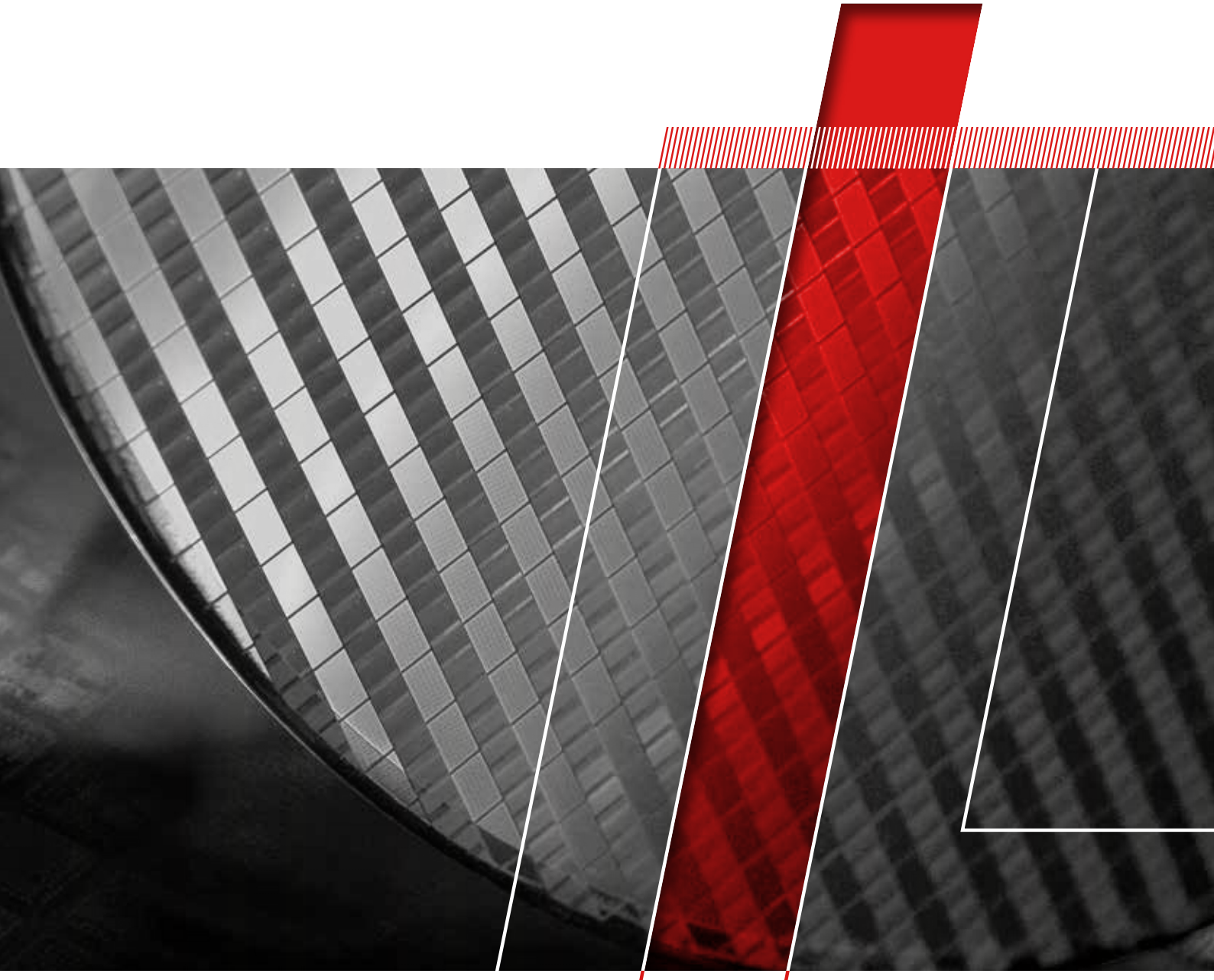
mosquitoo*

Mini DPSS Lasers

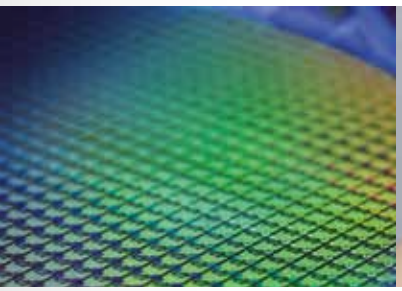
mosquitoo*X

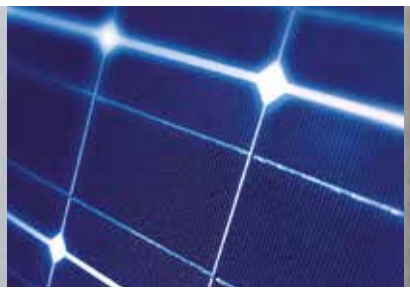
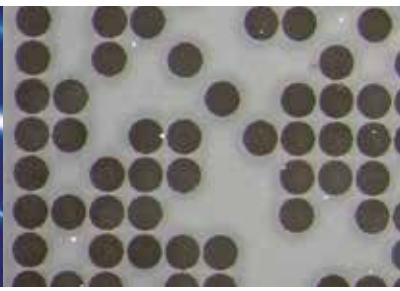
Mini DPSS Lasers



Think of **LASER** *as a tool*

INNOLAS PHOTONICS



mosquitoo* mosquitoo*X Mini DPSS Lasers

Versatility. Flexibility. Reliability.

The mosquitoo and mosquitoo X series of mini DPSS lasers are designed to deliver exceptional performance in a compact footprint. The innovative system architecture provides a nearly diffraction limited beam with short pulse widths and superior pulse-to-pulse stability even at high repetition rates. The compact, conduction cooled laser head and the field proven InnoLas Laser Control (ILC) interface allows easiest integration and make this laser a rugged tool with exceptional performance and reliability. Our clean room production and the use of highest quality components ensures consistent quality and longest laser lifetimes.

Applications

* Photovoltaic Manufacturing
* LED Chip and PCB Marking
* Stereo Lithography
* Semiconductor Manufacturing
* Resistor Trimming

Features

* Short pulse widths of <10 ns
* Rugged design for hands-off operation
* Contact cooling
* Small footprint
* Long life pump diode

Pulse widths as short as 6 ns and pulse peak powers above 20 kW open new possibilities in laser material processing applications. Processes which previously required cost intensive high power lasers can now be accomplished with the compact and conduction cooled mosquitoo lasers.

