AVIA LX

Solid-State Q-Switched Second and Third Harmonic Lasers

AVIA LX is a diode-pumped, solid-state, Q-switched nano-second laser that offers an unmatched combination of high reliability, superior performance, and low cost of ownership. This is achieved, in part, through the use of the Coherent PureUV™ active laser-cleaning engine to deliver exceptional lifetime and hands-free operation. These characteristics make AVIA LX an ideal tool for high throughput, demanding, yet cost sensitive applications such as via drilling in PCB and flex materials, cutting of flex materials, 3D chip package manufacturing, IC package trimming, and wafer scribing. For the system builder, AVIA LX offers effortless ease of integration into laser-based tools through its small footprint and a simplified interface.

Features and Benefits

- Repetition rates single-shot to 100s of kHz
- High beam quality M^2 <1.2
- Industry leading compact footprint
- Simplified user interface at laser head
- High reliability between long maintenance cycles

Applications

- Via Hole Drilling
- Flex Materials Cutting
- 3D Package Manufacturing
- IC Package Trimming
- Wafer Scribing and Singulation
- Solar Cell Scribing
- PCB Cutting
- 5G LCP Processing
- High Speed Marking
- Glass Drilling
- Wafer Planarization
- SIP Cutting

COHERENT®

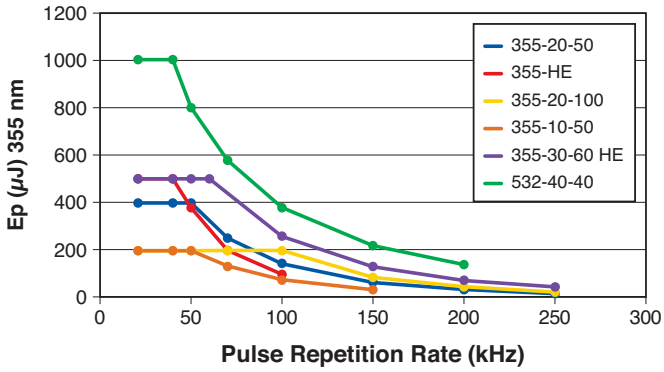
SPECIFICATIONS

	AVIA LX 532-40-40	AVIA LX 355-10-50	AVIA LX 355-20-50		AVIA LX 355-20-100		AVIA LX 355-20-40 HE		AVIA LX 355-30-60 HE
Collimated Beam Diameter (mm)	3.0	3.0	1.5	3.0	1.5	3.0	1.5	3.0	3.0
Output Power (W) (specified)	40 at 40 kHz	>10 at 50 kHz	>20 at 50 kHz		>20 at 100 kHz		>20 at 40 kHz		30 at 60 kHz
Pulse Energy (µJ)	Up to 1000	Up to 200	Up to 400		Up to 200		Up to 500		Up to 500
Repetition Rate	Single-shot to 200 kHz	Single-shot to 200 kHz	Single-shot to 300 kHz		Single-shot to 300 kHz		Single-shot to 100 kHz		Single-shot to 300 kHz
Pulse Width (ns)	<25 at 40 kHz	<25 at 50 kHz	<25 at 50 kHz		<30 at 100 kHz		<25 at 40 kHz		<25 at 60 kHz
Spatial Mode[1]	TEM_{00}, M^2 <1.2	TEM_{00}, M^2 <1.3	TEM_{00}, M^2 <1.2						
Beam Divergence (mrad)	<0.3	<0.3	<0.5	<0.3	<0.5	<0.3	<0.5	<0.3	<0.3
Beam Waist Diameter (mm, $1/e^2$)	3.0 ±10%	3.0 ±20%	1.5 ±10%	3.0 ±10%	1.5 ±10%	3.0 ±10%	1.5 ±10%	3.0 ±10%	3.0 ±10%
Beam Circularity (%)	>90								
Polarization Ratio	>100:1								
Polarization Direction	Vertical								
Pulse Energy Stability (%) (RMS)	<2								
Power Stability (%) (RMS, 2s) (over 8 hours)	<2								
Warm-up Time (minutes)									
Cold Start	<20								
Warm Start	<5								
Head Weight	12.5 kg (27.5 lbs.)								
External Interfaces	RS-232, Ethernet, USB								
Power Consumption (W) (VAC)	<500								
Operating Specifications									
Temperature (non-condensing)									
Laser Head	+15 to 40°C (59 to 104°F)								
Non-Operation (storage)	-20 to +60°C (-4 to 140°F)								
Shipping Specifications									
Temperature	-20 to +60°C (-4 to 140°F)								
Relative Humidity (%)	5 to 80								

