

HQD-MF Series High Peak Power Sub-nanosecond Lasers



HQD-MF series high peak power lasers are designed for micromachining and LIDAR applications, using RealLight's self-developed components like seed laser, isolator, pumping source and amplifier. This sub-nanosecond laser with narrow pulse width and high peak power features compact design, light weight and high reliability, is perfect for LIDAR, laser marking, laser engraving and more. HQD-MF series is available in wavelengths of 1064nm and 532nm, delivering pulse width down to 500ps. Laser with 355nm wavelength or higher repetition rate can be customized upon request.

Key Features

- ◆ Pulse width down to 500ps
- ◆ Average power up to 7W
- ◆ Repetition Rate up to 50kHz
- ◆ Air cooling, Low energy consumption
- ◆ Sealed package, high reliability

Applications

- LIDAR
- Laser engraving
- Laser etching
- Laser precision
- Laser Precision drilling
- Laser-induced breakdown spectroscopy(LIBS)
- Ophthalmic treatment
- Scanning and imaging lidar
- Micro-nano processing
- Ultrasonic testing

Technical Specifications

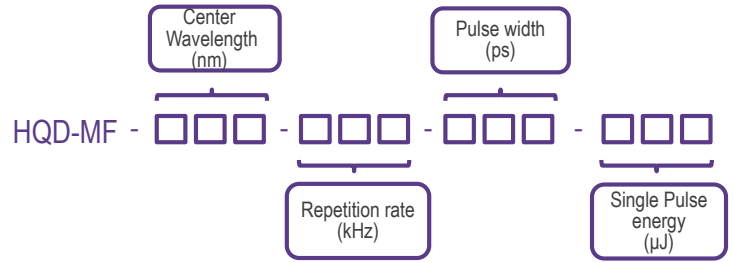
Optical Parameters								
Wavelength (nm)	1064				532			
Repetition rate (kHz)	7	20	30	50	7	20	30	50
Average power (W)	3	6	7	4	1.5	3	3.5	2
Pulse energy (μJ)	420	300	230	80	210	150	115	40
Pulse width (ps)	<1000	<1000	<1000	<500	<1000	<1000	<1000	<500
Power stability (8h)	±3%							
Beam profile	TEM ₀₀							
Beam full divergence (typ., mrad)	Horizontal @1/e ²							
	Vertical @1/e ²							
Polarization ratio	>100:1							
System Parameters								
Supply power voltage	15VDC							
Modulation input	5V TTL							
Trigger output	3V@50Ω							
Control interface	RS232							
Power consumption (W)	<200							
Power dimensions (W×H×L,mm)	172×100×197							
Laser head dimensions (W×H×L,mm)	86×72×240							
Operation temperature (°C)	15-35							
Storage temperature (°C)	-20~60							

*For product upgrades, the right of final interpretation of technical specifications or illustrations in datasheet belongs to RealLight.

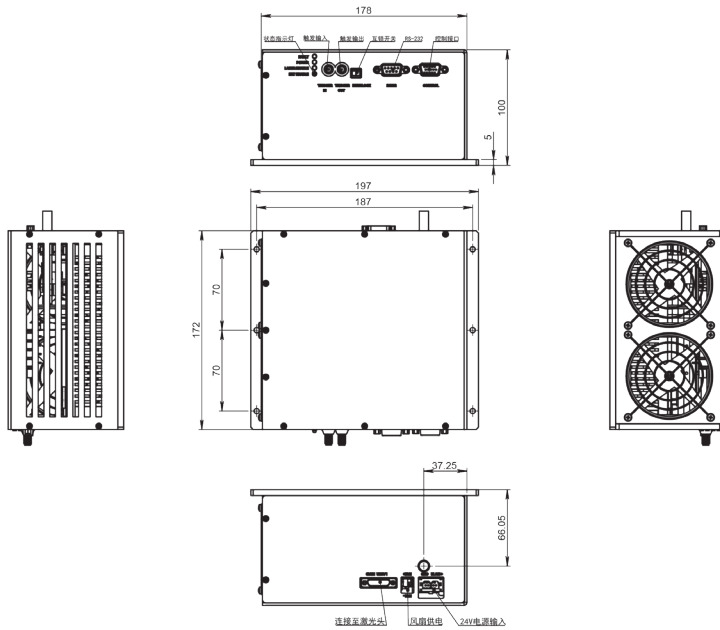
Order Information

Wavelength (nm)	Part Number	Repetition rate (kHz)	Pulse width (ps)	Single Pulse energy (μJ)
1064	HQD-MF-1064-7-1000-420	7	<1000	420
	HQD-MF-1064-20-1000-300	20	<1000	300
	HQD-MF-1064-30-1000-230	30	<1000	230
	HQD-MF-1064-50-500-80	50	<500	80
532	HQD-MF-532-7-1000-210	7	<1000	210
	HQD-MF-532-20-1000-150	20	<1000	150
	HQD-MF-532-30-1000-115	30	<1000	115
	HQD-MF-532-50-500-40	50	<500	40

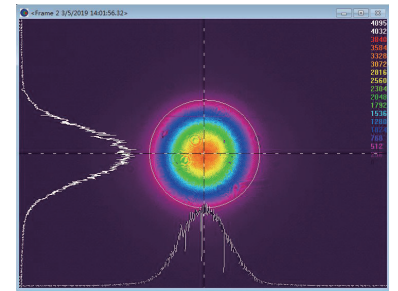
Part Numbering Schema



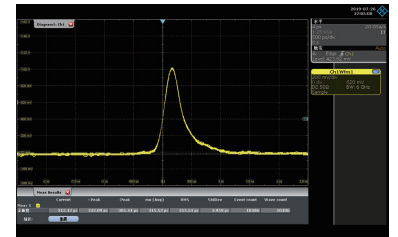
Mechanical Drawings (in mm)



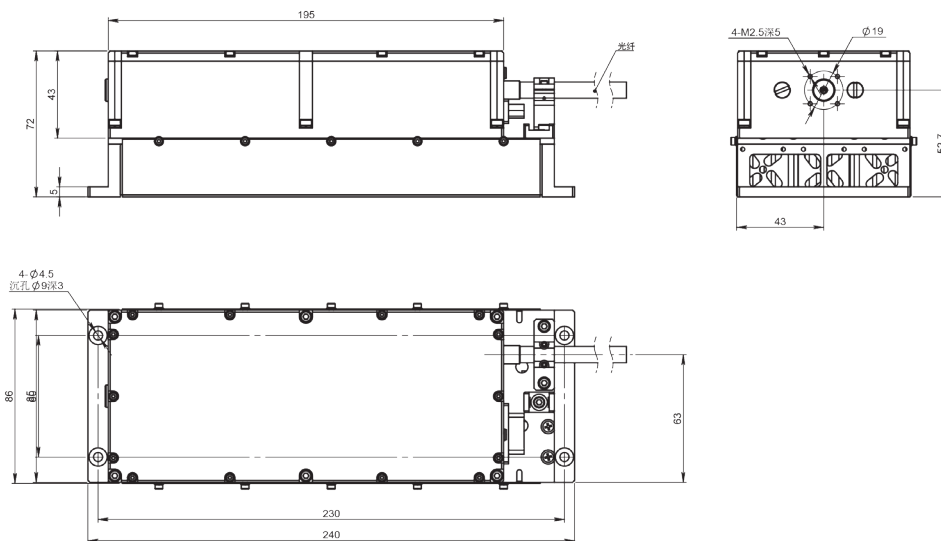
Drive Board



Beam Profile



Typical Pulse Width



Laser Head

