

## SNV/U High Performances UV Microchip Series

### Key features

- ▶ 355nm and 266nm wavelength
- ▶ Repetition rate up to 20kHz
- ▶ Ultrashort pulses down to 550ps
- ▶ Multi-kW peak power
- ▶ Excellent beam quality
- ▶ Efficient, air-cooled
- ▶ Sealed package, extremely long life



For generating high peak power ultraviolet pulses of a few hundred picoseconds, microchip lasers are economical, compact, and reliable. Microjoule UV pulses are generated from the harmonic conversion of the emissions from a passively Q-switched Nd:YAG microchip engine. The SNV and SNU series are designed for high average power, delivering multi-kW peak power at repetition rates up to 20kHz.

### Applications

- ▶ Semiconductor inspection
- ▶ Laser-induced fluorescence (LIF)
- ▶ Micro dissection
- ▶ Organic compound marking and micromachining
- ▶ Biohazard detection
- ▶ Time resolved fluorescence
- ▶ Laser Induced Breakdown Spectroscopy (LIBS)

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## Technical specifications:

	SNV-05P-xxx	SNV-20F-xxx <sup>(8)</sup>	SNU-02P-xxx	SNU-20F-xxx
<b>Wavelength</b>	355nm	355nm	266nm	266nm
<b>Repetition Rate</b>	>5kHz	>19kHz	>6kHz	>19kHz
<b>Constant Pulse width range (FWHM) <sup>(1)</sup></b>	<0.6ns	<0.6ns	<0.6ns	<0.6ns
<b>Output power<sup>(2)</sup></b>	>5mW	>10mW	>2mW	>10mW
<b>Output energy</b>	>0.5μJ	>0.5μJ	>0.3μJ	>0.5μJ
<b>Peak Power</b>	>0.7kW	0.7kW	>0.5kW	>0.7kW
<b>Short term (1min) power stability <sup>(3)</sup></b>	<±1%	<±1%	<±1%	<±2%
<b>Long term (6 hrs) power stability<sup>(3)</sup></b>	<±5%	<±5%	<±5%	<±5%
<b>Beam profile</b>	Gaussian TEM00	Gaussian TEM00	See note (6)	See note (6)
<b>Full angle divergence</b>				
Horizontal@1/e <sup>2</sup>	8.5±2mrad	11±2mrad	11±2mrad	11.5±2mrad
Vertical@1/e <sup>2</sup>	6±2mrad	7±2mrad	<1.5mm <sup>(7)</sup>	0.65±0.25mrad
<b>M<sup>2</sup><sup>(4)</sup></b>	<1.3	<1.3	<1.3	<1.4
<b>Beam ellipticity<sup>(5)</sup></b>	<1.3	<1.3	N/A	N/A
<b>Gaussian fit in far field</b>	N/A	N/A	N/A	>85%
<b>Polarization</b>	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB	Linear PER>20dB
<b>Package dimensions</b>	180x55x36mm	186x60x36mm	180x55x36mm	210x60x36mm
<b>Package weight</b>	400g	500g	400g	500g
<b>Options (table p3)</b>	CDRH,C	CDRH,C,S	CDRH,C	CDRH,C,S

### 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
(6)	Beam exhibits different profile in horizontal (Gaussian) and vertical ((sin x /x) <sup>2</sup> in far-field) plan
(7)	5%/95% diameter, at 300mm from laser output
(8)	Contact factory for availability

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### Complementary information & options:

#### Environment Parameters

Operating Temperature Range	15-35°C
Maximum Laser Head Baseplate Temperature	<50°C
Maximum Power Consumption	<40W
Laser Head Thermal Dissipation	<15W
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	3B for SNV-05P and SNV-20F 4 for SNU-02P and SNU-20F
CDRH	Yes, if used with a -DR1 controller
ROHs	Yes