1 Nominal M^2 at each fresh prequalfied THG spot.

AVIA LX

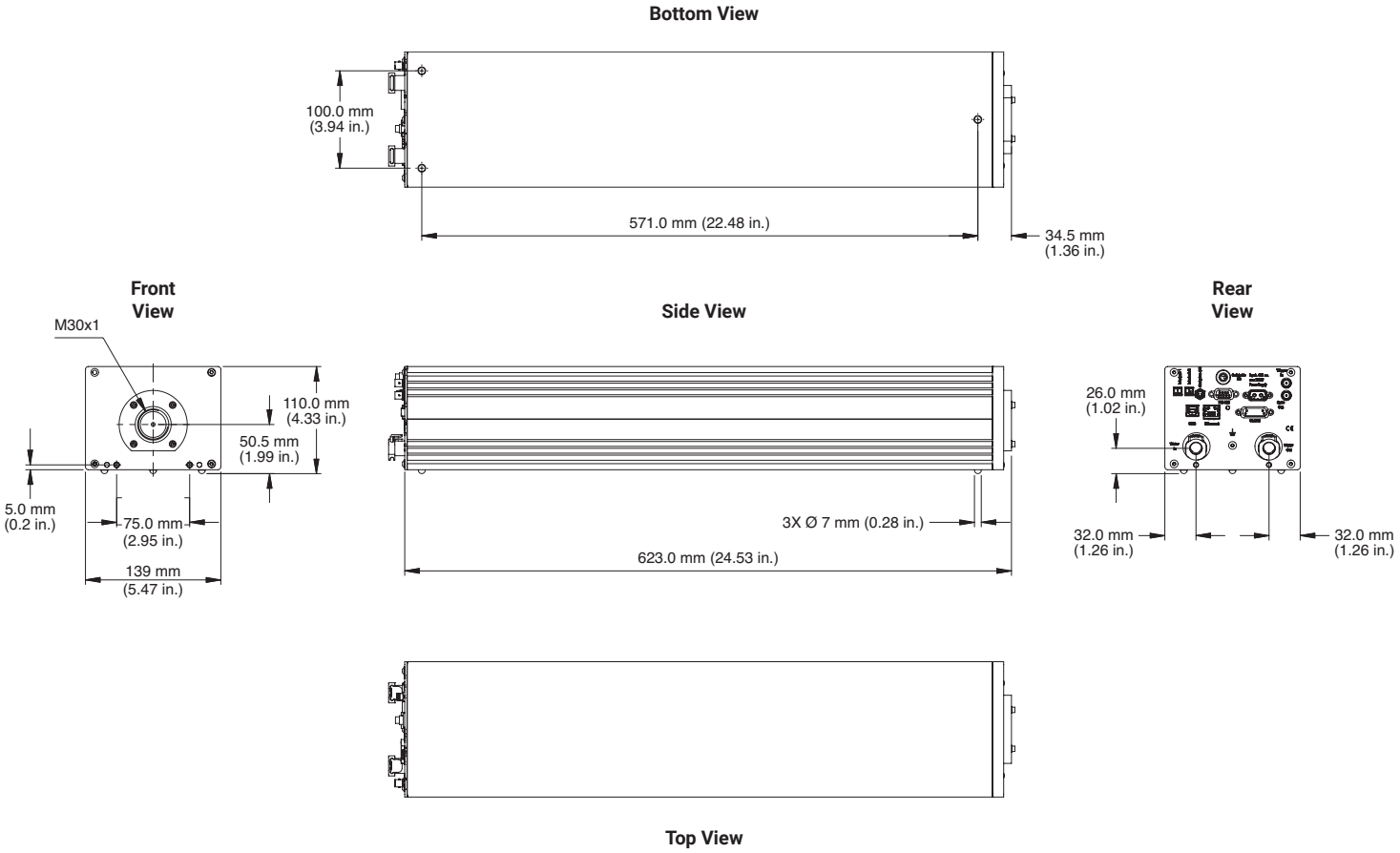
Pulse Energy vs Repetition Rate



COHERENT

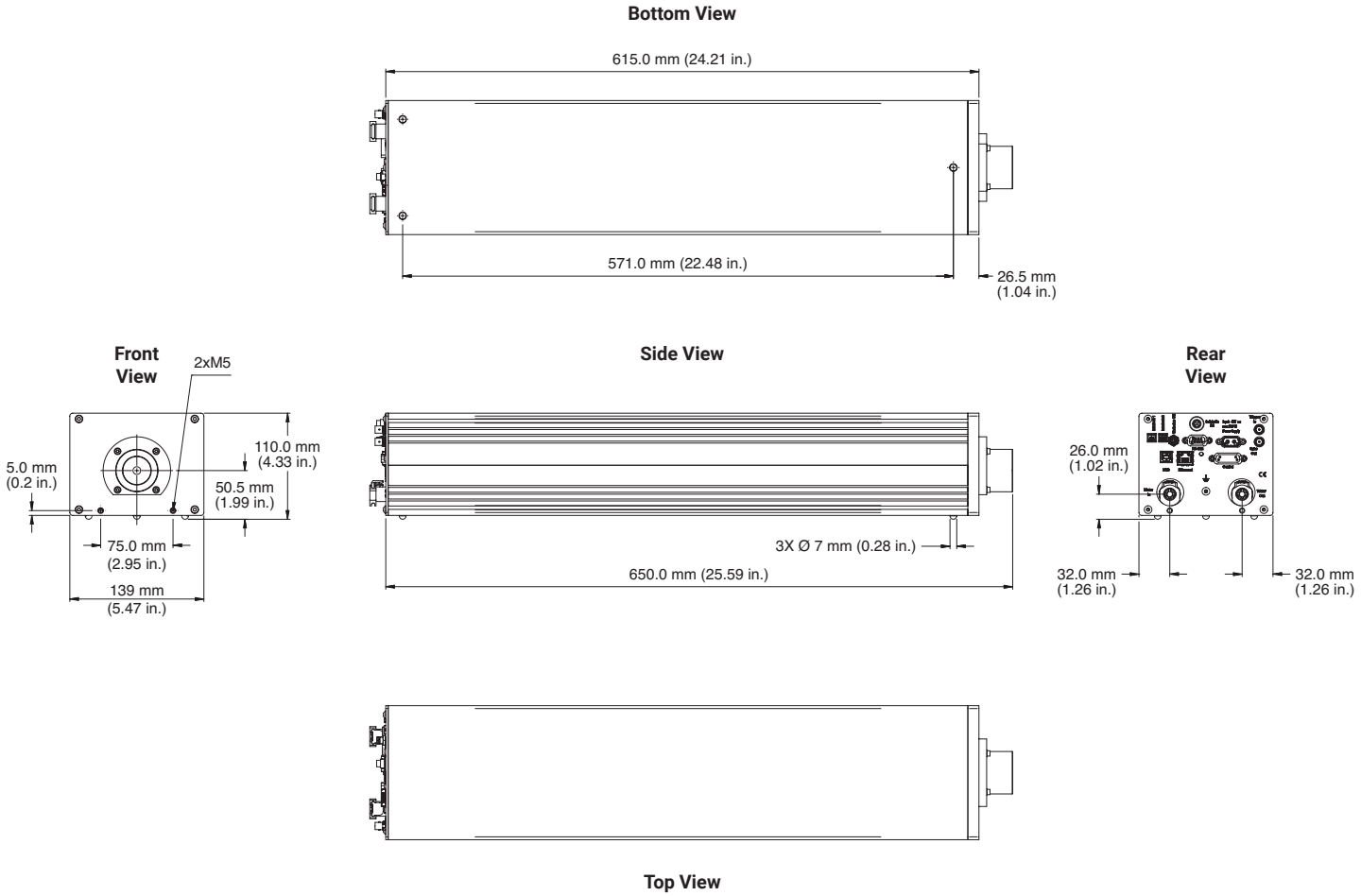
MECHANICAL SPECIFICATIONS

AVIA LX 1.5 mm Collimated Beam



MECHANICAL SPECIFICATIONS

AVIA LX 3.00 mm Collimated Beam



COHERENT

Coherent, Inc.,
5100 Patrick Henry Drive Santa Clara, CA 95054
p. (800) 527-3786 | (408) 764-4983
f. (408) 764-4646

tech.sales@coherent.com **www.coherent.com**

Coherent follows a policy of continuous product improvement. Specifications are subject to change without notice. Coherent's scientific and industrial lasers are certified to comply with the Federal Regulations (21 CFR Subchapter J) as administered by the Center for Devices and Radiological Health on all systems ordered for shipment after August 2, 1976.

Coherent offers a limited warranty for all Verdi systems. For full details of this warranty coverage, please refer to the Service section at www.Coherent.com or contact your local Sales or Service Representative.

MC-034-21-0M1121 Copyright ©2021 Coherent, Inc.

CE