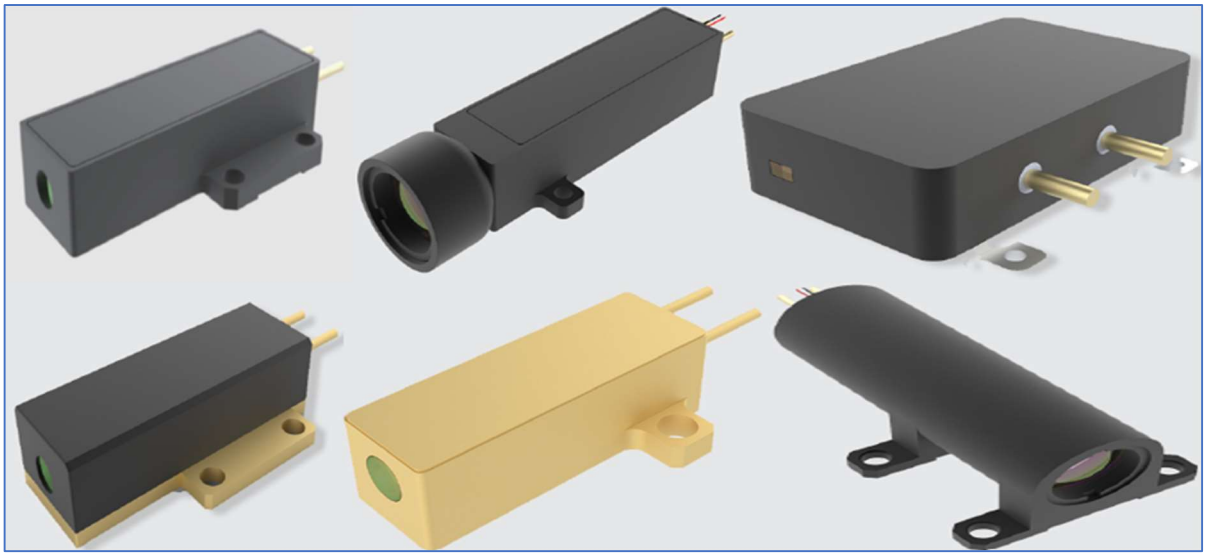
Sintec Optronics

STXL Series Er Glass Lasers



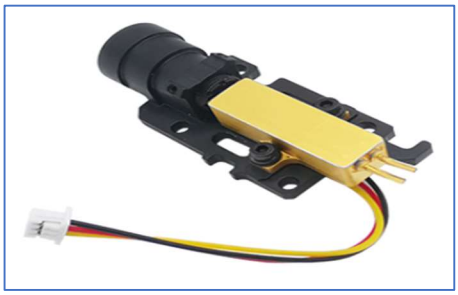
1535nm eye-safe laser is ultra-compact diode-pumped microchip laser based on Er:glass. Utilizing laser diode packaging technology, the output energy of this laser is up to 1000uJ, making it possible to detect targets within a radius of 500m-20km, and widely used in compact eye-safe range finder.

1. STXL 1535nm Erbium Glass Laser Modules With Beam Expander

1535nm Erbium glass laser module with beam expander is an integrated laser module composed of erbium glass microchip laser, beam expander and photodetector (PIN) independently developed by us which is professionally used in laser ranging, laser remote sensing, lidar and other applications. The STXL-1535-25X series of laser modules are specified to deliver 100-300μJ at 1535nm with divergence angle of 0.5mard, and provide PD output signal, which has the characteristics of small size, high reliability and wide temperature operation.

