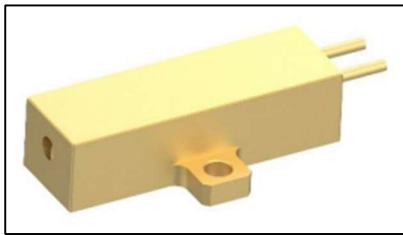


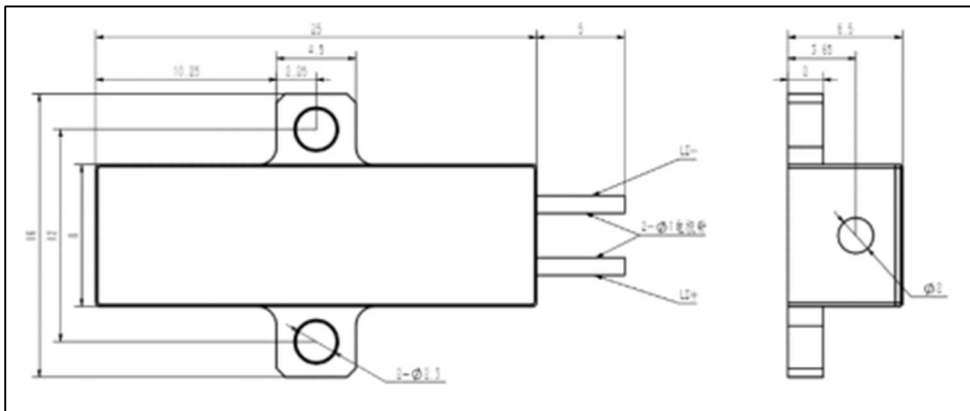
## SLY Series 1535nm Erbium-Doped Glass Lasers

### 1. Er:Glass Lasers without Beam Expander (Low Repetition Rate)

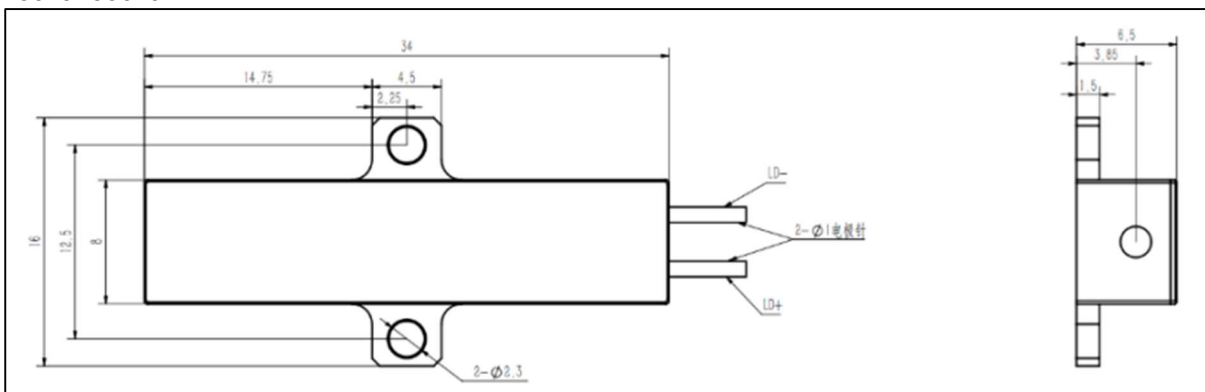


Parameters	SLY-100uJ-C9	SLY-200uJ-C9	SLY-300uJ-C10	SLY-400uJ-C11	SLY-500uJ-C11
Wavelength	1535nm +/- 5nm				
Pulse width (FWHM)	3 – 6ns				
Pulsed energy	≥100uJ	≥200uJ	≥300uJ	≥400uJ	≥500uJ
Frequency	1 – 10Hz				
Beam quality (M <sup>2</sup> )	≤1.3				
Beam diameter (1/e <sup>2</sup> )	0.2mm			0.3mm	
Beam divergence	≤10mrad			≤15mrad	
Working voltage	<2V				
Working current	6A	10A	12A	15A	18A
Pulse width	≤2.5ms				
Working temperature	-45°C ~ +70°C			-40°C ~ +65°C	
Storage temperature	-50°C ~ +75°C			-50°C ~ +75°C	
Lifetime	>10 <sup>7</sup> times				
Weight	9g			15g	

