# 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 $TEM_{00}$

## Technical Specifications

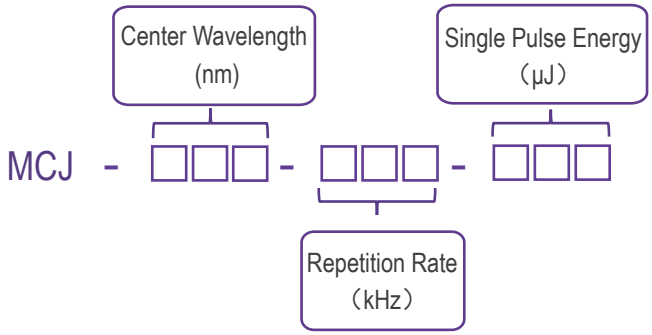
| Optical Parameters | | | | | |
|---|---|---|---|---|---|
| Wavelength (nm) | | 1030 | 515 | 343 | 257 |
| Repetition rate (kHz) | | 1 | 1 | 1* | 1* |
| Average power (mW) | | 100 | 40 | 20 | 8 |
| Pulse energy (μJ) | | 100 | 40 | 20 | 8 |
| Pulse width (ps) | | 1000 | 900 | 800 | 800 |
| Power stabilty (8h) | | ±3% | | | |
| Beam profile | | $TEM_{00}$ | | | |
| Beam full divergence (typ., mrad) | Horizontal @1/e² | 6 | 4 | 3 | 2 |
| | Vertical @1/e² | 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) | | 180×90×180 | | | |
| Laser head dimensions (W×H×L,mm) | | 45×33×120 | | | |
| Operation temperature (℃) | | 15-35 | | | |
| Storage temperature (℃) | | 0-60 | | | |

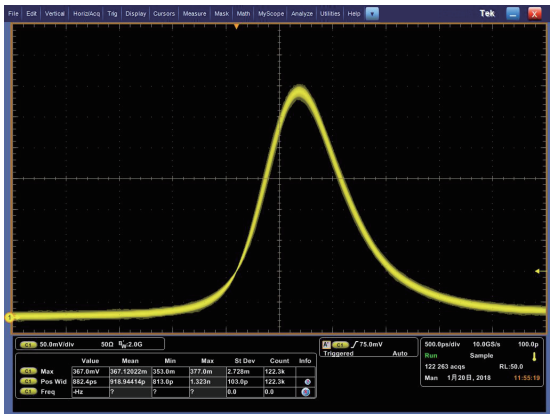
1. *Side laser outlet configuration（middle laser outlet configuration unless otherwise stated）
Lasers with repetition rate < 20kHz are positive-edge-triggered, and lasers with repetition rate > 20kHz are gate-triggered. All systems rely on 5V TTL levels and have SMA interfaces for external triggering input. See mechanical specifications for more details!
2. Built-in beam expander and collimator are available upon request, and divergence can be less than 2mrad.
3. 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

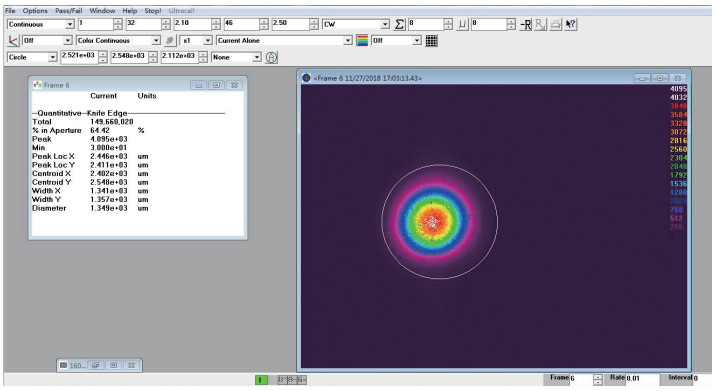
| Wavelength（nm） | Part Number | Repetition rate (kHz) | Pulse energy (μJ) |
|---|---|---|---|
| 1030 | MCJ-1030-1-100 | 1 | 100 |
| 515 | MCJ-515-1-40 | 1 | 40 |
| 343 | MCJ-343-1-20 | 1 | 20 |
| 257 | MCJ-257-1-8 | 1 | 8 |

## Part Numbering Schema



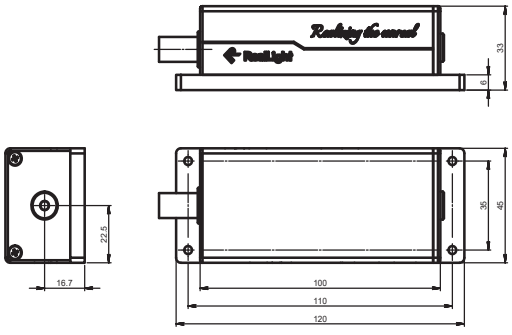



Typical Pluse

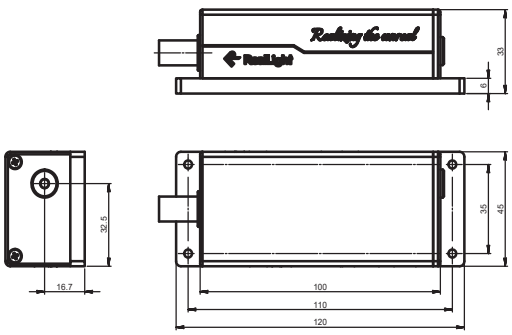


Beam Profile

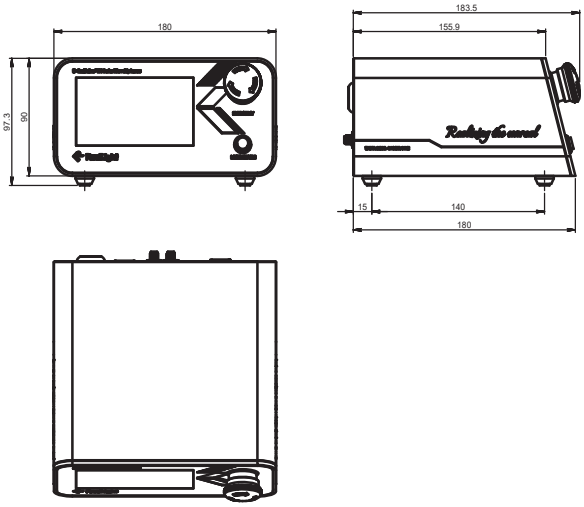
## Mechanical Drawings (in mm)




Laser Head (middle laser outlet)




Laser Head (side laser outlet)




Power Supply