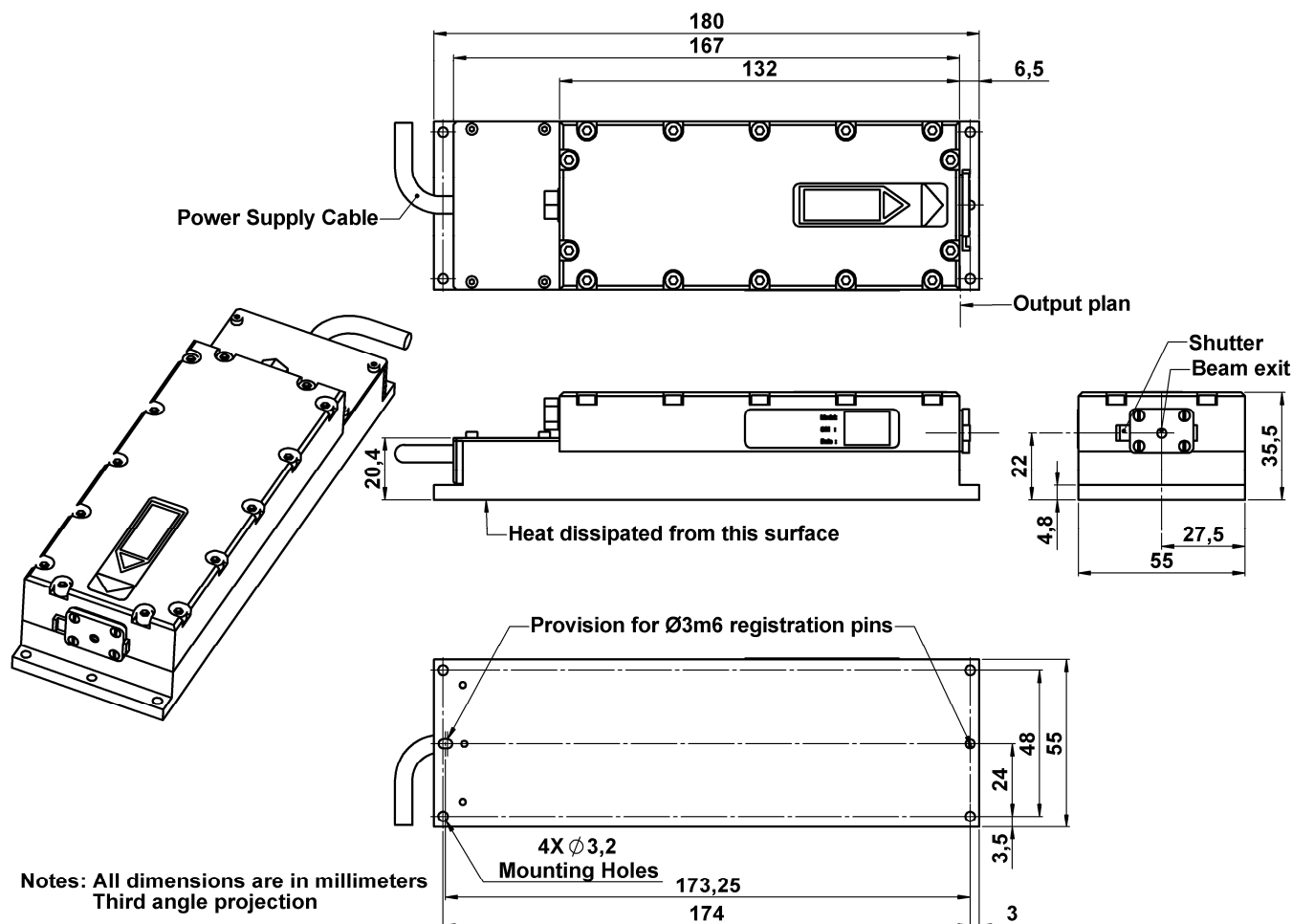
#### Options

CDRH	With a mechanical shutter
Collimation (C)	With collimated beam
Synchronization output (S)	Included with SNV-20F and SNU-20F