100uJ~300uJ models:

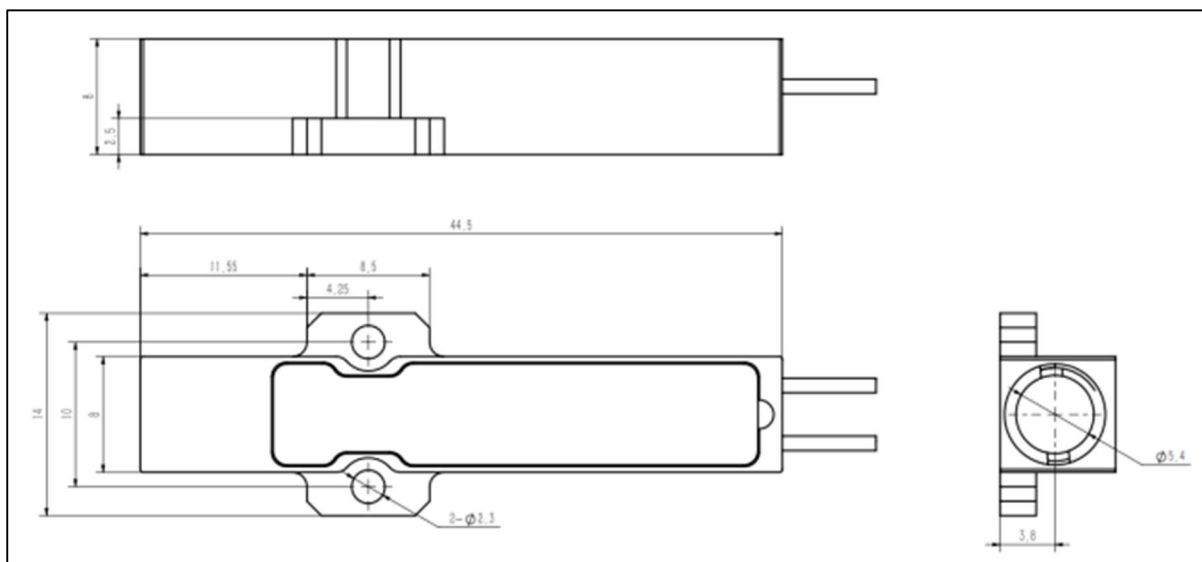


400uJ~500uJ models:

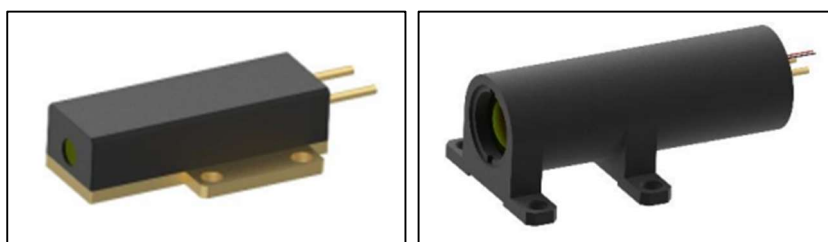


## 2. Er:Glass Lasers with Beam Expander (Low Repetition Rate)

Parameter	SLY-100uJ-A8
Wavelength	1535nm +/- 5nm
Pulse width (FWHM)	3 – 6ns
Pulsed energy	≥100uJ
Energy stability	<8%
Frequency	10Hz
Beam quality (M <sup>2</sup> )	≤1.3
Beam diameter (1/e <sup>2</sup> )	0.2mm
Beam divergence	≤0.6mrad
Working voltage	<2V
Working current	6A
Pulse width	1.0~2.5ms
Working temperature	-40°C ~ +65°C
Storage temperature	-50°C ~ +75°C
Lifetime	>10 <sup>7</sup> times
Weight	10g

