RGH Green Series

Features

- High single pulse energy: over 400µJ@100kHz
- Total pulse control
- Burst mode
- Variable rep rate: single shot to 2MHz
  - Option to 8MHz
- PEC: power or pulse energy control
- Pulse width ~7ps, optional 20-100ps
- Zero leakage
- Excellent beam quality (M^2<1.3)
- Exceptional beam pointing stability
- Compact industrial grade ps laser
- Low maintenance

Applications

- 3D LIDAR
- Glass and sapphire cutting and drilling
- Semiconductor scribing and dicing
- PCB processing
- Ceramic cutting, drilling and scribing
- CIGS Solar cell scribing and drilling
- LED scribing, dicing and patterning
- Metal cutting, drilling and marking
- Medical device cutting, drilling and marking
- Laser Cutting for Glass Reinforced Plastic & Carbon Fiber
- Cutting and scribing of display glass and functional foils for FPDs
- Printing & Embossing Tools

The RGH Green Series lasers are compact industrial grade picosecond (ps) lasers with **Total Pulse Control** (e.g., individually triggered pulses on demand) and **Burst Mode** operation at output power up to 65W*. With an adjustable repetition rate from single shot to 8MHz, the user can change the operating PRF and change the operating power or pulse energy through **PEC** (Power or Pulse Energy Control) function on the fly to maximize process flexibility. The RGH Series are the only industrial picosecond lasers with these maximal flexibilities on the market.

The RGH Green Series provide High Pulse Energy (over 400µJ) from one of the smallest footprint, lightest weight industrial ps lasers commercially available. The all-in-one single box design simplifies installation by removing the need to manage a separate controller/power supply box and umbilical cable – not only yielding space savings, but also better reliability.

With many hundreds of RGH lasers currently deployed in factories all over the world, the RGH Series picosecond lasers have proven their robustness for even the most demanding industrial manufacturing environments for applications ranging from metal engraving/marking, LED dicing, thin film removal, small feature structuring, glass, sapphire and ceramics cutting, drilling, etc. to 3D LIDAR.

*For the 65W RGH-532-65, please contact us for specs

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System Specifications @ 532nm

