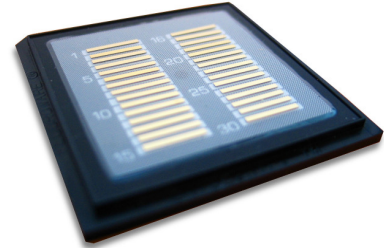


# ML1278

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	$\lambda$	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	$\eta$	> 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)	$\theta_{\perp}$	33	°

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

## Absolute Maximum Ratings

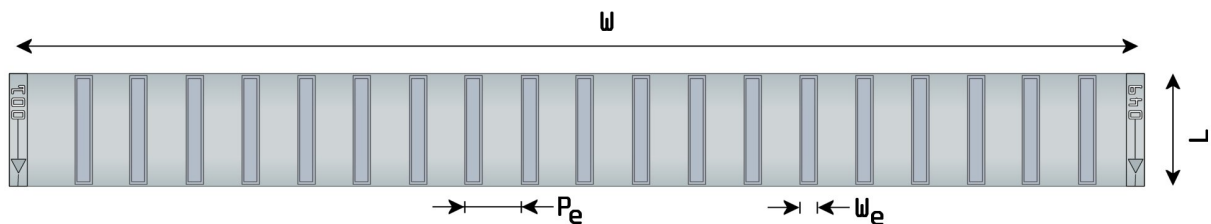
Parameter	Symbol	Rating	Unit
LD Reverse Voltage	$V_{RLD}$	2	V
LD Forward Current	$I_{FLD}$	65	A
Operating Temperature	$T_{OP}$	0...40 <sup>1</sup>	°C
Storage Temperature	$T_{STG}$	-40...85	°C

<sup>1</sup> 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.

DANGER

**INVISIBLE LASER RADIATION**  
 AVOID EYE OR SKIN EXPOSURE TO  
 DIRECT OR SCATTERED BEAM

Peak power:	70 W
Wavelength:	795 nm
Class 4 laser product	

Peak power and wavelength are for safety analysis only, not to present device performance.

### Liability note

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