

MCO Series Energy Adjustable Free Space Microchip Laser



RealLight's MCO series energy adjustable sub-nanosecond microchip laser with free space output, is composed of integrated electronic control module for energy adjustment, photodetector module and laser drive board. This laser features compact design, plug and play, and free space output with a beam divergence lower than 2mrad.

Key Features

- ◆ Pulse width < 1ns
- ◆ Repetition rate variable from 1-200Hz
- ◆ Energy adjustable by PC control
- ◆ Photodiode outputsignal with time jitter < 100ps
- ◆ Sealed package, high reliability
- ◆ Plug and play, include PC control software

Technical Specifications

Optical Parameters				
Wavelength (nm)	1064	532	355	266
Repetition rate (Hz)	1~200			
Max. energy @ Free space output (μJ)	60	30	25	15
Pulse width (ns)	≤1			
Energy stability (RMS)	≤3%			
Adjusting precision of output energy	1%			
Beam profile (Free space output)	TEM ₀₀			
Full angle divergence Typ. (mrad)	Horizontal @1/e ²	≤2		
	Vertical @1/e ²	≤2		
Polarization	≥100:1			
System Parameters				
Supply power voltage	24V DC			
Modulation input	TTL 0-5V, SMB input			
Control interface	RS-232			
Peak power consumption (W)	<20			
Average power consumption (W)	<10			
Laser dimensions (W×H×L,mm)	82×102.8×240			
Operation temperature (°C)	15~35			
Storage temperature (°C)	0~60			

Applications

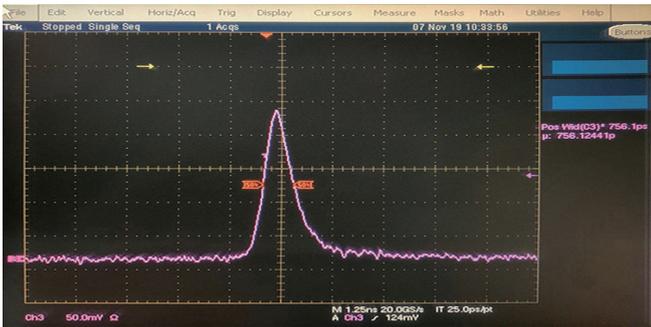
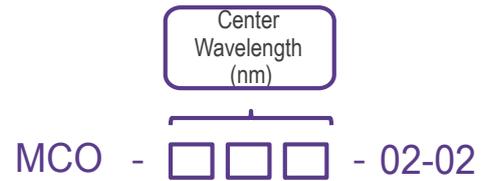
- Laser engraving
- Laser-induced breakdown spectroscopy (LIBS)
- Laser photoluminescence
- Laser marking
- Laser capture microdissection
- Laser-induced fluorescence (LIF)
- Laser mass spectroscopy
- Ultraviolet microscopy
- Raman spectroscopy
- LiADR
- Thin film scribing and processing
- Semiconductor inspection
- Photoacoustic imaging
- Laser spark plug
- Laser remote sensing

1. Operation Frequency is 16~200 Hz, in Continuous mode or Burst mode.
2. As products are constantly being updated, the right of final interpretation of technical specifications or illustrations in datasheet belongs to RealLight.
3. All the data in the above table are the typical values obtained from the tests at room temperature of 25°C, and the final data is subject to the final test report.

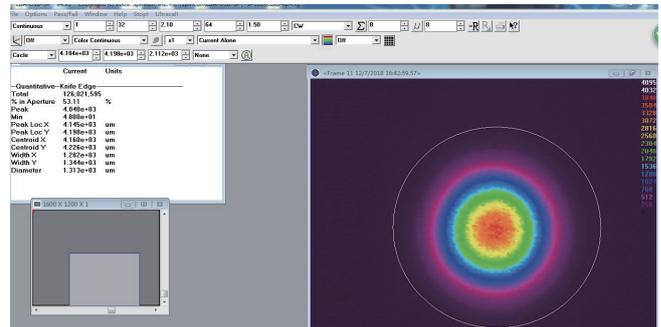
Order Information

Part Numbering Schema

Wavelength (nm)	Part Number	Repetition rate (Hz)	Pulse energy (μJ)
1064	MCO-1064-02-02	200	60
532	MCO-532-02-02	200	30
355	MCO-355-02-02	200	25
266	MCO-266-02-02	200	15

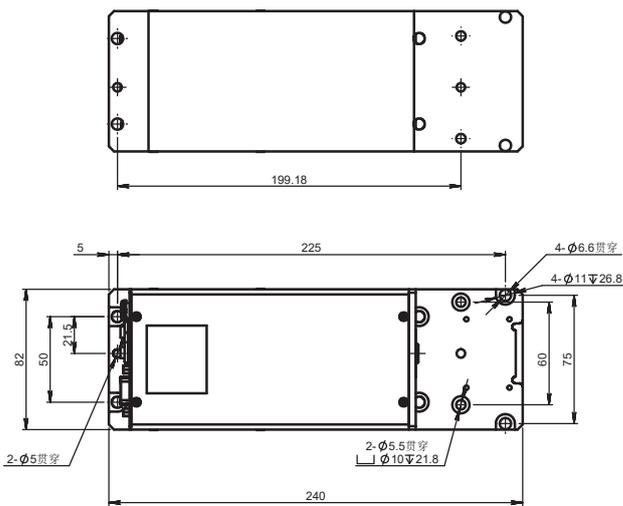


Typical Pulse

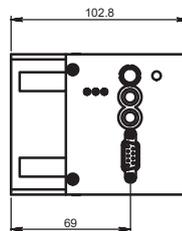


Beam Profile

Mechanical Drawings (in mm)



Free Space



photodetector module output

