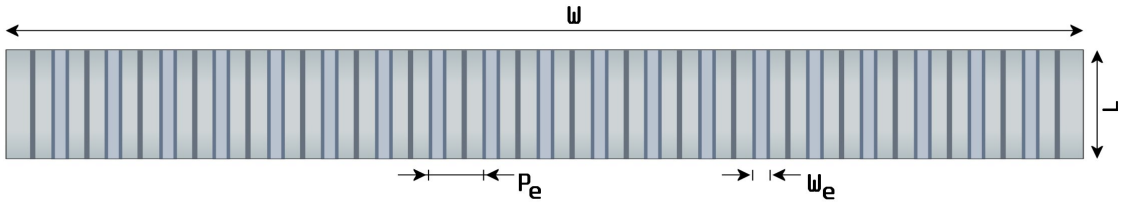
ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Rating	Unit
LD reverse voltage	V_{RLD}	2	V
LD forward current	I_{FLD}	100	A
Operating temperature range	T_{OP}	-20 - +40	°C

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	100	µm
Emitters in a Bar		19	

BAR LAYOUT



SAFETY INFORMATION

- The laser light emitted from this laser diode is invisible but may be harmful to the human eye. Avoid eye 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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