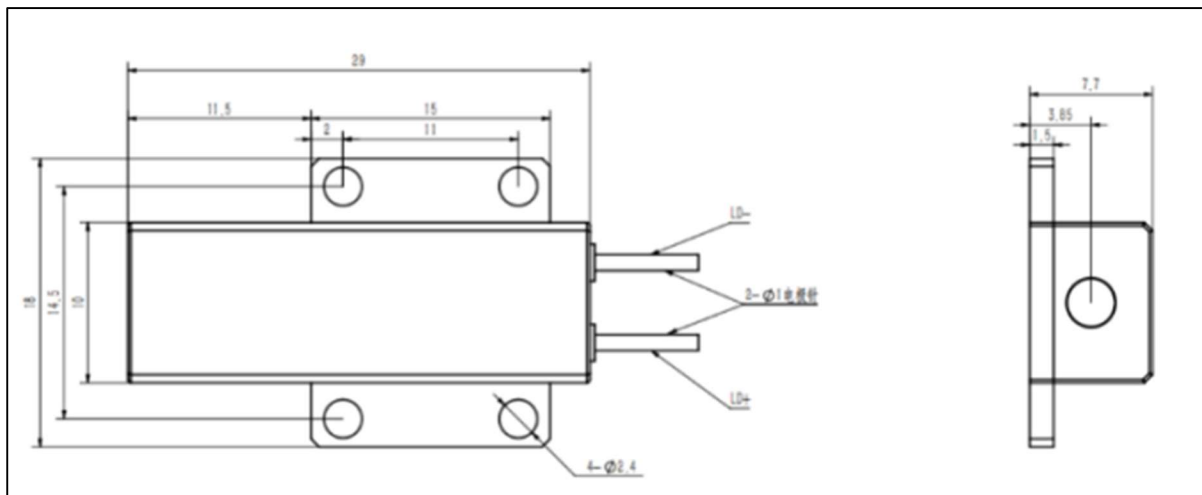
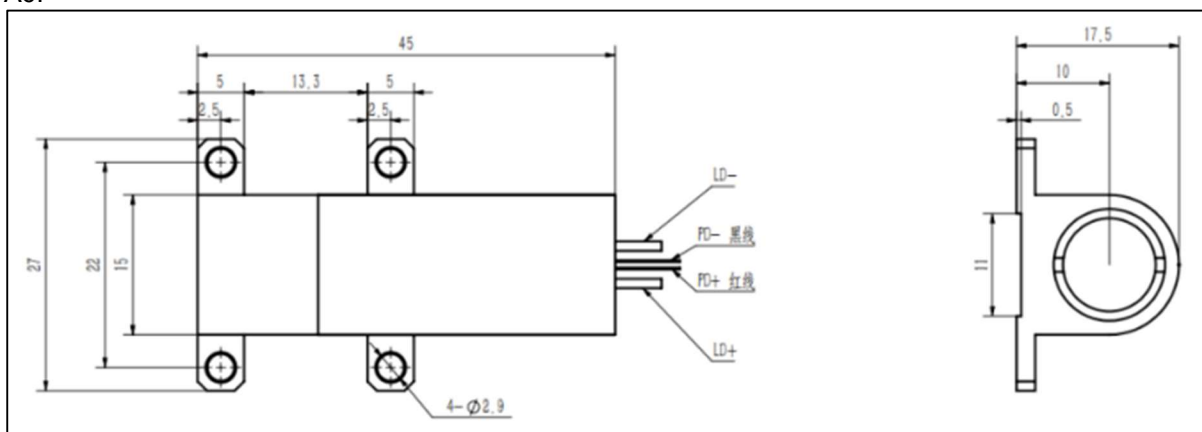


