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 153 5nm 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
Wavelength	1535nm	1064nm	532nm
Repetition Rate	>2kHz	>5kHz	>5kHz
Constant Pulse width range (FWHM) (1)	<3.5ns	<1ns	<0.75ns
Output power(2)	>12mW	>40mW	>15mW
Output energy	>6µJ	>8µJ	>3µJ
Peak Power	>1.5kW	>8kW	>4kW
Short term (1min) power stability (3)	<±1%	<±1%	<±1%
Long term (6 hrs) power stability(3)	<±5%	<±3%	<±3%
Beam profile	Gaussian TEM00	Gaussian TEM00	Gaussian TEM00
Full angle divergence Horizontal@1/e² Vertical@1/e²	23±3.4 mrad 23±3.6 mrad	12±2 mrad 14±2 mrad	10±2 mrad 9±2 mrad
M²(4)	<1.3	<1.3	<1.3
Beam ellipticity(5)	<1.2	<1.3	<1.3
Polarization	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB
Package dimensions	100x22x32mm	68x41x29mm	68x41x29mm
Package weight	250g	250g	250g
Options (table p3)	-	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 = √(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 sinusoïdal according to IEC 68-2-6	2g

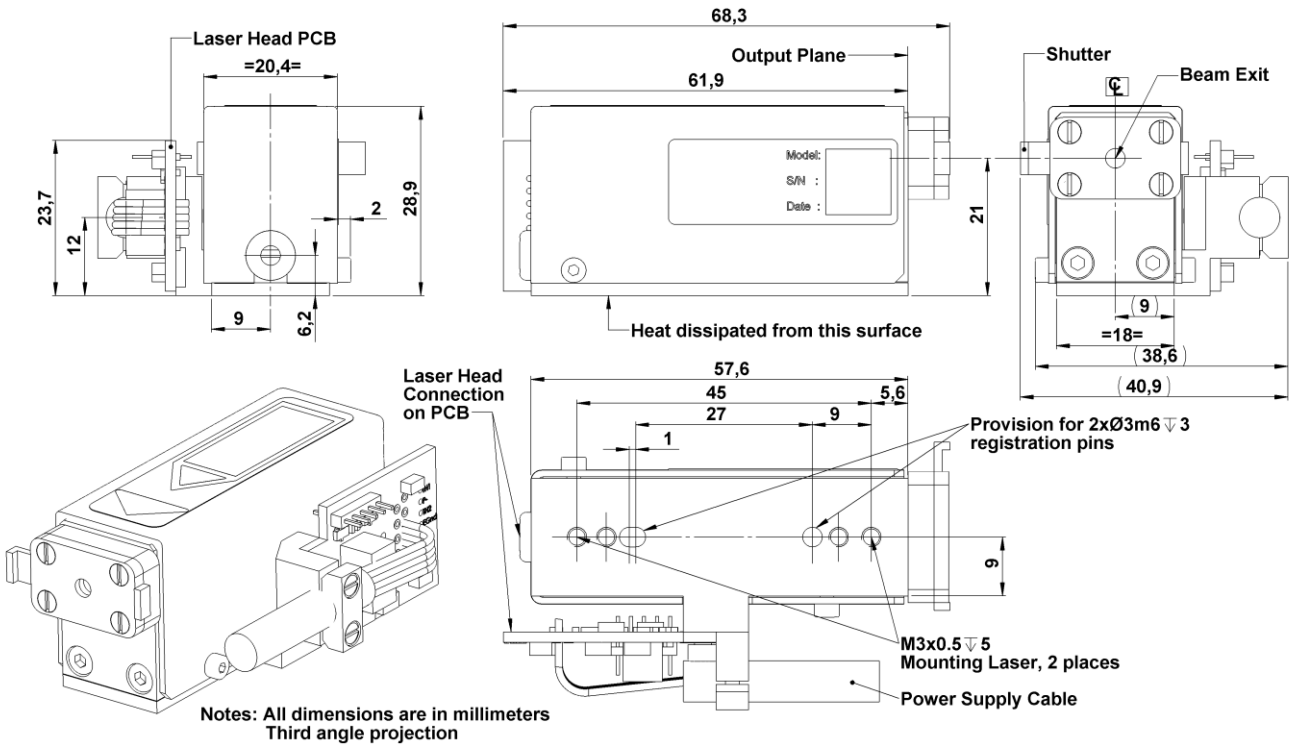
Certification	
Laser classification according to IEC 60825-1:2007	3R for MNE-06E 3B MNP-08E and MNG-03E
CDRH	Yes, if used with a -DR1 controller
ROHs	Yes

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