Applications:

- Laser ranging
- Laser remote sensing
- Lidar



Key Features:

- 1535nm, eye-safe
- Integrated PD
- Divergence angle of 0.5mrad
- Compact structure
- High stability

Optical Parameters			
Wavelength (nm)	1535		
Repetition rate (Hz)	10		
Pulse energy (mJ)	100	200	300
Pulse width (ns)	5		
Pump pulse duration (ms)	≤2	≤2	≤2.5
Beam diameter (mm)	7.5	8	8.5
Beam full divergence Typ. (mrad)	0.55	0.5	0.45
Magnification	25X		
System Parameters			
Operating current (A)	8	10	12
Operating voltage (V)	1.8		
Vibration	5Hz, 2.5g		

Shock	Axial 100g, 1ms
Operating temperature (℃)	-40~65
Storage temperature (℃)	-55~80
Storage relative humidity	≤85%
Operating lifetime (H)	≥5000

2. STXL High Peak Power 1535nm Erbium Glass Laser Modules with Beam Expander

High peak power 1535nm Erbium glass laser module with beam expander is an integrated laser module composed of high-energy erbium glass microchip laser, beam expander and photodetector (PIN) independently developed by us, which is professionally used in laser ranging, laser remote sensing, lidar and other applications. The STXL-1535-30X series of laser modules are specified to deliver high peak power of 500μJ-1mJ at 1535nm with divergence angle of less than 0.3mard, and provide PD output signal, which has the characteristics of small size, high reliability and wide temperature operation.

Applications:

- Laser ranging
- Laser remote sensing
- Lidar

Key Features:

- 1535nm, Eye-safe
- High peak power
- Divergence angle <0.3mrad
- Integrated PD
- Compact structure
- High stability

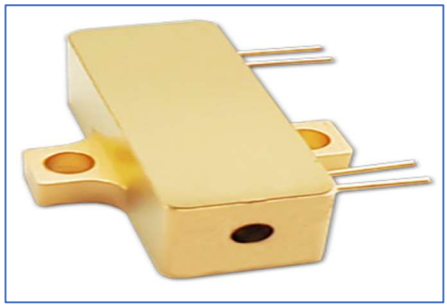
Optical Parameters		
Wavelength (nm)	1535	
Repetition rate (Hz)	10	5
Output power (μJ)	500	1000
Pulse width (ns)	6	7
Pump pulse duration (ms)	≤2.5	≤2.5
Beam diameter (mm)	14	16
Beam full divergence Typ.(mrad)	0.28	0.25
Magnification	30X	
System Parameters		
Operating current (A)	20	30
Operating voltage (V)	1.8	
Vibration	5Hz, 2.5g	
Shock	Axial 100g, 1ms	
Operating temperature (℃)	-40~65	
Storage temperature (℃)	-55~80	
Storage relative humidity	≤85%	
Operating lifetime (H)	≥5000	

3. STXL 1535nm 100~300μJ Microchip Lasers with PIN

Our 1535nm microchip laser modules with photodetector (PIN) operate in the eye safe wavelength regime, have great advantages in applications including laser ranging and LiDAR. This series of laser modules are equipped with integrated photodetector (PIN), providing PD output signal, no tail pulse, stable pulse energy and excellent beam profile. The integrated design of diode-pumped module and laser crystal brings convenience to installation and integration due to the compact size.

Applications:
- Laser rangefinder
- Meteorological radar

Key Features:
- Integrated PIN, provides PD output signal
- Passively Q-switched, Er:glass
- Eye-safe
- Extremely light



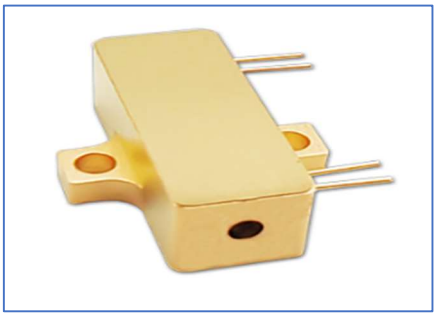
Optical Parameters			
Wavelength (nm)	1535		
Pulse energy (μJ)	100	200	300
Pulse width (ns)	≤5		
Repetition rate (Hz)	10		
Operating current (A)	8	10	12
PIN amplitude (V@50Ω resistance)	2-3		
Beam full divergence Typ.(mrad)	10		8
Beam profile	TEM00		
Weight (g)	8		10
Dimensions (W×H×L, mm)	21x8x7		25x8x7
Operation temperature (℃)	-40~65		
Storage temperature (℃)	-55~80		

