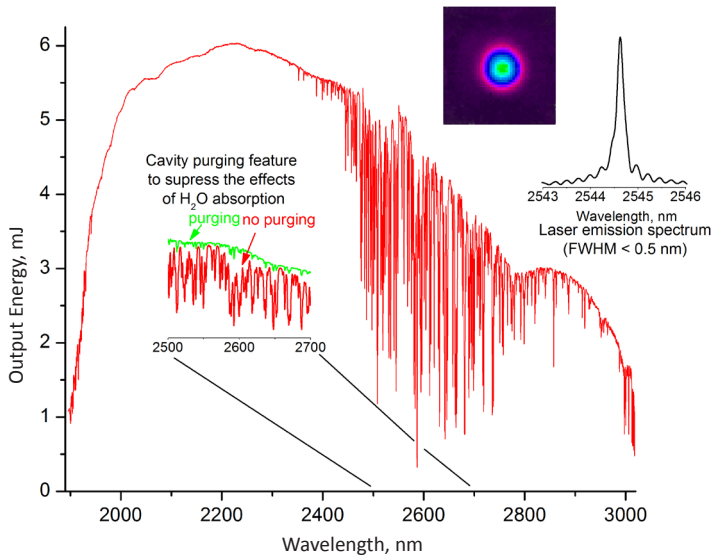




CL and CLT Series

Narrow-line Cr:ZnSe/S CW Lasers



Typical Tuning Curve of CLT-5 Laser



Applications

- ▶ Spectroscopy
- ▶ Free Space Communications
- ▶ OPO Pump Source
- ▶ Medical Applications
- ▶ Skin Rejuvenation
- ▶ Laser Scalpel
- ▶ Dental Applications
- ▶ Environmental Monitoring
- ▶ Industrial Process Control
- ▶ Materials Processing
- ▶ Plastic Cutting, Welding, Marking and Drilling

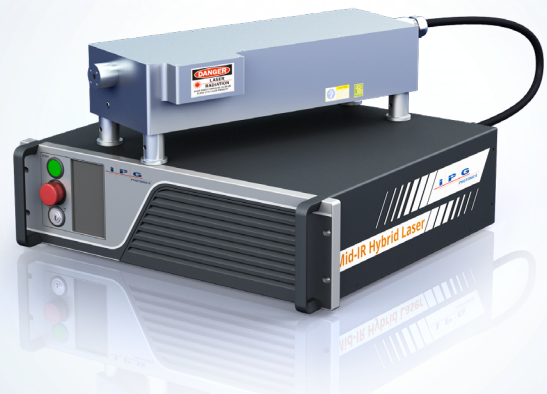


Features

- ▶ Continuous Wave Operation
- ▶ Record Output Power 150 W
- ▶ Narrow Linewidth, < 0.5 nm Typ.
- ▶ TEM₀₀ Output Beam Quality

NEW PRODUCT

Fixed Frequency or Tunable Optical Head



IPG Photonics offers CL and CLT Series Cr:ZnSe/S continuous wave Mid-IR fiber-bulk hybrid lasers. These lasers provide from 1 to 150 W average output power at a customer selected fixed wavelength (CL Series) or 0.2 to 100 W tunable output (CLT Series) in the range of 1.9 to 3.0 μm . CL and CLT lasers feature typical narrow linewidth of less than 0.5 nm. Standard and rapid tuning options are available. Rapidly tunable (swept) models allow scanning the entire tuning range with acquisition rate of up to 1000 spectra per second. These laser models are designed for characterizing broad spectral features such as absorption spectra of polymers.

These hybrid solid state lasers are pumped by IPG's efficient and reliable erbium or thulium CW fiber lasers. CL and CLT Series lasers are used in a range of applications including spectroscopy, Mid-IR OPO pumping, environmental monitoring, test and measurement, free space communications, industrial process control, medical applications and plastics materials processing.

CL and CLT Series

Narrow-line Cr:ZnSe/S CW Lasers

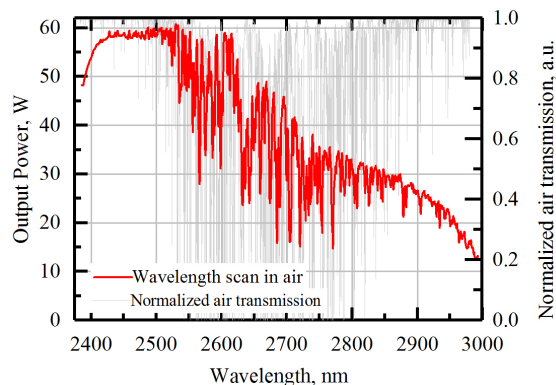
Optical Characteristics	CL	CL-SR	CLT	CLT-SR
Mode of Operation	CW			
Central Wavelength, nm	Customer Selected in 1.9-3.0 μm Range		Tunable in 1.9-3.0 μm Range	
Spectral Linewidth, nm	0.1-2.0, Typ. < 0.5			
Output Power*, W	1-10	20-150	0.1-10	10-100
Power Tunability, %	10-100			
Wavelength Tuning Options**	N/A		Standard or Rapid (Swept) Tuning Mode	
Beam Diameter (FW, $1/e^2$), mm	1.5 \pm 0.5			
Beam Divergence, mrad	0.1-1, Typ. 0.5			
Polarization	Random or Linear		Linear, Horizontal >100:1	
Beam Quality, M^2	<1.2, typ. \leq 1.1			
Warm-up Time, min	5 from Standby, 15 from Cold Start			

General Characteristics	
Optical Head Style	CW Fixed or Tunable Module
Pump Laser***	IPG Photonics' ELR or TLR CW Fiber Laser
Pump Laser Dimensions (W x D x H), mm	448 x 403 x 132
Optical Head Dimensions (W x D x H), mm	165 x 505 x 122
Supply Voltage 50-60 Hz, VAC	110-240
Power Consumption, W	200 Typ.

* Custom output powers are available upon request. Output power may be limited by wavelength selection.

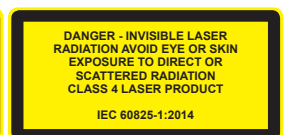
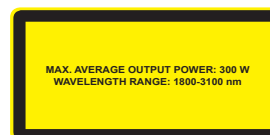
** All tunable lasers are motor-driven and computer controlled. An external wavelength meter must be used to monitor the output wavelength. Rapidly tunable (swept) models allow scanning the entire tuning range with acquisition rate of up to 1000 spectra per second. These laser models are designed for characterizing broad spectral features such as absorption spectra of polymers.

*** Pump laser model depends on the combination of parameters.



Typical Tuning Curve of CLT-60-SR

+1 (205) 307-6677
 sales.us@ipgphotonics.com
www.ipgphotonics.com



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