mosquitoo

Specifications

	1064-3-V	532-2-V	355-0.3-V
Laser Medium	Nd:YVO_4	Nd:YVO_4	Nd:YVO_4
Wavelength	1064 nm	532 nm	355 nm
Nominal Power	3 W @ 100 kHz	2 W @ 50 kHz	0.3 W @ 50 kHz
Repetition Rate	Single Shot to 200 kHz	Single Shot to 200 kHz	Single Shot to 200 kHz
Pulse Width	< 13 ns @ 50 kHz	< 12 ns @ 50 kHz	< 10 ns @ 50 kHz
Pulse Energy	50 µJ @ 50 kHz	40 µJ @ 50 kHz	6 µJ @ 50 kHz
Peak Power	> 3.8 kW @ 50 kHz	> 3.3 kW @ 50 kHz	> 0.6 kW @ 50 kHz
Pulse-to-Pulse Stability	< 2 %	< 3 %	< 4 %
Power Stability (rms, 8h)	< 2 %	< 2 %	< 2 %
Spatial Mode	M^2 < 1.2, TEM_{00}	M^2 < 1.3, TEM_{00}	M^2 < 1.3, TEM_{00}
Beam Diameter (at waist)	0.4 mm	0.3 mm	0.2 mm
Waist Location (from output)	-85 mm	-164 mm	-164 mm
Beam Divergence (full angle)	4.0 mrad	2.9 mrad	2.9 mrad
Beam Diameter (at output)	0.5 mm	0.6 mm	0.5 mm
Polarization	Vertical, > 100:1	Horizontal, > 100:1	Vertical, > 100:1
Circularity	> 90 %	> 85 %	> 85 %
Warm-up Time	< 10 min		
Operating Voltage	115-230 VAC ± 10 %, 50-60 Hz, single phase, 24 VDC on request		
Laser Power Consumption	< 150 W		
Cooling	Contact, < 80 W, 40 °C Maximum Base Temperature		
Ambient Temperature	15-35 °C (59-95 °F), non-condensing		
External Control	RS232, USB, TTL and Analog Q-Switch Control		
Dimensions Laser Head	175 x 105 x 60 mm (6.89 x 4.13 x 2.36 in.), L x W x H		
Dimensions Power Supply	408 x 447 x 44 mm (16.06 x 17.6 x 1.73 in.), L x W x H, 19" system, 1 RU high		
Weight Laser Head	1.7 kg (3.7 lbs.)		
Weight Power Supply	6 kg (13.2 lbs.)		

