



500μJ Microchip Laser Module

Model:ER500

PRODUCT DESCRIPTION

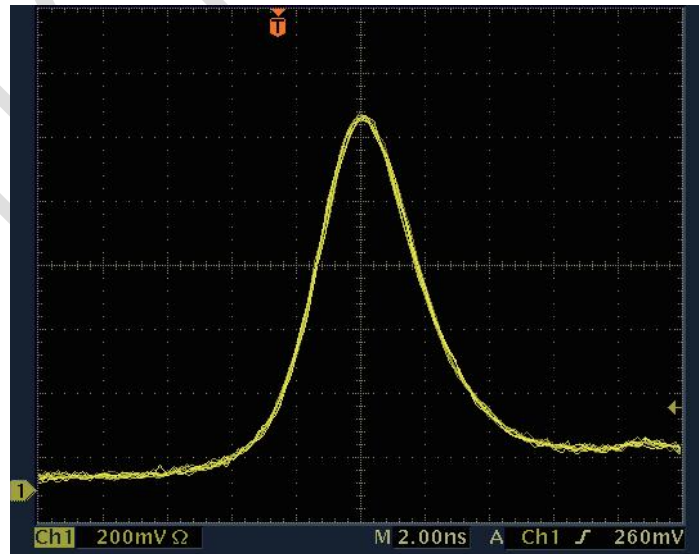
The most important advantage of this 1535nm laser with a pulse energy $\geq 500\mu\text{J}$ is the safety of human eyes. The light emission time is within a pump pulse time cycle, positioned before the end of the pump. According to measurement data and debugging experience, each laser's pump pulse width may vary slightly but remains $< 2\text{ms}$. To ensure laser stability, the actual light emission time is smaller than the factory data in the parameter table by 0.1ms for the pump pulse width. For example, at 60°C , with a pump pulse width of 1.7ms, the actual light emission time would be 1.6ms. Another highlight includes its lighter weight, smaller size, and more stable performance which are widely used in applications such

as laser distance measurement, laser irradiation, LIDAR technology, target identification, laser therapy and fiber optic communication.

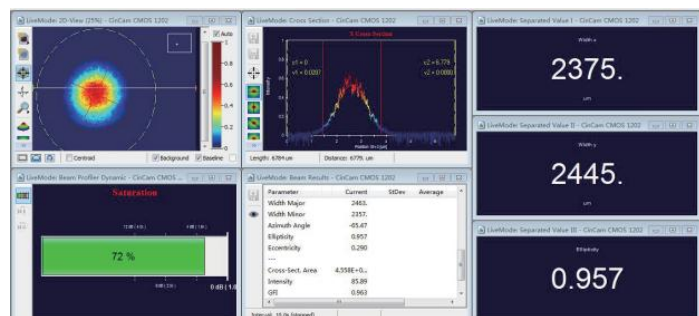


TECHNICAL SPECIFICATIONS

Laser Wavelength	1535 nm
Eyesafe	Class 1
Pulse energy	$\geq 500\mu\text{J}$
Laser Pulse width	5 ns
Pulse repetition rate	1~10Hz
Pulse stability	10%
Raw Beam Diameter	0.35mm
Beam divergence angle	8 mrad
Beam Mode	TEM ₀₀
Operating temperature	$-45^\circ\text{C}\sim+65^\circ\text{C}$
Storage temperature	$-55^\circ\text{C}\sim+85^\circ\text{C}$
Impact	1500 G, 0.5 ms
Vibration	20~2000 Hz/20 G
Life span	> 5 million times
Dimension (mm)	32x8x7
weight	10g
Voltage	2 V
electric current	20 A
Drive pulse width	$\geq 2.4\text{ms}$

