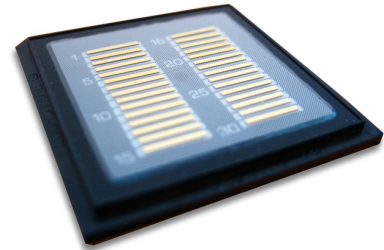


ML1278

795 nm, 40 W unmounted high-power laser bar

Overview

ML1278 is an unmounted high-power laser bar (laser array) with 30% fill factor, producing up to 40 W CW output power at 795 nm wavelength. A member of the LumiLase product family, ML1278 provides efficient and stable laser light output in CW and pulsed operation. Adequate cooling should be ensured during operation.



Applications

Defense	Industrial	Medical
Optical Pumping Illumination	Materials Processing Optical Pumping	Aesthetic Treatments Surgery

Electro-optical Characteristics

Parameter	Symbol	Typical value	Unit
Peak Wavelength	λ	795 ± 3	nm
Optical Output Power	P_{OPT}	40	W
Operating Current	I_{OP}	45	A
Operating Voltage	V_{OP}	2.0	V
Slope Efficiency	η	> 1	W/A
Threshold Current	I_{TH}	< 9	A
Wavelength - Temp. Coefficient	$\Delta\lambda/\Delta T$	0.3	nm/K
Spectral Width	$\delta\lambda$	4	nm
Parallel Beam Divergence (FWHM)	$\theta_{ }$	8	°
Perpendicular Beam Divergence (FWHM)	θ_{\perp}	33	°

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

Absolute Maximum Ratings

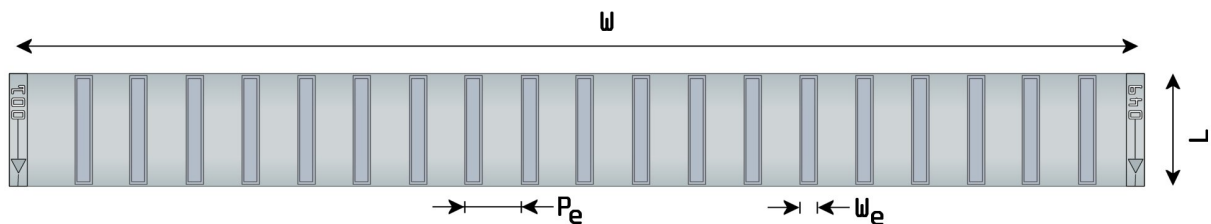
Parameter	Symbol	Rating	Unit
LD Reverse Voltage	V_{RLD}	2	V
LD Forward Current	I_{FLD}	65	A
Operating Temperature	T_{OP}	0...40 ¹	°C
Storage Temperature	T_{STG}	-40...85	°C

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

Mechanical Specification

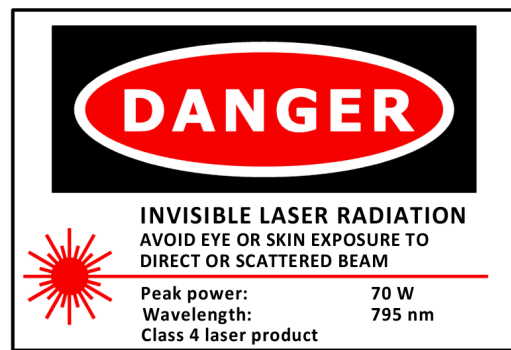
Parameter	Symbol	Value	Unit
Cavity Length	L	1000	μm
Bar Width	W	10	mm
Emitter Pitch	P_e	500	μm
Emitter Width	W_e	150	μm
Fill Factor	FF	30	%
Bar Thickness	H	130	μm
Emitters in a Bar		19	

Bar Layout



Safety Information

- The laser light emitted from this laser device is invisible and 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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