Available Options

Umbilical length between laser head and power supply 1-20 m. Standard is 3 m. External beam expander box, beam expanders and scan head adapter flanges. Customized power supply front design. Variable attenuator.

mosquitoo X

Specifications

	1064-6-V	532-5-V	355-1-V
Laser Medium	$Nd:YVO_4$	$Nd:YVO_4$	$Nd:YVO_4$
Wavelength	1064 nm	532 nm	355 nm
Nominal Power	6 W @ 100 kHz	5 W @ 50 kHz	1 W @ 50 kHz
Repetition Rate	Single Shot to 200 kHz	Single Shot to 200 kHz	Single Shot to 200 kHz
Pulse Width	< 13 ns @ 50 kHz	< 12 ns @ 50 kHz	< 12 ns @ 50 kHz
Pulse Energy	100 µJ @ 50 kHz	100 µJ @ 50 kHz	20 µJ @ 50 kHz
Peak Power	> 7.6 kW @ 50 kHz	> 8.3 kW @ 50 kHz	> 1.6 kW @ 50 kHz
Pulse-to-Pulse Stability	< 1 %	< 2 %	< 2 %
Power Stability (rms, 8h)	< 2 %	< 2 %	< 2 %
Spatial Mode	M^2 < 1.2, TEM_{00}	M^2 < 1.3, TEM_{00}	M^2 < 1.3, TEM_{00}
Beam Diameter (at waist)	0.4 mm	0.3 mm	0.2 mm
Waist Location (from output)	-85 mm	-164 mm	-164 mm
Beam Divergence (full angle)	4.0 mrad	2.9 mrad	2.9 mrad
Beam Diameter (at output)	0.5 mm	0.6 mm	0.5 mm
Polarization	Vertical, > 100:1	Horizontal, > 100:1	Vertical, > 100:1
Circularity	> 90 %	> 85 %	> 85 %
Warm-up Time	< 10 min		
Operating Voltage	115-230 VAC ± 10 %, 50-60 Hz, single phase, 24 VDC on request		
Laser Power Consumption	< 170 W		
Cooling	Contact, < 100 W, 40 °C Maximum Base Temperature		
Ambient Temperature	15-35 °C (59-95 °F), non-condensing		
External Control	RS232, USB, TTL and Analog Q-Switch Control		
Dimensions Laser Head	175 x 105 x 60 mm (6.89 x 4.13 x 2.36 in.), L x W x H		
Dimensions Power Supply	408 x 447 x 44 mm (16.06 x 17.6 x 1.73 in.), L x W x H, 19" system, 1 RU high		
Weight Laser Head	1.7 kg (3.7 lbs.)		
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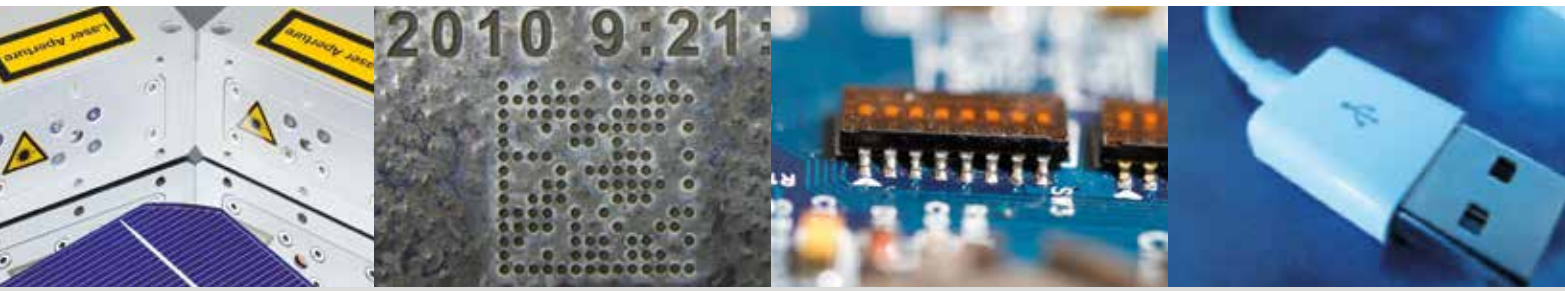
InnoLas follows a policy of continuous product improvement. All specifications are subject to change without notice. Rev. 3.0, 01/2015.
InnoLas Photonics GmbH is DIN EN ISO 9001 certified.



