HQP Series High Peak Power Sub-nanosecond Lasers



HQP series high peak power sub-nanosecond 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. HQP series is available in wavlengths of 1064nm and 532nm, delivering pulse width down to 500ps. Laser with 355nm wavelength or higher repetition rate can be cusumized upon request.

Key Features

- Pulse width down to 500ps
- Average power up to 5W
- 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
Ophthalmic treatment
Scanning and imaging lidar
Micro-nano processing
Ultrasonic testing
Laser-induced breakdown spectroscopy(LIBS)

Technical Specifications

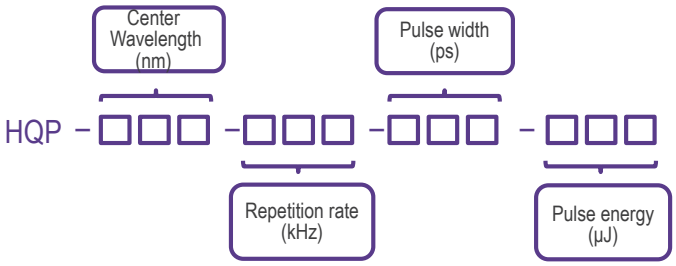
Optical Parameters							
Wavelength (nm)		1064			532		
Repetition rate (kHz)		5	20	50	5	20	50
Average power (W)		2.5	5	4	1.25	2.5	2
Pulse energy (μJ)		500	250	80	250	125	40
Pulse width (ps)		<2000	<1000	<500	<2000	<1000	<500
Power stability (RMS, @8h)		<3%					
Beam profile		TEM_{00}					
Beam full divergence (typ., mrad)	Horizontal @1/e²	<10					
	Vertical @1/e²	<10					
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)		85×91.6×240					
Operation temperature (℃)		15-35					
Storage temperature (℃)		-20~60					

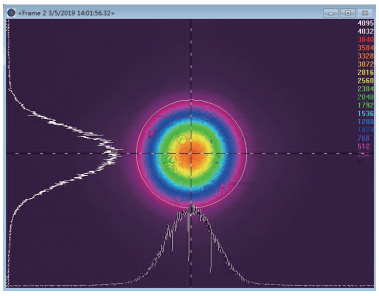
All the data in the above table are the typical values obtained from the tests at room temperature of 25℃, and the final data is subject to the final test report.

Order Information

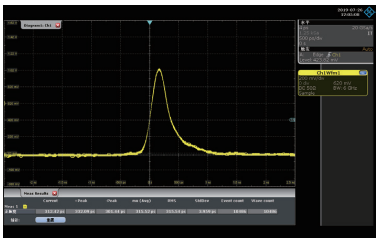
Wavelength (nm)	Part Number	Repetition rate (kHz)	Pulse width (ps)	Pulse energy (μJ)
1064	HQP-1064-5-2000-500	5	<2000	500
	HQP-1064-20-1000-250	20	<1000	250
	HQP-1064-50-500-80	50	<500	80
532	HQP-532-5-2000-250	5	<2000	250
	HQP-532-20-1000-125	20	<1000	125
	HQP-532-50-500-40	50	<500	40

Part Numbering Schema



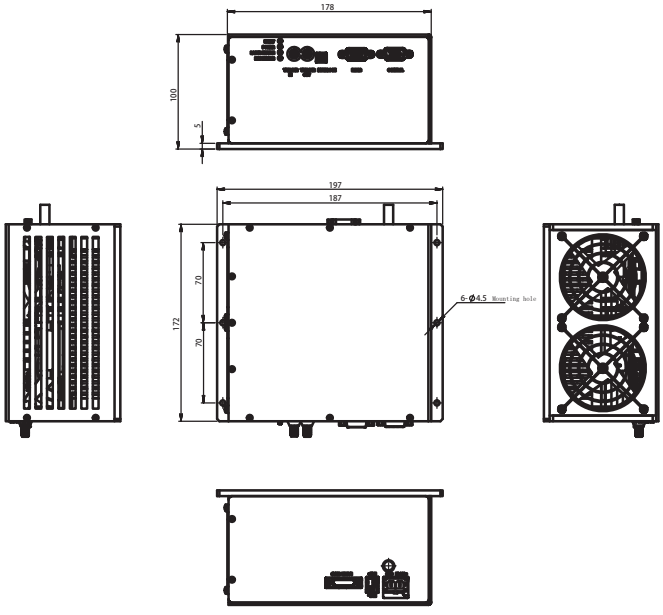


Beam Profile

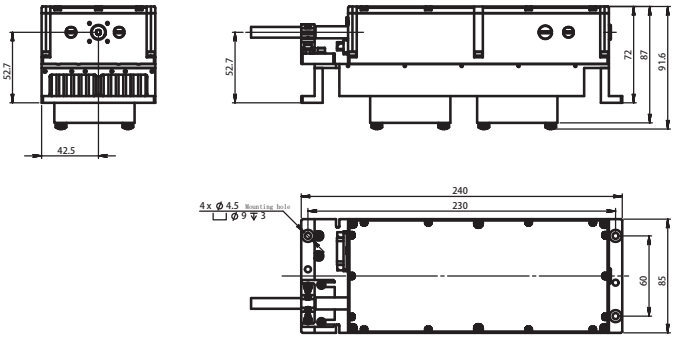


Typical Pulse Width

Mechanical Drawings (in mm)



Drive Board



Laser Head