4. STXL High Repetition Rate 1535nm Microchip Laser Modules with PIN

High repetition rate 1535nm microchip laser modules with photodetector (PIN) are Er: glass eye-safe lasers operating at 1-10kHz. This series of laser modules are equipped with integrated photodetector (PIN), which is able to provide PD output signal. Utilizing the semiconductor laser packaging technology, these lasers feature compact size, sufficient performance stability and excellent beam quality.

Applications:
- Laser ranging
- Laser remote sensing
- Lidar

Key Features:
- Integrated PIN, provides PD output signal
- Passively Q-switched, Er:glass
- Eye-safe
- Wide temperature operation



Wavelength (nm)	1535			
Pulse energy (μJ)	40	20	10	5
Pulse width (ns)	≤5	≤6	≤8	≤10
Repetition rate (kHz)	1	2.5	5	10
Operating current (A)	5			
PIN amplitude (V@50Ω resistance)	2			
Beam full divergence (typ., mrad)	≤16	≤17	≤18	≤20
Beam profile	TEM00			
Weight (g)	7			
Dimensions (W×H×L, mm)	21x8x7			
Operation temperature (℃)	-40~65			
Storage temperature (℃)	-55~80			

5. STXL High Repetition Rate 1535nm Erbium Glass Laser Modules With Beam Expander

High repetition rate 1535nm Erbium glass laser module with beam expander is an integrated laser module composed of high repetition rate erbium glass microchip laser, beam expander and photodetector (PIN) independently developed by us, which is professionally used in laser ranging, altimeter, lidar and other applications. The STXL-1535-40X series of laser modules are specified to deliver 5-40μJ at 1535nm with high repetition rate of 1-10kHz and small divergence angle, and provide PD output signal, which has the characteristics of small size, high reliability and wide temperature operation.

Applications:

- Laser ranging
- Laser remote sensing
- Lidar

Key Features:

- 1535nm, eye-safe
- High repetition rate
- Divergence angle <0.5mrad
- Integrated PD
- Compact structure
- High reliability

Optical Parameter				
Wavelength (nm)	1535			
Repetition rate (kHz)	1	2.5	5	10
Output power (μJ)	40	20	10	5
Pulse width (ns)	5	6	8	10
Beam diameter (mm)	12	12	12	12
Beam full divergence Typ. (mrad)	0.4	0.4	0.45	0.45
Magnification	40X			
System Parameters				
Operating current (A)	6			
Operating voltage (V)	1.8			
Vibration	5Hz, 2.5g			
Shock	Axial 100g, 1ms			
Operating temperature (℃)	-40~65			
Storage temperature (℃)	-55~80			
Storage relative humidity	≤85%			
Operating lifetime (H)	≥5000			

6.STXL-F Series Microchip Lasers

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℃ to 60℃, with lifetime exceeding 60 million shots.

Applications:
- Lidar
- Laser ranging

Key Features:
- 1535nm, eye safe
- Pulse width down to 5ns
- Single pulse energy up to 400μJ
- Repetition rate up to 1kHz