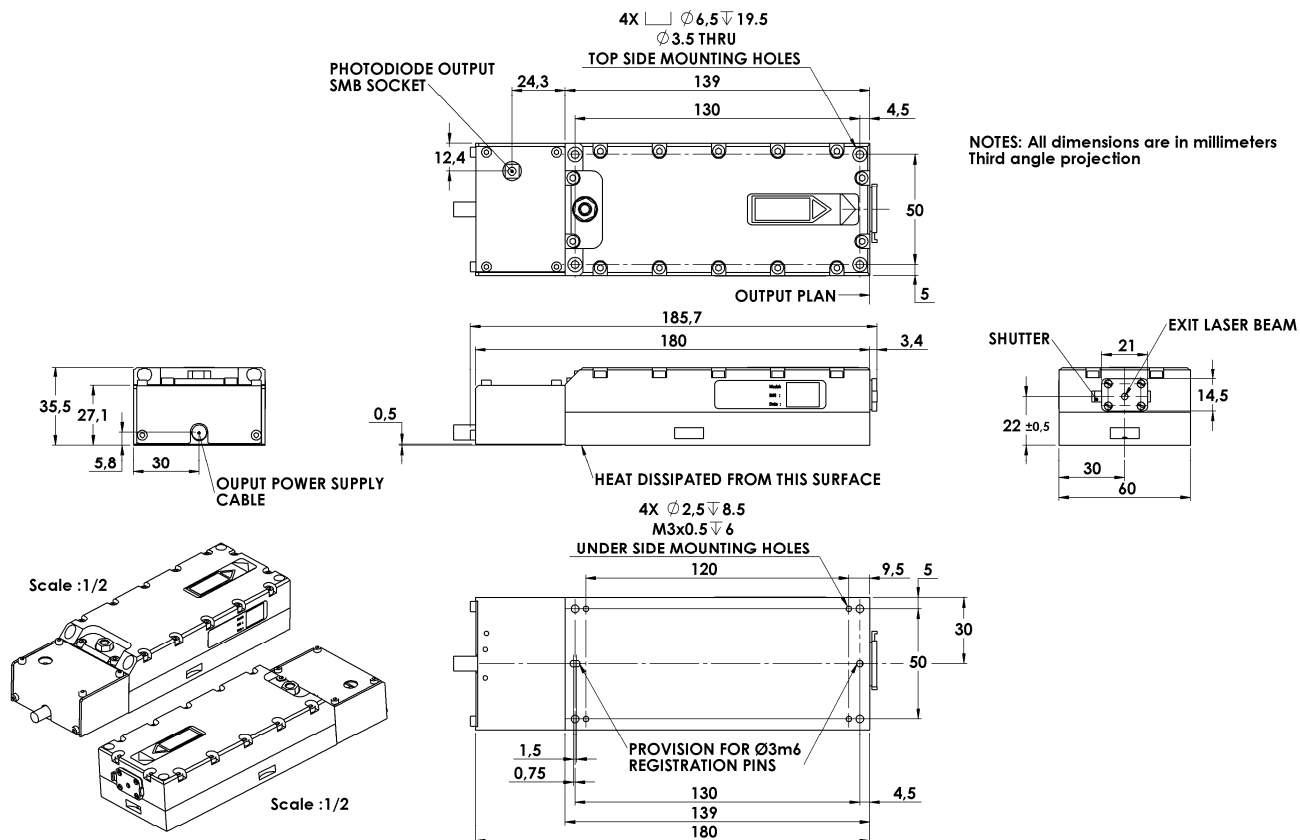
#### Available Controller Types

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 : SNV-05P



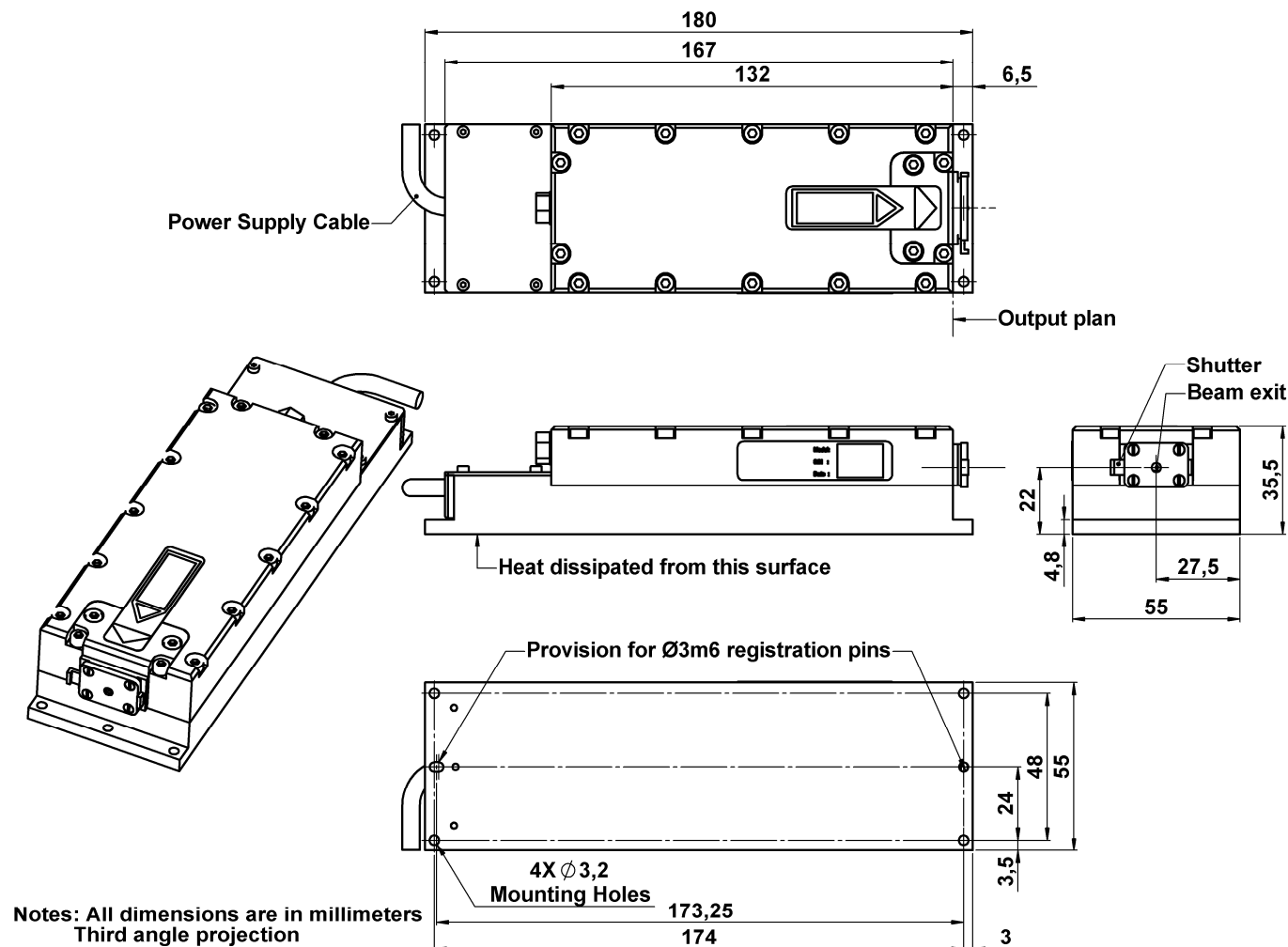
## CDRH Laser Head Mechanical Drawings : SNV-20F



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## CDRH Laser Head Mechanical Drawings : SNU-02P



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## CDRH Laser Head Mechanical Drawings : SNU-20F