## 3. High Repetition Rate Er:Glass Lasers



Parameter	SLY-40uJ-A10	SLY-40uJ-A6-BE
Wavelength	1535nm +/- 5nm	
Pulse width (FWHM)	3 – 6ns	
Pulsed energy	≥40uJ	
Frequency	1000Hz	
Beam quality (M <sup>2</sup> )	≤1.5	
Beam diameter (1/e <sup>2</sup> )	0.3mm	≤13mm
Beam divergence	≤15mrad	0.5~0.6mrad
Working voltage	<2V	

Working current	4A	
Pulse width	≤0.4ms	
Working temperature	-40°C ~ +65°C	
Storage temperature	-50°C ~ +75°C	
Lifetime	>10 <sup>7</sup> times	
Weight	12g	30g

**A10:**

**A6:**

**NOTE:**

1. Anti-static measures must be taken during transportation, storage and use.
2. Laser diode pins need to be protected by connecting short lines between them.
3. Use constant-current power supply to avoid peaks and surges when working.
4. Do not exceed the specified operating temperature, frequency, pulse width, current, etc.
5. The laser must be installed reliably (following the instruction manual) to ensure proper operation.
6. Ensure that the laser window is clean and pollutant-free, to avoid light abnormalities.



## STXL Series Microchip Lasers

### 2.1 STXL High Repetition Rate 1535nm Microchip Laser Module

Er:glass eye-safe lasers are diode pumped, water-free, passively Q-switched lasers independently developed by us, combine eye-safe wavelength operation with high peak power, short pulse duration (pulse width), and diffraction limited beam quality to deliver unmatched size, weight and power. Our eye-safe DPSS lasers operate at 1535nm, in addition to being called 1535nm lasers, these lasers are also called 1540nm lasers, 1534nm lasers, 1.54um lasers or 1.54μm lasers, widely used as the emission light source of rangefinder. At this wavelength, eye-safe laser ranging systems can be easily configured without compromise to beam power or quality. This makes laser ranging applications safer for customers. Most of these lasers are operational over a wide temperature range from -40°C to 60°C, with lifetime exceeding 60 million shots.

#### Applications:

- Obstacle avoidance radar
- Meteorological radar
- Laser range finder

#### Key Features:

- Passively Q-switched, Er:glass
- Eye-safe
- Extremely light (about 10g)
- Wide operating temperature range



Wavelength (nm)	1535		
Pulse energy (μJ)	40	20	10
Repetition rate (kHz)	1	2.5	5
Pulse width (ns)	≤5	≤6	≤8
Operating current (A)	5		
Operating voltage (V)	2		
Beam diameter (mm)	0.3		
Beam full divergence (typ., mrad)	≤16	≤17	≤18
Beam pointing	< 0.2°		
Beam profile	TEM00		
Weight (g)	≤10		
Dimensions (W×H×L, mm)	21x8x7		
Operation temperature (°C)	-40~65		
Storage temperature (°C)	-55~80		

#### Part numbering:

Series – Wavelength – Pulse Energy – Pulse Repetition Rate – HRR-Q

For example: STXL-1535nm-40uJ-1kHz-HRR-Q, is a STXL series high repetition rate passively Q-switched microchip laser with 1535nm wavelength, 40uJ energy, 1kHz pulse repetition rate.

