



## Diode pumped Nd:YLF High Frequency Green Laser

The Tolar-527 series is a diode-pumped Nd:YLF AO Q-switched laser with pulse energy up to 60mJ @ 1kHz and a maximum average power of 90W @ 3kHz. It is widely used in scientific research and industrial processing.

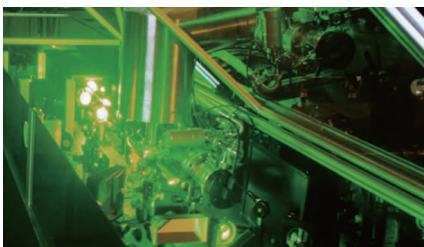
The Tolar-527 series employs continuous diode pumping and intracavity frequency doubling technologies, resulting in a long lifetime and high frequency doubling efficiency. Additionally, this laser model features an industrial design with consistent form factor and electrical interfaces, making it suitable for system integration. It is well-suited to applications requiring high single pulse energy and high average power at 527nm green light.

## Features

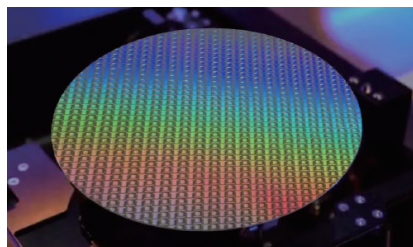
- Maximum energy output: 60mJ @ 1kHz
- Maximum average power: 90W @ 3kHz
- Adjustable frequency: 0.2kHz - 10kHz
- Jitter <3ns
- Compact sealed housing
- Programmable communication control interface
- Capable of stable 24/7 long-term operation

## Applications

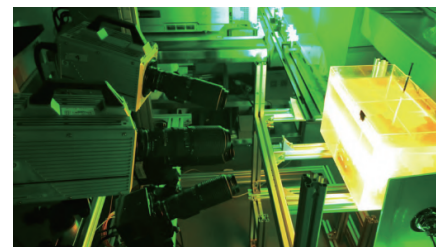
- Pumping Ti:Sapphire Laser
- Semiconductor Wafer Surface Processing
- Material Processing
- Flow field lighting imaging



Pumping Ti:S fs laser



Laser annealing



PIV



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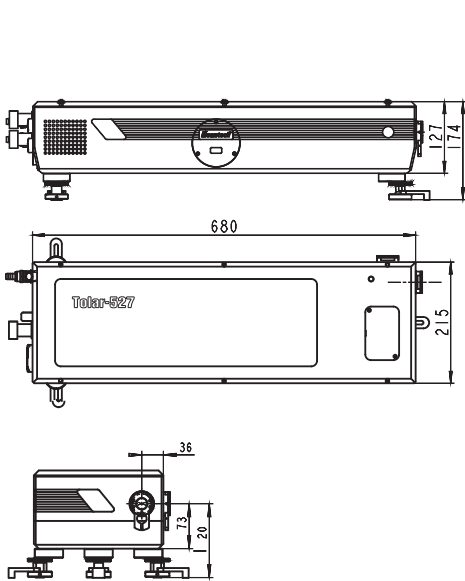
# Specifications

Models <sup>1</sup>	Tolar-527-20	Tolar-527-30	Tolar-527-40	Tolar-527-50	Tolar-527-60
Wavelength	527nm				
Pulse Energy	20mJ at 1kHz	30mJ at 1kHz	40mJ at 1kHz	50mJ at 1kHz	60mJ at 1kHz
Average Power	20W at 1kHz	30W at 1kHz	40W at 1kHz	50W at 1kHz	60W at 1kHz
Repetition Rate	0.2k-10kHz				
Mode	Multi-Mode				
Pulse Duration (FWHM) <sup>2</sup>	~200ns	~200ns	<180ns	<160ns	~150ns
Beam Diameter at Output <sup>3</sup>	4mm	5mm	5mm	5mm	5mm
Polarization	Linear				
Energy Stability (RMS) <sup>4</sup>	< 1%				
Power Drift(RMS) <sup>5</sup>	< 1%				
Divergence <sup>6</sup>	<6mrad	<6mrad	<6mrad	<8mrad	<8mrad
Pointing stability(RMS)	<20μrad				
Time Jitter (RMS) <sup>7</sup>	3ns				
Cooling	Chiller				
Power Consumption	1kW	1.3kW	1.3kW	1.6kW	1.6kW
Cooling Capacity	1kW	1.5kW	2kW	2kW	2kW
Electrical Service	220V-50/60Hz-10A				
Umbilical Length	3m				

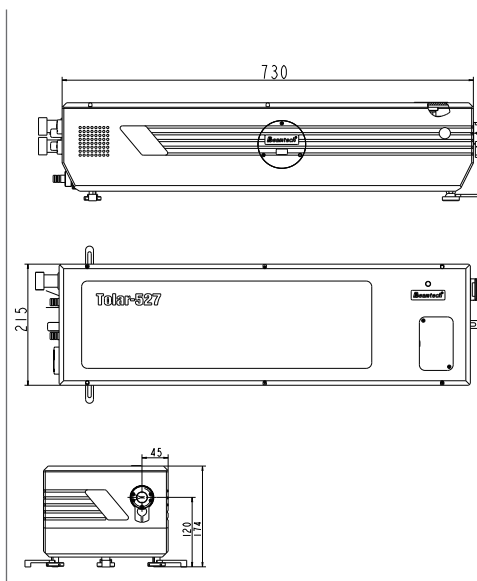
- i** 1. All specifications are measured at 1kHz unless otherwise noted.  
 2. Full width half max (FWHM);  
 3. Measured at the laser output;

4. Dev.to average (shot to shot for 99% of pulses);  
 5. Average for 16 hours with room temperature variation less than ±3.  
 6. Full angle at 1/e<sup>2</sup> of the peak.  
 7. With respect to external trigger.

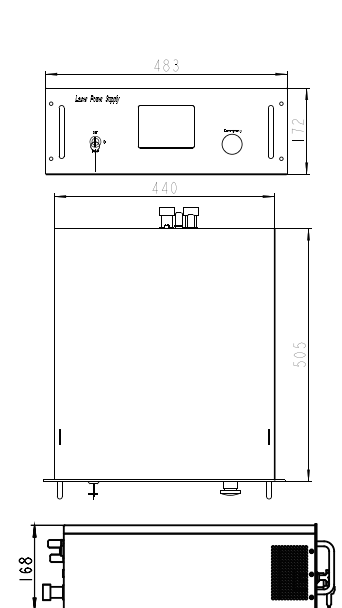
# Dimensions



Tolar-527-20/30/40



Tolar-527-50/60



Power Supply