DC YLF UV/Green Series Nanosecond Lasers

High Power Compact ns Lasers

A pioneer of intracavity generation with over 25 years of manufacturing experience and well over ten thousand shipments worldwide, Photonics Industries offers the broadest nanosecond (ns) YLF UV (351nm) product selection from 0.5W to 35W and YLF Green (527nm) product selection from 1W to 50W.

With its new revolutionary packaging, our new DC Series has smaller form factor while maintaining a higher performance. The DC Air-Cooled Series lasers provide the highest pulse energy from one of the smallest footprint, lightest weight air-cooled industrial ns lasers commercially available in UV and Green.

Owing to key patented technologies, intracavity harmonic generation is inherently a more efficient harmonic conversion that provides unmatched superior beam quality, as well as better beam pointing stability in a simple, compact laser configuration making this laser the perfect tool for precision manufacturing.

Standard feature-rich packed software allowing for adjustable output power using real-time TTL and/or analog control signals enables high quality process optimization all with ease of handling, high throughput, uncompromised process quality and long-term stability in 24/7 applications with a low Cost of Ownership (COO).

Photonics Industries
International, Inc.

PI Advantages

- **High pulse energy air cooled UV and Green ns laser**
- **The most compact, most efficient air-cooled laser**
- **The highest wall plug efficiency laser:**
  - **~10% for green**
  - **~6% for UV**
- **Patented intracavity UV and Green generation**
- **Pulse rep rates from single shot to 10kHz**
- **Excellent TEM_{00} beam with typical $M^2 < 1.2$**
- **Exceptional Beam Pointing Stability < 25 µrad**
- **Monolithic All-In-One (AIO) ns UV and green laser**
- **Water cooled option available**

Applications

- **Flat Panel Display Repair**
- **Glass Marking**
- **LED and Medical Package Marking**
- **Rapid Prototyping/Stereolithography**
- **PCB structuring**
- **Marking of Plastic**
- **Cutting metals**
- **Thin Film Annealing**
- **LIDAR**
- **MALDI**
- **Solar Cell Scribing/Production**