Optical Parameters											
Wavelength (nm)		1535									
Repetition rate (kHz)		0.01	0.01	0.01	0.01	0.005	0.005	1	2.5	5	10
Pulse energy (μJ)		100	200	300	500	700	1000	40	20	10	5
Pulse width (ns)		≤5	≤5	≤5	≤6	≤7	≤7	≤5	≤6	≤8	≤10
Power stability (8h)		3%									
Beam profile		TEM00									
Full angle divergence Typ. (mrad)	Horizontal @1/e²	≤12	≤10	≤10	≤8	≤7	≤7	≤16	≤17	≤18	≤20
	Vertical @1/e²	≤12	≤10	≤10	≤8	≤7	≤7	≤16	≤17	≤18	≤18
System Parameters											
Supply power voltage		100-240 VAC, 50/60 Hz									
Modulation input		TTL0-5V, SMA input									
Control interface		RS232, USB									
Power consumption (W)		≤3				≤7					
Power dimensions (W×H×L, mm)		168×88×140									
Laser head dimensions (W×H×L, mm)		45×30×120									
Operation temperature (℃)		15-35									
Storage temperature (℃)		0-60									

7. 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℃ to 60℃, 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	5
Repetition rate (kHz)	1	2.5	5	10

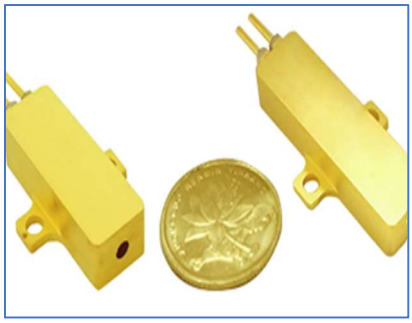
Pulse width (ns)	≤5	≤6	≤8	≤10
Operating current (A)	5			
Operating voltage (V)	2			
Beam diameter (mm)	0.3			
Beam full divergence (typ., mrad)	≤16	≤17	≤18	≤20
Beam pointing	< 0.2°			
Beam profile	TEM00			
Weight (g)	≤10			
Dimensions (W×H×L, mm)	21x8x7			
Operation temperature (℃)	-40~65			
Storage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

8. 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℃ to 60℃, 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



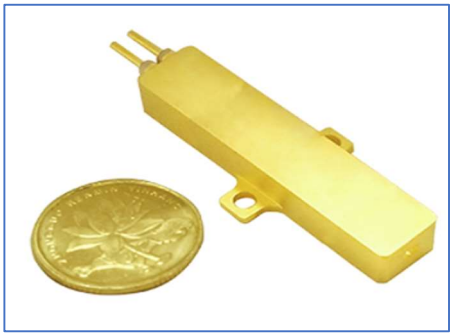
Wavelength (nm)	1535		
Pulse energy (μJ)	100	200	300
Pulse width (ns)	≤5		
Repetition rate (Hz)	10		
Operating current (A)	7	10	12
Beam full divergence (typ., mrad)	10		
Beam profile	TEM00		
Weight (g)	7	10	12
Dimensions (W×H×L, mm)	21x8x7		25x8x7
Operation temperature (℃)	-40~65		
Storage temperature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

9. 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℃ to 60℃, 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



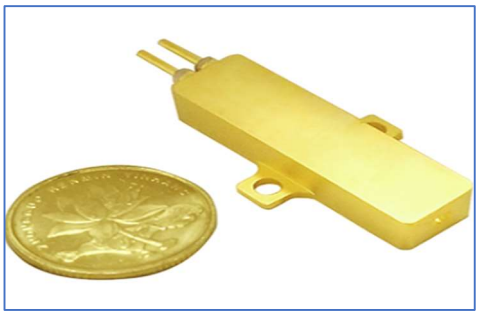
Wavelength (nm)	1535	
Pulse energy (μJ)	800	1000
Pulse width (ns)	≤7	≤8
Repetition rate (Hz)	10	5
Operating current (A)	30	
Beam full divergence (typ., mrad)	≤7	
Beam profile	TEM00	
Weight (g)	20	
Dimensions (W×H×L, mm)	38x9x7.7	
Operation temperature (℃)	-40~65	
Storage temperature (℃)	-55~80	

10. 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℃ to 60℃, 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 (℃)	-40~65
Storage temperature (℃)	-55~80

SLY Series Erbium-Doped Glass Lasers

Our SLY series erbium-doped glass lasers can be used within human eye safety range, easy to control, highly efficient and have a long lifetime. These lasers are available in various wavelengths at 1535 and 1537nm.