### 2.2 STXL 100~300μJ 1535nm Microchip Laser Modules

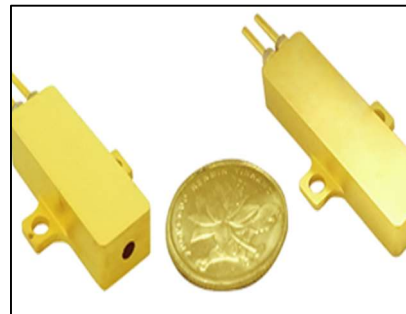
Er:glass eye-safe lasers are diode pumped, water-free, passively Q-switched lasers combined eye-safe wavelength operation with high peak power, short pulse duration (pulse width), and diffraction limited beam quality to deliver unmatched size, weight and power. Our eye-safe DPSS lasers operate at 1535nm, in addition to being called 1535nm lasers, these lasers are also called 1540nm lasers, 1534nm lasers, 1.54um lasers or 1.54μm lasers, widely used as the emission light source of rangefinder. At this wavelength, eye-safe laser ranging systems can be easily configured without compromise to beam power or quality. This makes laser ranging applications safer for customers. Most of these lasers are operational over a wide temperature range from -40°C to 60°C, with lifetime exceeding 60 million shots.

**Applications:**

- Laser range finder
- Meteorological radar

**Key Features:**

- Passively Q-switched, Er:glass
- Eye-safe
- Extremely light
- Super compact design
- Wide operating temperature range



Wavelength (nm)	1535		
Pulse energy (μJ)	100	200	300
Pulse width (ns)	≤5		
Repetition rate (Hz)	10		
Operating current (A)	7	10	12
Beam full divergence (typ., mrad)	10		
Beam profile	TEM00		
Weight (g)	7	10	12
Dimensions (W×H×L, mm)	21x8x7		25x8x7
Operation temperature (°C)	-40~65		
Storage temperature (°C)	-55~80		

**Part numbering:**

Series – Wavelength – Pulse Energy – Pulse Repetition Rate – HRR-Q

For example: STXL-1535nm-100uJ-10Hz-HRR-Q, is a STXL series high repetition rate passively Q-switched microchip laser with 1535nm wavelength, 100uJ energy, 10Hz pulse repetition rate.

**2.3 STXL High Energy 1535nm Microchip Laser Modules**

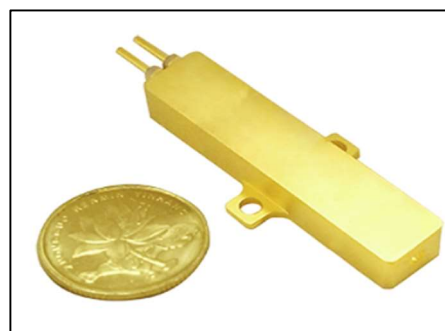
Er:glass eye-safe lasers are diode pumped, water-free, passively Q-switched lasers combined eye-safe wavelength operation with high peak power, short pulse duration (pulse width), and diffraction limited beam quality to deliver unmatched size, weight and power. Our eye-safe DPSS lasers operate at 1535nm, in addition to being called 1535nm lasers, these lasers are also called 1540nm lasers, 1534nm lasers, 1.54um lasers or 1.54μm lasers, widely used as the emission light source of rangefinder. At this wavelength, eye-safe laser ranging systems can be easily configured without compromise to beam power or quality. This makes laser ranging applications safer for customers. Most of these lasers are operational over a wide temperature range from -40°C to 60°C, with lifetime exceeding 60 million shots.

**Applications:**

- Laser range finder
- Altimeter
- LIBS

**Key Features:**

- Peak power >150kW
- Eye-safe
- No temperature controlling
- Low operating current
- Compact size



Wavelength (nm)	1535	
Pulse energy (μJ)	800	1000
Pulse width (ns)	≤7	≤8
Repetition rate (Hz)	10	5
Operating current (A)	30	
Beam full divergence (typ., mrad)	≤7	
Beam profile	TEM00	

Weight (g)	20
Dimensions (W×H×L, mm)	38x9x7.7
Operation temperature (°C)	-40~65
Storage temperature (°C)	-55~80

**Part numbering:**

Series – Wavelength – Pulse Energy – Pulse Repetition Rate – HE

For example: STXL-1535nm-800uJ-10Hz-HE, is a STXL series high energy microchip laser with 1535nm wavelength, 800uJ energy, 10Hz pulse repetition rate.