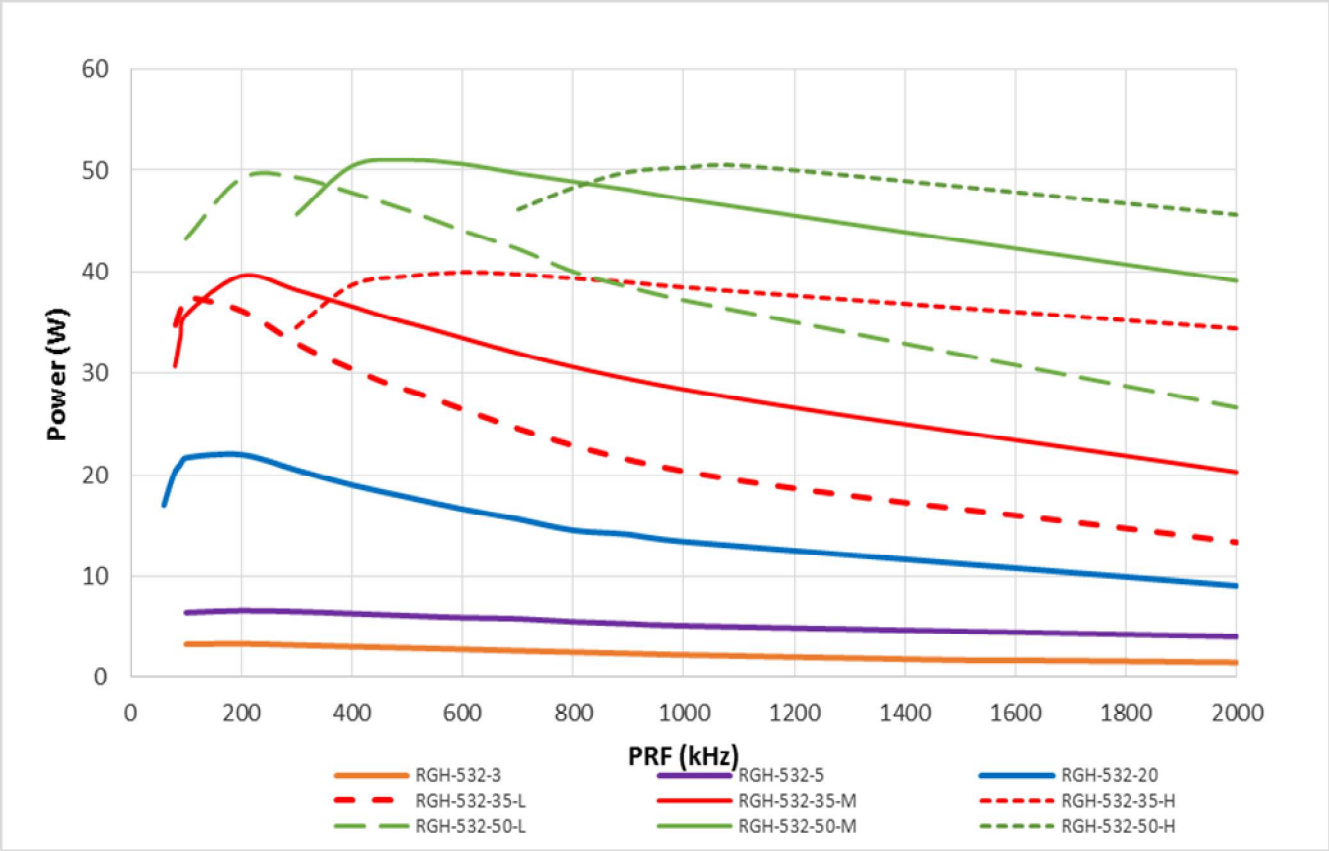
Model	RGH-532-3/5	RGH-532-20	RGH-532-35	RGH-532-50
Average Power	3/5W@100 kHz	20W@100 kHz	35W**	50W**
Pulse Width	~7ps			
Repetition Rate†	100kHz to 2 MHz		100kHz** to 2 MHz	
Pulse to Pulse Stability @ 1MHz	< 2% rms			
Spatial Mode	TEM_{00} M^2<1.3			
Beam Pointing Stability	< 25 urad			
Long Term Power Stability (8h ±3°C)	< ±2% rms			
Warm Up Time	< 15 min			
Electrical Requirement	100 to 240V AC			
Line Frequency	50 to 60 Hz			
Relative Humidity	Non-condensing, 90% Max			
Power Consumption (excluding chiller)	< 600 W			
Dimensions (W x H x L)	10 in x 3.75* in x 32 in		12 in x 3.75* in x 34 in	
Weight	~74lbs		~90lbs	
Vibration	Up to 3g			
Cooling	Closed Loop Chiller			
Ambient Temperature	15°C to 30°C (59° to 86°F) Operating Range			
Interface	Ethernet / RS 232 / GUI / External TTL Triggering			

† Lower rep rates (down to single shot) achieved by selecting higher rep rate pulses with the AOM. Option to 8MHz