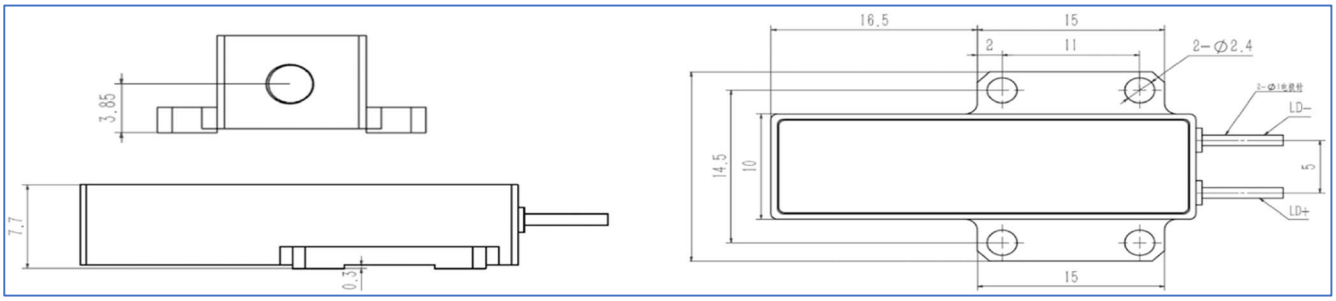
Features:
- Human eye safety
- Small size and light weight
- High photoelectric conversion efficiency
- Adapt to the harsh operating environment

Applications:
- Laser Ranging
- LIDAR
- Laser Communication

1. A1 Series Er Glass Lasers SLY-1535-xxx-A1

Parameters	SLY-1535-100-A1	SLY-1535-200-A1	SLY-1535-300-A1	SLY-1535-400-A1
Wavelength	1535nm			
Pulsed width (FWHM)	3ns - 6ns			
Pulsed energy (μJ)	100	200	300	400
Peak Power (kw)	25	50	70	80
Energy Stability	≤5%			
Beam-divergence angle	≤12mrad			
Working Voltage	2V			
Working current (A)	7	12	12	14
Working Frequency	1Hz – 10Hz			
Pulsed Width	1ms -2.5ms			
Working temperature	-40°C - 60°C			
Storage temperature	-50°C - 70°C			
Life Time	10000000 times			
Weight	<10g			

Dimension of SLY-1535-xxx-A1:

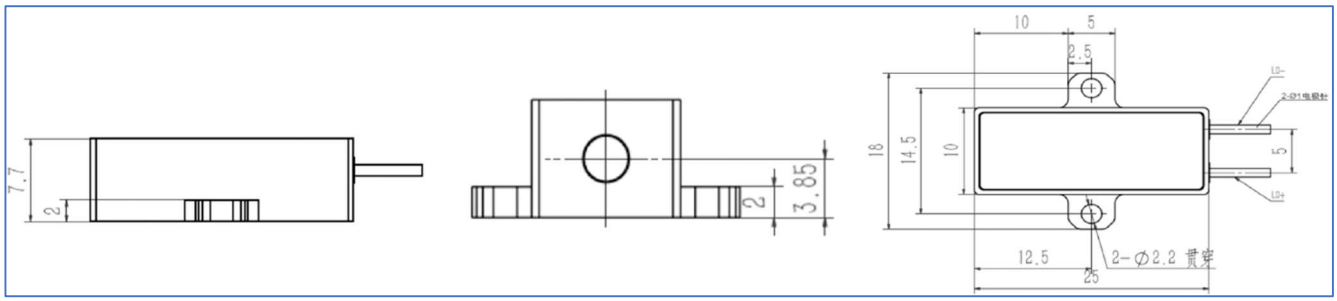


Remark:
xxx: pulsed energy (μJ)