**2.4 STXL 500µJ High Energy 1535nm Microchip Laser Modules**

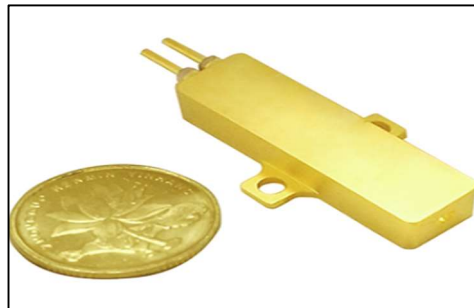
Er:glass eye-safe lasers are diode pumped, water-free, passively Q-switched lasers combined eye-safe wavelength operation with high peak power, short pulse duration (pulse width), and diffraction limited beam quality to deliver unmatched size, weight and power. Our Eye-safe DPSS Lasers operate at 1535nm, in addition to being called 1535nm lasers, these lasers are also called 1540nm lasers, 1534nm lasers, 1.54um lasers or 1.54µm lasers, widely used as the emission light source of rangefinder. At this wavelength, eye-safe laser ranging systems can be easily configured without compromise to beam power or quality. This makes laser ranging applications safer for customers. Most of these lasers are operational over a wide temperature range from -40°C to 60°C, with lifetime exceeding 60 million shots.

**Applications:**

- Laser range finder
- Meteorological radar

**Key Features:**

- Passively Q-switched, Er:glass
- Eye-safe
- Extremely light
- Super compact design
- Wide operating temperature range



Wavelength (nm)	1535
Pulse energy (µJ)	500
Pulse width (ns)	≤6
Repetition rate (Hz)	10
Operating current (A)	20
Beam full divergence (typ., mrad)	6
Beam profile	TEM00
Weight (g)	13
Dimensions (W×H×L, mm)	32x8x7
Operation temperature (°C)	-40~65
Storage temperature (°C)	-55~80

**Part numbering:**

Series – Wavelength – Pulse Energy – Pulse Repetition Rate – HE

For example: STXL-1535nm-500uJ-10Hz-HE, is a STXL series high energy microchip laser with 1535nm wavelength, 500uJ energy, 10Hz pulse repetition rate.

## SED Series Erbium-doped Glass Microchip Lasers

### Parts Numbering Schema

Series – Wavelength – Pulse Energy – Pulse Width– Others

For example: SED-1535nm-100uJ-3.5ns, is a SED Erbium-doped laser with 1535nm wavelength, 100uJ Pulse energy and 3.5ns pulse width.

### 1. 500 $\mu$ J Erbium-doped glass laser, SED-1535nm-500uJ-5ns

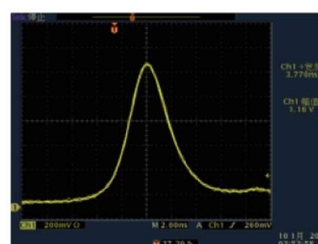
The erbium glass laser emits at an eye-safe wavelength of 1.54 $\mu$ m and offers high beam quality within the atmospheric window. With a pulse energy of 500  $\mu$ J, it is suitable for eye-safe laser ranging. This laser exhibits low power consumption, high peak power, narrow pulse width, compact size, and does not require temperature control. It has been proven to be a safe, efficient, and stable eye-safe laser solution.



