



Cobolt 05-01 Series

High performance CW, single longitudinal mode, ultra low noise DPSS Lasers



Single frequency, high power DPSS lasers

CW power up to 3000 mW in a perfect beam

Ultra-robust, hermetically sealed packages

Ultra-low noise, <0.1% rms

Immunity to optical feedback

Available wavelengths: 355nm, 491nm, 532nm, 561nm, 660nm and 1064nm

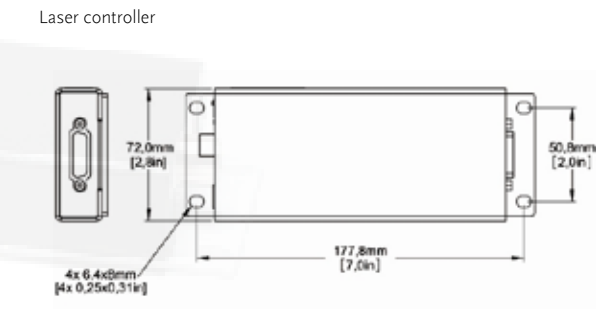
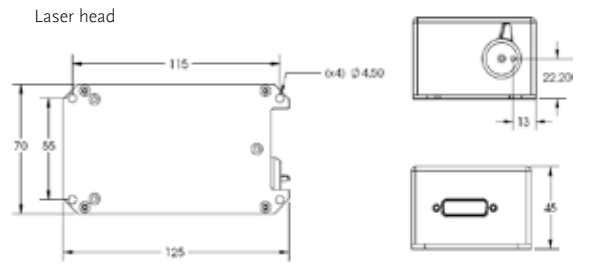
The Cobolt 05-01 lasers are continuous-wave diode-pumped solid-state laser devices operating at a fixed wavelengths between 355-1064nm. The lasers are built using proprietary HTCure™ manufacturing technology for ultra-robustness into a compact hermetically sealed package.

The lasers emit a very high quality laser beam with stable characteristics over a wide range of operating conditions. Single-longitudinal mode operation provides a narrow spectral bandwidth and long coherence length. The laser is designed and manufactured to ensure a high level of reliability.

The Cobolt 05-01 lasers are intended for stand-alone use in laboratory environment or for integration as OEM component in equipment for applications including fluorescence microscopy, flow cytometry, DNA sequencing, HCA, Raman spectroscopy, holography and particle analysis.

Specifications

	Wavelength [nm]		Power [mW]			
Cobolt Zouk™	354.8 nm ± 0.3		10, 20			
Cobolt Calypso™	491.5 nm ± 0.3		200			
Cobolt Samba™	532.1 nm ± 0.3		500, 1000, 1500			
Cobolt Jive™	561.2 nm ± 0.3		200, 300, 500			
Cobolt Flamenco™	659.6 nm ± 0.3		100, 300, 500			
Cobolt Rumba™	1064.2 nm ± 0.6		500, 1000, 2000, 3000			
Spectral linewidth	<1 MHz (<0.01 pm)					
Spatial mode	TEM ₀₀ M ² <1.1					
	Zouk	Calypso	Samba	Jive	Flamenco	Rumba
Noise, 20 Hz – 20 MHz (pk-pk)	<2%	<5%	<1%			
Noise, 20 Hz – 20 MHz (rms)	<0.2%	<0.5%	<0.1%			
Beam diameter at aperture	700 μm					1.0 mm
Beam divergence (full angle)	<0.8 mrad	<1.2 mrad			<1.5 mrad	<1.6 mrad
Beam symmetry at aperture	> 0.90: 1			> 0.95: 1		
Long-term stability (8 hrs ±3°C)	<2% (±3°C)					
Beam pointing stability (over 10–40 °C)	<10 μrad/°C, typical 5 μrad/°C					
Polarization ratio (linear, vertical)	>100:1					
Total system power consumption	<63 W, typical <30 W					
Operating temperature	10–40°C					
Maximum laser head baseplate temp.	50°C					
Recommended heat sink thermal resistance	0.2 K/W					
Laser head dimensions [mm] [inches]	125 x 70 x 45 5.0 x 2.8 x 1.8					
Controller dimensions [mm] [inches]	190 x 72 x 28 7.6 x 2.9 x 1.1					
Communication	RS-232 or USB					
Model number structure			CDRH (key-switch for on/off)		OEM (auto-start mode)	
	RS-232 driver		wavel-05-01-pwr-500		wavel-05-01-pwr-600	
Warranty	Samba, Jive, Flamenco, Rumba: 24 months		Zouk, Calypso: 12 months			



Options & Accessories

- Communication cable (RS-232 / USB)
- Laser head heatsink
- Mount for external fiber coupling

HTCure™ is a Cobolt proprietary technology for manufacturing of ultra-robust and reliable laser sources, allowing Cobolt to offer market leading warranty terms. Lasers built using HTCure™ Technology have shown to withstand 60G mechanical shocks in operation as well as extreme storage temperature shocks (-30 to >100 degC) without any sign of degraded performance, and they are also insensitive to pressure and humidity.



Full specifications can be found in the manual. Subject to change without notice. Rev 1211