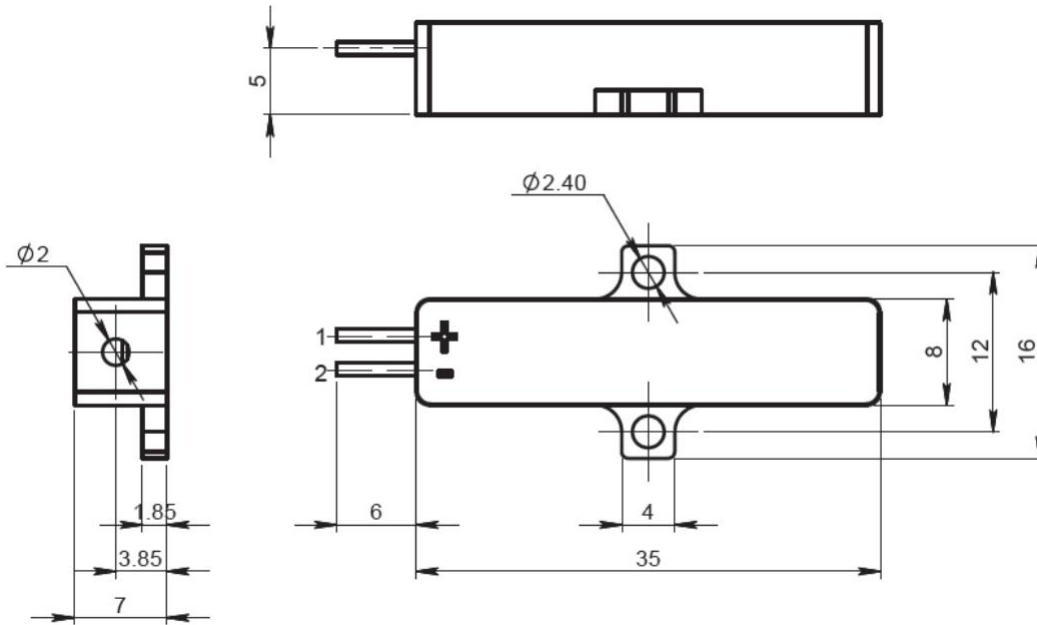


Beam Profile





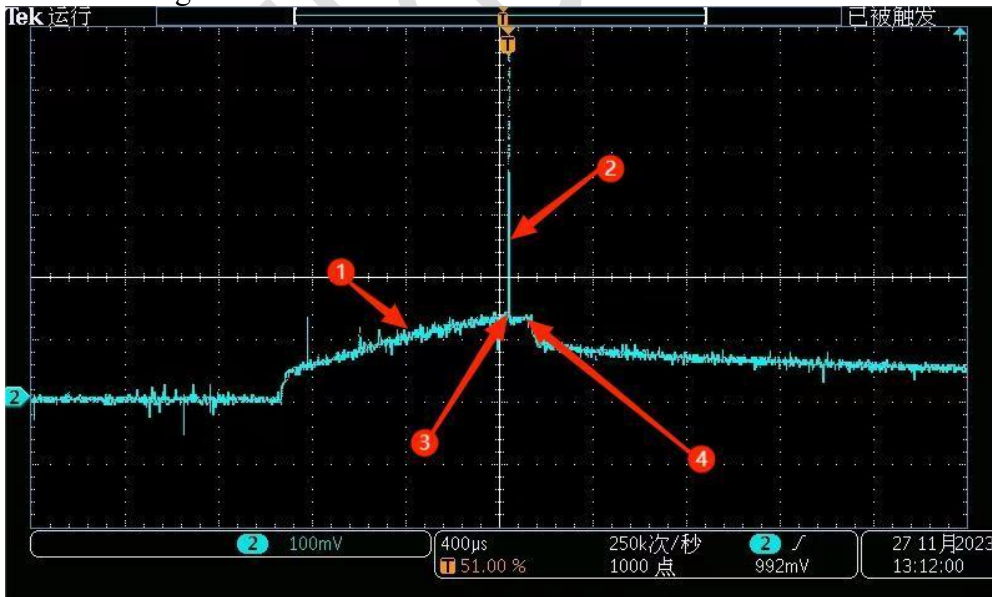
MECHANICAL DIMENSION(mm)



ILLUMINATION TIME DESCRIPTION

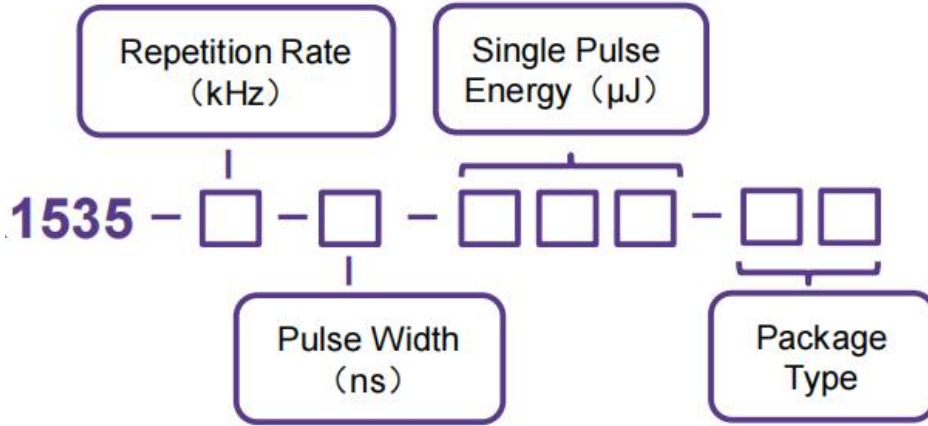
During a pump pulse time cycle, the laser is emitted at a time position before the end of pumping. According to the measurement data and commissioning experience, the pump pulse width of each laser is slightly different, but the normal temperature is <2ms. In order to ensure the stable operation of the laser, the laser emission time is 0.2ms less than the pump pulse width data in the factory parameter table. In order to ensure the stable operation of the laser, the laser emission time is 0.2ms less than the pump pulse width data in the factory parameter table, as shown in the figure:

- Pump light
- Laser
- Output pulse width
- The pump pulse width margin left by the driving parameters on the test sheet sent with the laser, generally not exceeding 0.2ms.





PART NUMBERING SCHEMA



PIN DESCRIPTIONS

Pin	Function
1	Laser (+)
2	Laser (-)