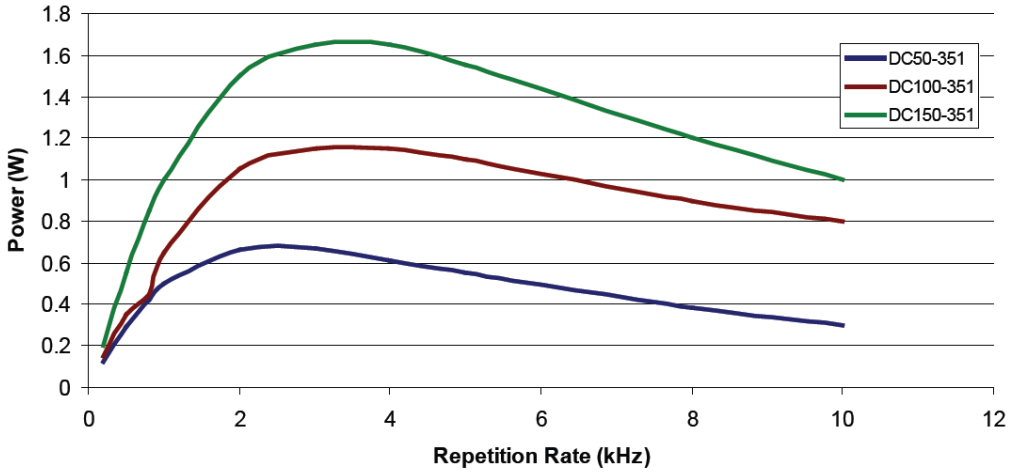
UV System Specifications

Model	DC50-351	DC100-351	DC150-351
Technology		Air-Cooled	
Output Characteristics			
Wavelength		351nm	
Average Power @ 3kHz	500 mW	1 W	1.5 W
Pulse Energy @ 1kHz	0.25 mJ	0.5 mJ	1 mJ
Pulse Width @ 1kHz (nominal)	25 ns	25 ns	20 ns
Repetition Rate		1 Hz to 10 kHz	
Pulse to Pulse Stability		< 3% rms	
Long Term Stability (8 hr)		± 2%	
Beam Characteristics			
Polarization Ratio		Horizontal 100:1	
4σ Beam Diameter @ exit		~0.4 mm	
Beam Divergence (Full Angle Far Field)		< 2 mrad	
Beam Circularity		> 85%	
Spatial Mode	TEM_{00} $M^2 < 1.2$		TEM_{00} $M^2 < 1.5$
Beam Pointing Stability		< 25 µrad	
Operating Specifications			
Interface		Ethernet / RS 232 / GUI / External TTL Triggering	
Power Consumption (typical)	~50W		~130W
Warm Up Time		< 5 min from standby or cold start	
Electrical Requirement		100 to 240V AC	
Line Frequency		50 to 60 Hz	
Relative Humidity		Non-Condensing, 90% Max	
Ambient Temperature**		15°C to 35°C (59° to 95°F) Operating Range	
Storage Conditions		-10°C to 40°C; Sea level to 12,000 m; 0% to 90% RH, non-condensing	
Physical Characteristics			
Dimensions	8.5" x 5.5" x 4"		11" x 4.88" x 5"
Weight	~6 lbs		~15.5 lbs

*Dimensions given are with air cooled heatsinks. Water cooled heatsink options are available (see dimensional drawings)

**For operation outside this temperature range, please contact us

Performance Curves



Green System Specifications

Model	DC50-527	DC100-527	DC150-527
Technology		Air-Cooled	
Output Characteristics			
Wavelength		527nm	
Average Power @ 3kHz	1 Watt	2 Watt	3 Watt
Pulse Energy @ 1kHz	0.5mJ	1mJ	1.5mJ
Pulse Width @ 1 kHz (nominal)	30 ns	30 ns	25 ns
Repetition Rate		Single shot to 10 kHz	
Pulse to Pulse Stability		< 3% rms	
Long Term Stability (8 hr)		+/- 3%	
Beam Characteristics			
Polarization Ratio		100:1 Vertical	
4σ Beam Diameter @ exit (nominal)	0.35 mm	0.5 mm	0.7 mm
Beam Divergence (Full Angle Far Field)	< 4 mrad	< 2 mrad	
Beam Circularity		>85%	
Spatial Mode	TEM_{00} - M^2 < 1.2	TEM00 - M2 < 1.3	
Beam Pointing Stability		< 50 µrad	
Operating Specifications			
Interface		Ethernet / RS 232 / GUI / External TTL Triggering	
Power Consumption (typical)	~50W		~130W
Warm Up Time		< 5 min from standby or cold start	
Electrical Requirement		100 to 240V AC	
Line Frequency		50 to 60 Hz	
Relative Humidity		Non-Condensing, 90% Max	
Ambient Temperature**		15°C to 35°C (59° to 95°F) Operating Range	
Storage Conditions		-10°C to 40°C; Sea level to 12,000 m; 0% to 90% RH, non-condensing	
Physical Characteristics			
Dimensions		8.5" x 5.5" x 4"	11" x 4.88" x 5"
Weight		~6 lbs	~15.5 lbs

*Dimensions given are with air cooled heatsinks. Water cooled heatsink options are available (see dimensional drawings)