Wavelength	1535nm
Pulse energy (Min/Typ.)	$\geq 500\mu$ J
Pulse width, Typ. (FWHM)	5ns
Pulse repetition rate	1~10Hz
Pulse stability	10%
Spots diameter	0.3mm
Beam divergence angle	10mrad
Spots mode	TEM00
Operating temperature	-45 °C~ +65°C
Storage temperature	-55 °C~ +85°C
Impact	1500G, 0.5ms
Vibration	20~2000 Hz/20G
Life span	>50 million shots
Dimension (mm)	32x8x7
Weight	10g
Voltage	2V
Current	20A
Pulse width	$\geq 2.4$ ms

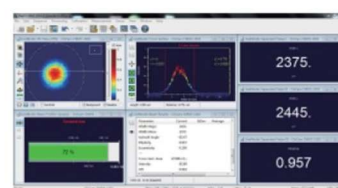
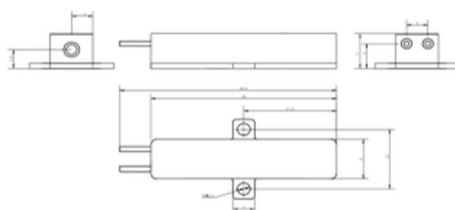
#### Pin Descriptions

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



Typical Pulse

#### Mechanical Dimensions (mm)

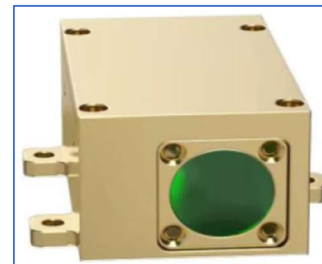


Beam Profile



## 2. 2mJ Erbium-doped Glass Laser, SED-1535nm-2mJ-11ns

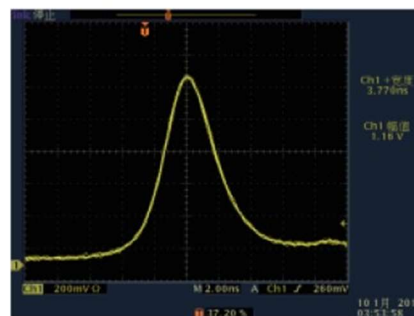
This laser employs erbium glass as the active medium operating at a wavelength of 1.54  $\mu\text{m}$ . It offers a high photoelectric conversion efficiency, effectively converting electrical energy into laser power. With excellent optical performance and output stability, it consistently delivers pulse energy of over 2mJ. It is compact, lightweight, and excels in various fields such as scientific research, medical treatment, and industrial processing.



Wavelength	1535nm
Pulse energy (Min/Typ.)	$\geq 2\text{mJ}$
Pulse width, Typ. (FWHM)	11ns
Pulse repetition rate	5Hz
Pulse stability	$\pm 5\%$
Spots diameter	0.5mm
Beam divergence angle	4mrad
Spots mode	TEM00
Operating temperature	$-45\text{ }^{\circ}\text{C} \sim +65\text{ }^{\circ}\text{C}$
Storage temperature	$-55\text{ }^{\circ}\text{C} \sim +85\text{ }^{\circ}\text{C}$
Impact	1500G, 0.5ms
Vibration	5~2000 Hz/20G
Life span	>50 million shots
Dimension (mm)	60x34x26
Weight	120g
Voltage	5V
Current	65A
Pulse width	$\geq 4\text{ms}$

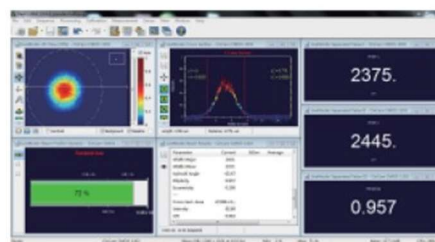
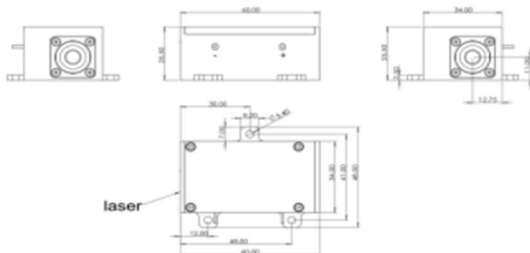
### Pin Descriptions

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



Typical Pulse

### Mechanical Dimensions (mm)



Beam Profile