

# MNx Ultra-Compact Microchip Series



## KEY FEATURES

- Ultra-compact package
- 1535 nm, 1064 nm and 532 nm
- Ultra-short pulses down to 650 ps
- Multi-kW peak power
- Excellent beam quality – TEM00,  $M^2 < 1.1$
- Efficient, air-cooled

The MNx series are our most compact microchip lasers and cover the mid-IR to visible part of the spectrum. They integrate the pump diode, the micro-cavity and even the second harmonic generation crystal in a package less than 7 cm long.

The 1064nm engine produces sub-nanosecond pulses with several kW peak power, achieving over 50% second harmonic generation efficiency at 532 nm. The 1535nm micro-laser displays similar performances with a few nanoseconds pulse duration.

## APPLICATIONS

- Super-continuum generation
- Marking
- Raman spectrometry
- Rangin

## TECHNICAL SPECIFICATIONS

	MNE-06E-100	MNP-08E-100	MNG-03E-100
<b>Wavelength</b>	1535nm	1064nm	532nm
<b>Repetition Rate</b>	>2kHz	>5kHz	>5kHz
<b>Constant Pulse width range (FWHM) <sup>(1)</sup></b>	<3.5ns	<1ns	<0.75ns
<b>Output power<sup>(2)</sup></b>	>12mW	>40mW	>15mW
<b>Output energy</b>	>6μJ	>8μJ	>3μJ
<b>Peak Power</b>	>1.5kW	>8kW	>4kW
<b>Short term (1min) power stability <sup>(3)</sup></b>	<±1%	<±1%	<±1%
<b>Long term (6 hrs) power stability<sup>(3)</sup></b>	<±5%	<±3%	<±3%
<b>Beam profile</b>	Gaussian TEM00	Gaussian TEM00	Gaussian TEM00
<b>Full angle divergence</b>			
<b>Horizontal @1/e<sup>2</sup></b>	23±3.4 mrad	12±2 mrad	10±2 mrad
<b>Vertical @1/e<sup>2</sup></b>	23±3.6 mrad	14±2 mrad	9±2 mrad
<b>M<sup>2</sup><sup>(4)</sup></b>	<1.3	<1.3	<1.3
<b>Beam ellipticity<sup>(5)</sup></b>	<1.2	<1.3	<1.3
<b>Polarization</b>	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB
<b>Package dimensions</b>	100x22x32mm	68x41x29mm	68x41x29mm
<b>Package weight</b>	250g	250g	250g
<b>Options (table p3)</b>	-	M	-

### NOTES

- (1) Measured with 1GHz photodiode and 1GHz/10GS/s oscilloscope.  
(2) Measurement performed with an OPHIR thermal power sensor (OPHIR 3A-FS-SH).  
(3) For temperature variation < ± 3°C and < 3°C/hour, stability is measured with calorimeter - detector band [DC, 2Hz]  
(4) Mean average value  $M = \sqrt{XY}$ , X and Y being respectively the major and minor axis of the ellipse  
(5) Beam ellipticity is calculated as the ratio of the main axis far field divergence

## COMPLEMENTARY INFORMATION & OPTIONS

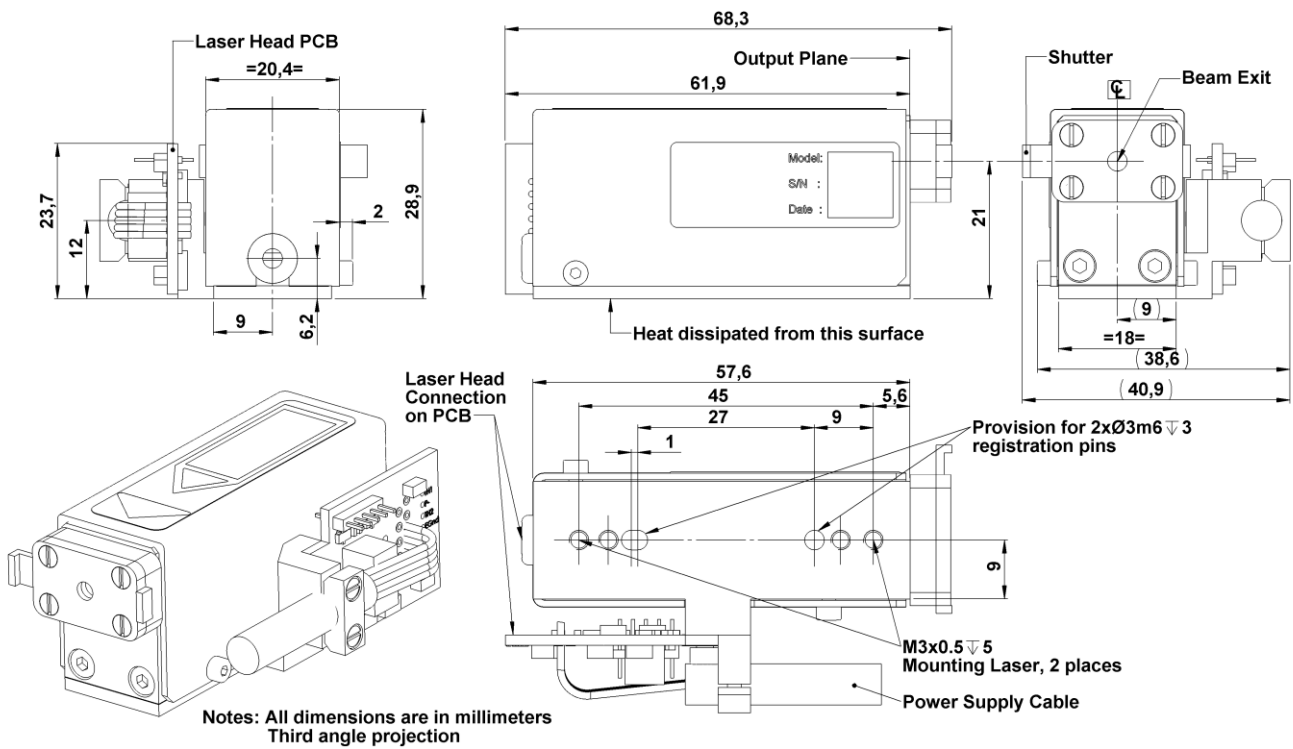
Environment Parameters	
Operating Temperature Range	0-50°C
Maximum Laser Head Baseplate Temperature	<50°C
Maximum Power Consumption	<40W
Laser Head Thermal Dissipation	<10W
Storage Temperature	0-50°C
Shock of 11ms according to IEC 68-2-27, non operating	25g
Vibration 5Hz to 500Hz sinusoidal according to IEC 68-2-6	2g

Certification	
Laser classification according to IEC 60825-1:2007	3R for MNE-06E 3B MNP-08E and MNG-03E
CDRH	Yes, if used with a -DR1 controller
ROHs	Yes

Options	
Multimode fibering (M)	Contact factory for availability

Available Controller Types			
Model	Type	Input Power	CDRH
MLC-03A-DR1	Desktop	100-240 V AC	Yes
MLC-03A-MR1	Module	12 V DC	No
MLC-03A-BR1	Board	12 V DC	No

## CDRH LASER HEAD MECHANICAL DRAWINGS: MNP-08E-100, MNG-03E-100



# CDRH LASER HEAD MECHANICAL DRAWINGS: MNE-06E-100

**NOTES: All dimensions are in millimeters  
Third Angle Projection**