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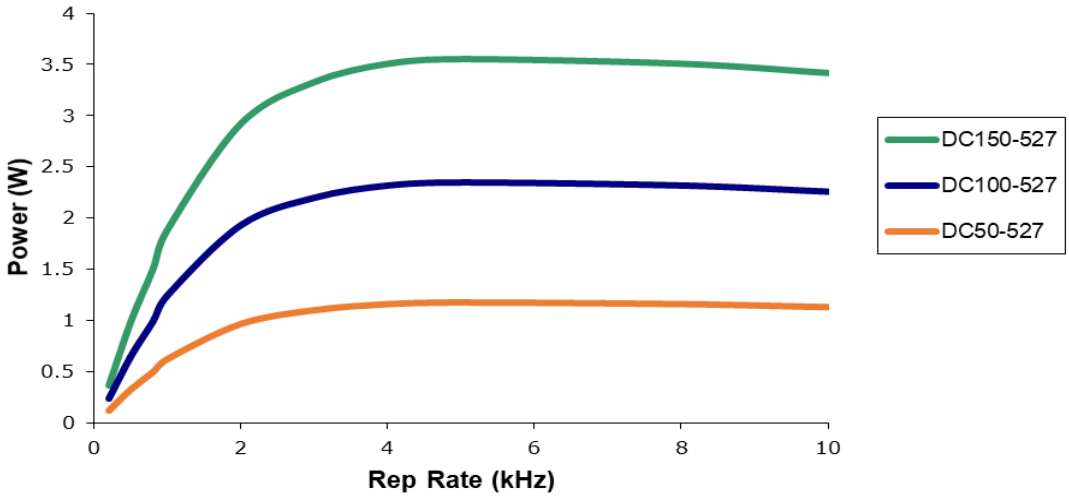
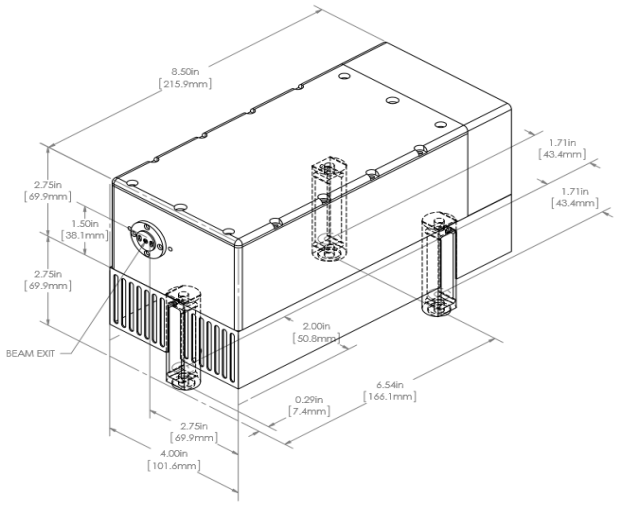
Performance Curves



Dimensional Drawings

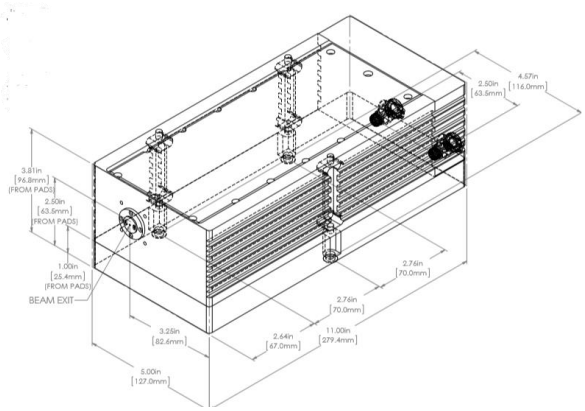
DC50 & DC100 Lasers

with air cooled heatsink

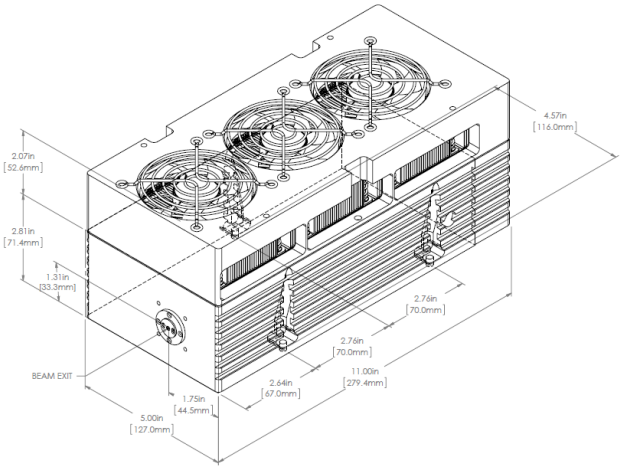


DC150 Laser

water cooled version



with air cooled heatsink



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