



MCA Series

1.5ns Microchip Laser



Key Features

- ◆ Pulse width down to 1ns
- ◆ Single pulse energy up to 200μJ
- ◆ Repetition rate up to 20kHz
- ◆ Spatial mode TEM₀₀
- ◆ Sealed package, high reliability

Applications

- LIDAR
- Biomedicine
- Laser ranging
- Optical metrology
- Atmospheric monitoring
- 3D scanning and imaging
- Pump source for optical parametric oscillators
- Laser ionization mass spectroscopy (LIMS)
- Laser-induced breakdown spectroscopy (LIBS)
- Laser-induced fluorescence (LIF)
- Laser-induced plasma spectroscopy (LIPS)
- Laser-based ultrasound detection

Technical Specifications

Optical Parameters																																	
Wavelength (nm)		1064								532								355				266											
Repetition rate (kHz)		0.1	1	2.5	1*	2.5*	5	10	20	0.1	1	2.5	1*	2.5*	5	10	20	0.1*	0.2*	1*	5*	10*	20*	0.1*	1*	5*	10*	20*					
Average power (mW)		18	120	300	200	450	250	350	600	50	30	75	100	250	100	150	300	4	6	30	50	70	140	1.5	12	15	15	30					
Pulse energy (μJ)		180	120	120	200	180	50	35	30	50	30	30	100	100	20	15	15	40	30	30	10	7	7	15	12	3	1.5	1.5					
Pulse width (ps)		2000			2500			1500		1800			2000		1200			1500				1000				1500				1000			
Power stability (8h)		±3%																															
Beam profile		TEM ₀₀																															
Full angle divergence Typ. (mrad)	Horizontal @1/e ²	≤4	≤6	≤8	≤10	≤3	≤4	≤6	≤6	≤6	≤6	≤3	≤5	≤2	≤4																		
	Vertical @1/e ²	≤4	≤6	≤8	≤10	≤3	≤4	≤6	≤6	≤3	≤5	≤2	≤4																				
Polarization		>100:1																															
System Parameters																																	
Supply power voltage		100-240 VAC, 50/60 Hz																															
Modulation input		TTL 0-5V, SMA input																															
Control interface		RS232, USB																															
Power consumption (W)		≤15	≤15	≤20	≤20	≤25	≤25	≤30	≤35	≤10	≤15	≤20	≤20	≤25	≤25	≤30	≤35	≤15	≤15	≤20	≤25	≤30	≤35	≤15	≤20	≤25	≤30	≤35					
Power dimensions (W×H×L, mm)		168×88×140/168×88×220*																															
Laser head dimensions (W×H×L, mm)		45×30×120																															
Operation temperature (°C)		15-35																															
Storage temperature (°C)		0-60																															

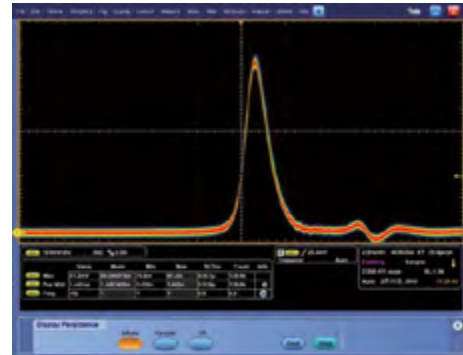
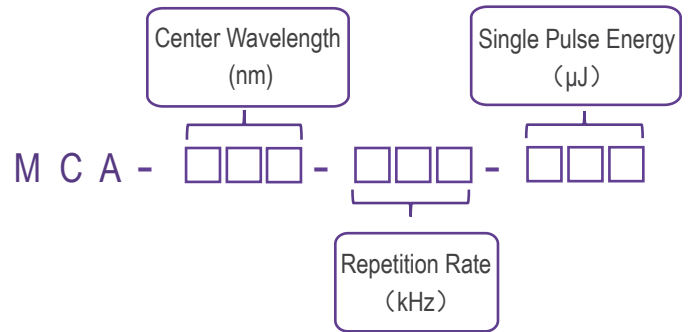
*1. Laser head features side laser outlet, please see mechanical drawings for more details.

2. Built-in beam expander and collimator are available upon request, and divergence can be less than 2mrad.

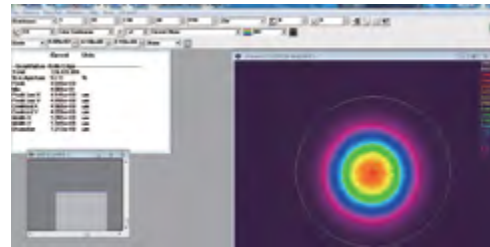
Order Information

Wavelength (nm)	Part Number	Repetition rate (kHz)	Pulse energy (μJ)
1064	MCA-1064-0.1-180	0.1	180
	MCA-1064-1-120	1	120
	MCA-1064-2.5-120	2.5	120
	MCA-1064-1-200	1	200
	MCA-1064-2.5-180	2.5	180
	MCA-1064-5-050	5	50
	MCA-1064-10-035	10	35
532	MCA-532-0.1-050	0.1	50
	MCA-532-1-030	1	30
	MCA-532-2.5-030	2.5	30
	MCA-532-1-100	1	100
	MCA-532-2.5-100	2.5	100
	MCA-532-5-020	5	20
	MCA-532-10-015	10	15
355	MCA-355-0.1-040	0.1	40
	MCA-355-0.2-030	0.2	30
	MCA-355-1-030	1	30
	MCA-355-5-010	5	10
	MCA-355-10-007	10	7
	MCA-355-20-007	20	7
266	MCA-266-0.1-015	0.1	15
	MCA-266-1-012	1	12
	MCA-266-5-003	5	3
	MCA-266-10-1.5	10	1.5
266	MCA-266-20-1.5	20	1.5

Part Numbering Schema

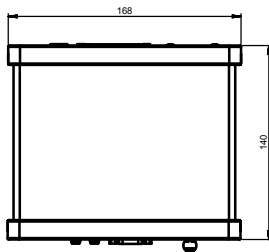
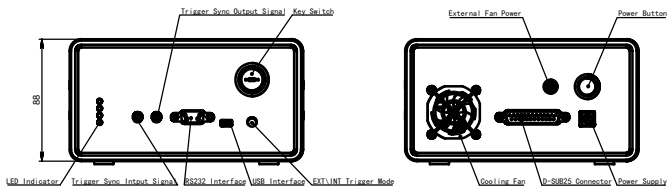


Typical Pulse

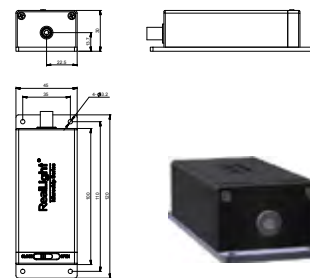


Beam Profile

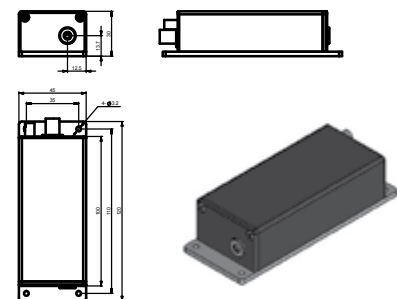
Mechanical Drawings (in mm)



Power Supply



Laser Head (middle laser outlet)



Laser Head (side laser outlet)

