

## MNx Ultra-Compact Microchip Series

### Key features

- ▶ Ultra-compact package
- ▶ 1535nm, 1064nm and 532nm
- ▶ Ultra-short pulses down to 650ps
- ▶ 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 7cm long.

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

### Applications

- ▶ Super-continuum generation
- ▶ Marking
- ▶ Raman spectrometry
- ▶ Ranging

For your application, find your pulsed laser solution

**teem** photonics™

**Technical specifications:**

	<b>MNE-06E-100</b>	<b>MNP-08E-100</b>	<b>MNG-03E-100</b>
<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

For your application, find your pulsed laser solution

**teem** photonics™

**Complementary information & options:**

**Environment Parameters**

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

**Certification**

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

**Options**

<b>Multimode fibering (M)</b>	Contact factory for availability
-------------------------------	----------------------------------

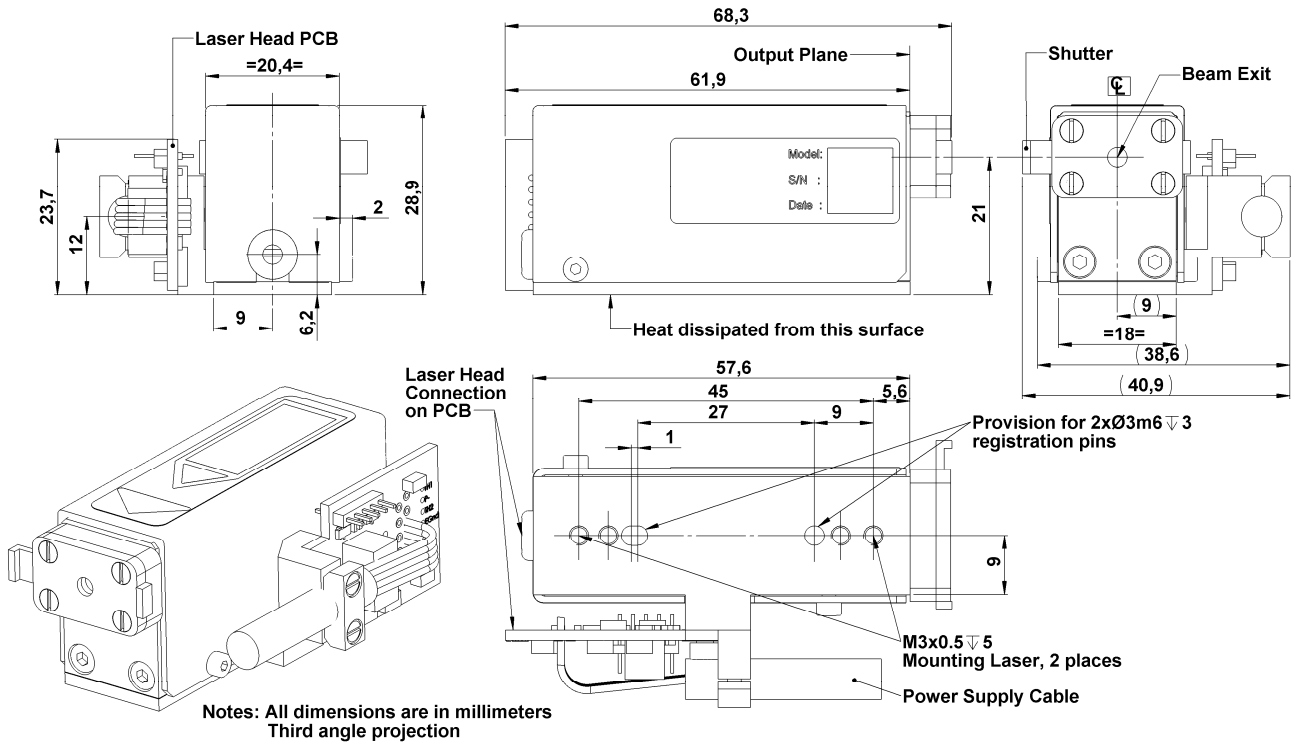
**Available Controller Types**

<b>Model</b>	<b>Type</b>	<b>Input Power</b>	<b>CDRH</b>
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

For your application, find your pulsed laser solution

**teem** photonics™

**CDRH Laser Head Mechanical Drawings : MNP-08E-100, MNG-03E-100**



For your application, find your pulsed laser solution

teem photonics™

### CDRH Laser Head Mechanical Drawings : MNE-06E-100

NOTES: All dimensions are in millimeters  
Third Angle Projection