Services

Applications Lab

Our in-house applications lab offers a wide variety of lasers, scanning and measurement equipment to find the ideal solution for your application tasks. Supported by our application experts, our open house policy allows for fast results and short lead times for your sample processing requests.

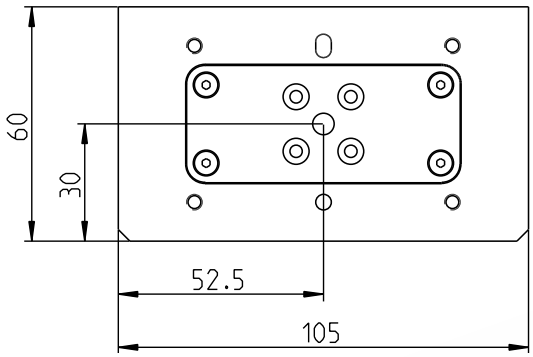
Customer Service

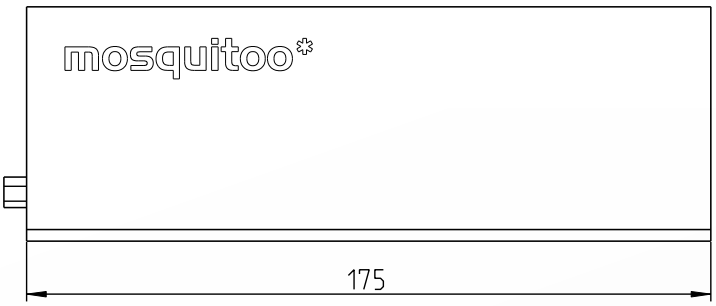
Being close to the customer is our strength. Customer requests, new challenges or service issues are handled directly in our engineering department. And we guarantee fastest response times as you expect it.

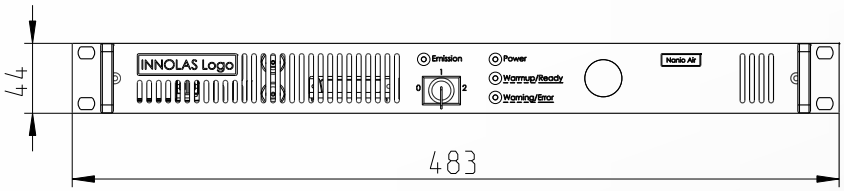
Customization

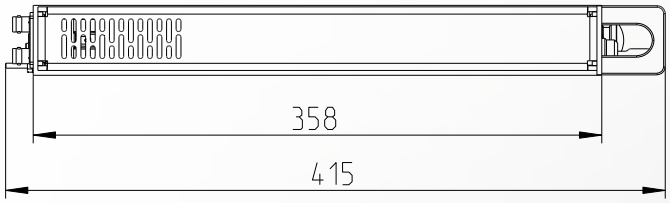
Since today's demanding applications deserve optimized laser parameters, we do not only sell off-the-shelf products. We can tailor our laser performance, design, interfacing or software to perfectly fit your individual application needs.

Technical Drawing









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