

MCJ Series

1ns Microchip Laser



Applications

Material micromachining
Spectrum analysis
LIDAR
Pump source
Biomedicine

Key Features

- ◆ Pulse width down to 1ns
- ◆ Single pulse energy up to 100μJ
- ◆ Repetition rate up to 2kHz
- ◆ Spatial mode TEM₀₀

Technical Specifications

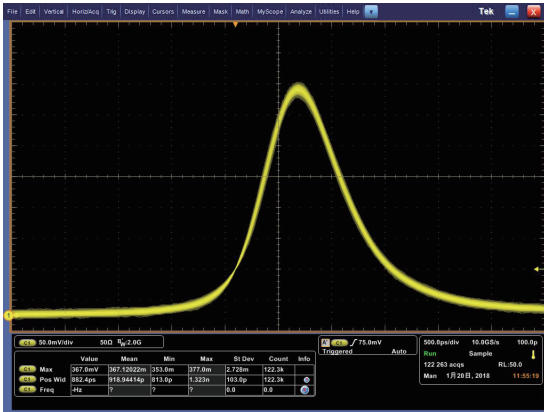
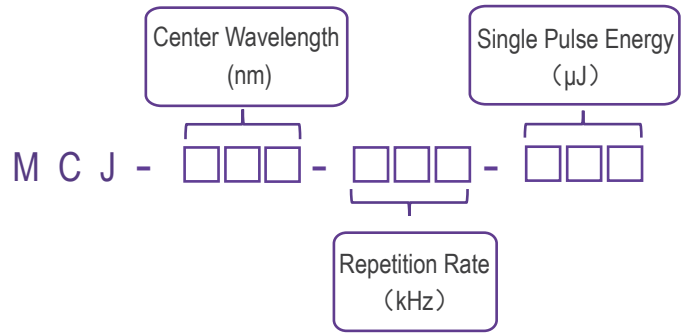
| Optical Parameters | | | | | |
|-----------------------------------|------------------------------|-----|-----|-----|---|
| Wavelength (nm) | 1030 | 515 | 343 | 257 | |
| Repetition rate (kHz) | 1 | 1 | 1* | 1* | |
| Average power (mW) | 100 | 40 | 20 | 8 | |
| Pulse energy (μJ) | 100 | 40 | 20 | 8 | |
| Pulse width (ps) | 1000 | 900 | 800 | 800 | |
| Power stability (8h) | ±3% | | | | |
| Beam profile | TEM ₀₀ | | | | |
| Beam full divergence (typ., mrad) | Horizontal @1/e ² | 6 | 4 | 3 | 2 |
| | Vertical @1/e ² | 6 | 4 | 3 | 2 |
| Polarization ratio | >100:1 | | | | |
| System Parameters | | | | | |
| Supply power voltage | 100-240 VAC, 50/60 Hz | | | | |
| Control interface | RS232, USB | | | | |
| Power consumption (W) | ≤15 | ≤15 | ≤15 | ≤15 | |
| Power dimensions (W×H×L, mm) | 168×88×140 | | | | |
| Laser head dimensions (W×H×L, mm) | 45×30×120 | | | | |
| Operation temperature (°C) | 15-35 | | | | |
| Storage temperature (°C) | 0-60 | | | | |

- *Side laser outlet configuration (middle laser outlet configuration unless otherwise stated)
Lasers with repetition rate < 20kHz are positive-edge-triggered, and lasers with repetition rate > 20kHz are gate-triggered. All systems rely on 5V TTL levels and have SMA interfaces for external triggering input. See mechanical specifications for more details!
- Built-in beam expander and collimator are available upon request, and divergence can be less than 2mrad.

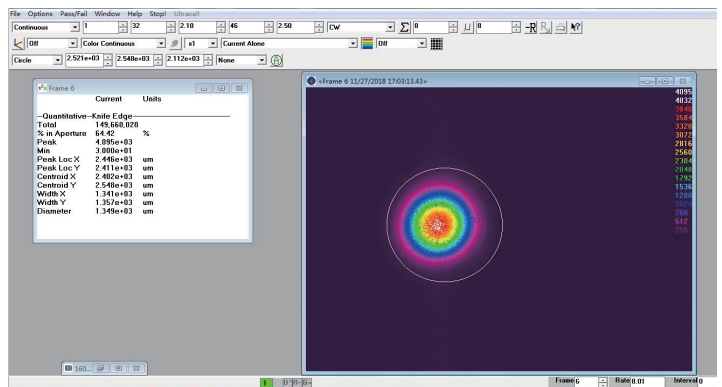
Order Information

| Wavelength (nm) | Part Number | Repetition rate (kHz) | Pulse energy (μJ) |
|-----------------|----------------|-----------------------|-------------------|
| 1030 | MCJ-1030-1-100 | 1 | 100 |
| 515 | MCJ-515-1-040 | 1 | 40 |
| 343 | MCJ-343-1-020 | 1 | 20 |
| 257 | MCJ-257-1-008 | 1 | 8 |

Part Numbering Schema

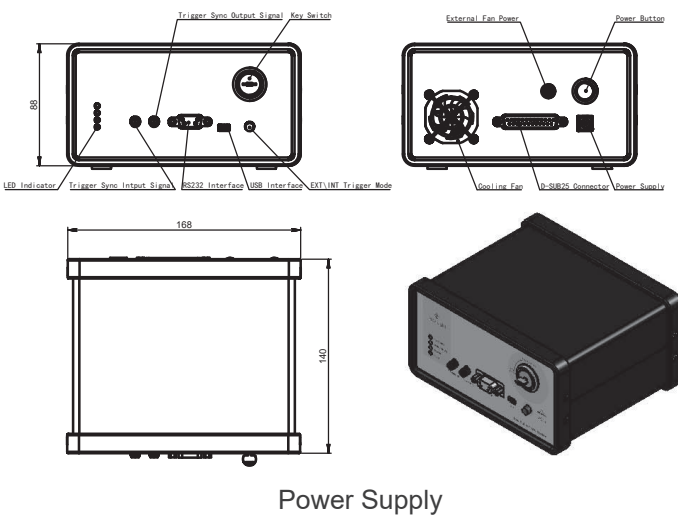


Typical Pulse

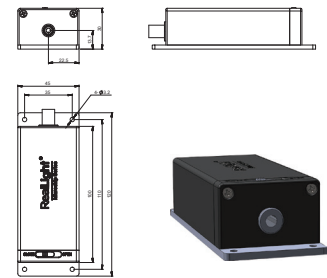


Beam Profile

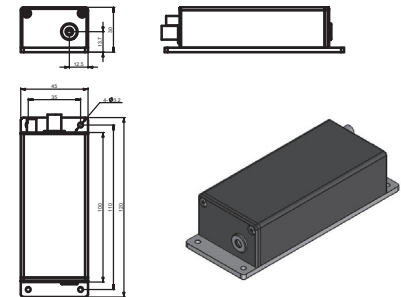
Mechanical Drawings (in mm)



Power Supply



Laser Head (middle laser outlet)



Laser Head (side laser outlet)