* Does not include height of desiccant (0.35'') and height of removable feet

** Rep rate specified depend on –L, -M or –H optimization desired (see curves below)

Performance Curves



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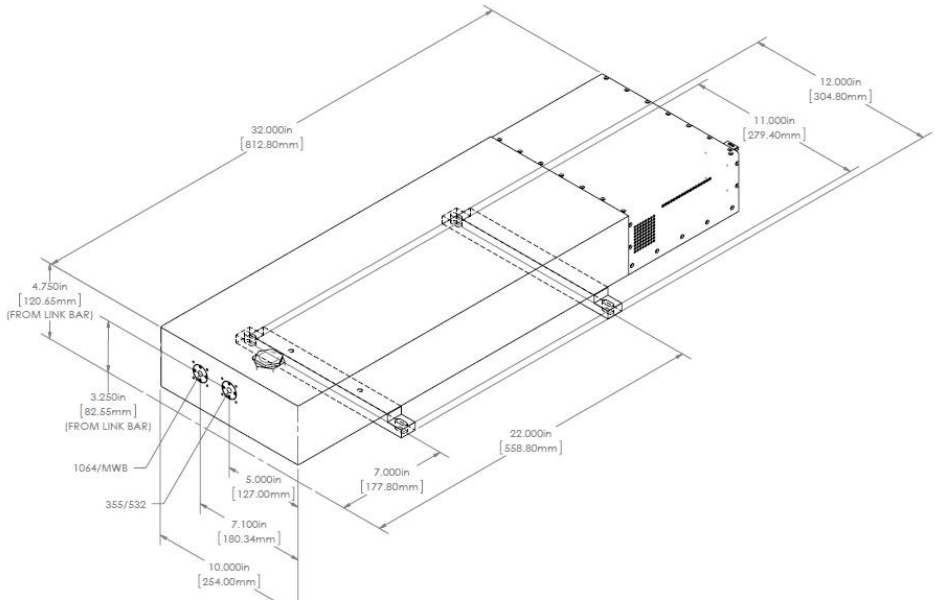
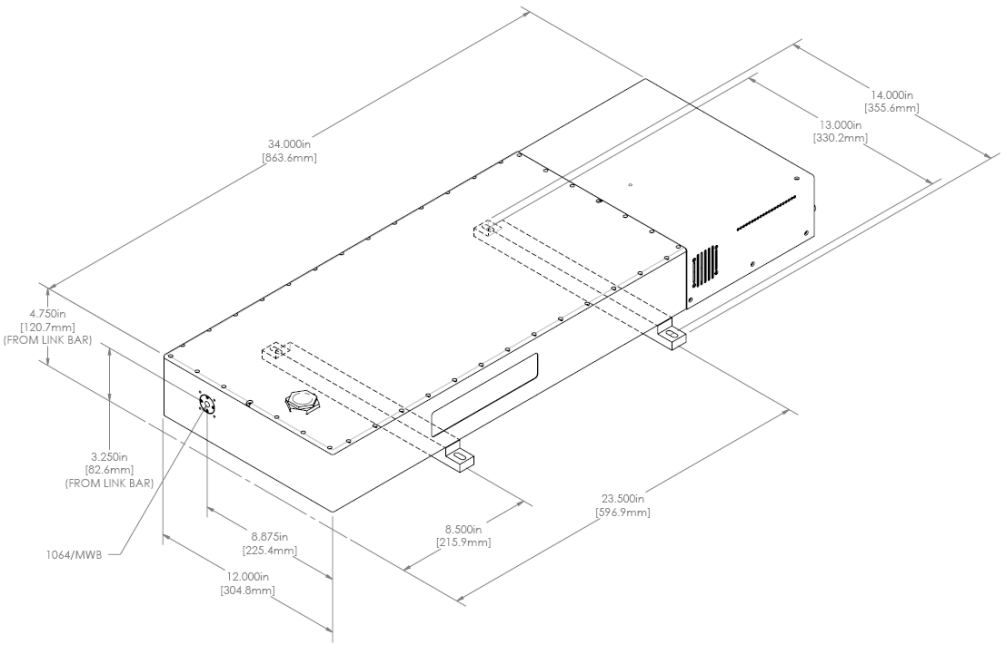
Dimensional Drawings

RGH-532-3/6 AIO Laser



RGH-532-20, 35, 50 AIO Laser



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Due to Photonics Industries' commitment to continuous product improvement, specifications and drawings are subject to change without notice.

Photonics Industries conforms to provisions of US 21 CFR 1040.10 & 1040.11 and is made under one or more US patents listed below: 9,531,147, 8,817,831, 7,869,471, 7,346,092, 7,082,149, 7,079,557, 6,999,483, 6,980,574, 6,961,355, 6,842,293, 6,762,405, 6,690,692, 6,587,487, 6,584,134, 6,366,596, 6,356,578, 6,327,281, 6,246,707, 6,229,829, 6,108,356, 6,061,370, 6,028,620, 5,936,983, 5,898,717 and Pending Patents

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