2. A3 Series Er Glass Lasers SLY-1535-xxx-A3

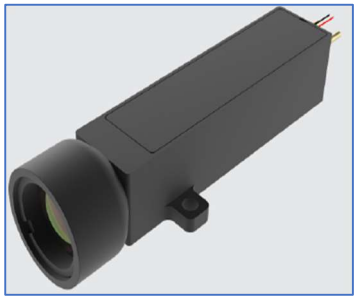
Parameters	SLY-1535-100-A3	SLY-1535-200-A3	SLY-1535-300-A3	SLY-1535-400-A3
Wavelength	1535nm			
Pulsed width (FWHM)	3ns - 6ns			
Pulsed energy (μJ)	100	200	300	400
Peak Power (kw)	25	50	70	80
Energy Stability	≤5%			
Beam-divergence angle	≤12mrad			
Working Voltage	2V			
Working current (A)	7	12	12	14
Working Frequency	1Hz - 10Hz			
Pulsed Width	1ms - 2.5ms			
Working temperature	-40°C - 60°C			
Storage temperature	-50°C - 70°C			
Life Time	10000000 times			
Weight	<10g			

Dimension of SLY-1535-xxx-A3:



Remark:
xxx: pulsed energy (μJ)

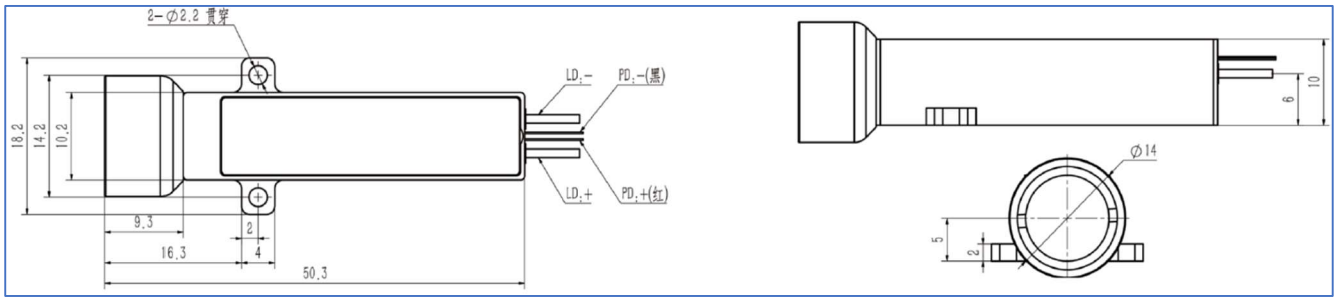
3. A4 Series Er Glass Lasers SLY-1535-xxx-A4



Parameters	SLY-1535-100-A4	SLY-1535-200-A4	SLY-1535-300-A4	SLY-1535-400-A4
Wavelength	1535nm			
Pulsed width (FWHM)	3ns - 6ns			

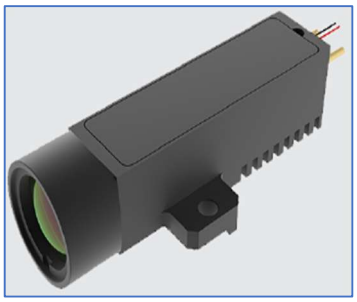
Pulsed energy (μJ)	100	200	300	400
Peak Power (kw)	25	50	70	80
Energy Stability	≤5%			
Beam-divergence angle	≤0.5mrad			
Working Voltage	2V			
Working current (A)	7	12	12	14
Working Frequency	1Hz - 10Hz			
Pulsed Width	1ms - 2.5ms			
Working temperature	-40°C - 60°C			
Storage temperature	-50°C - 70°C			
Life Time	10000000 times			
Weight	<20g			

Dimension of SLY-1535-xxx-A4:



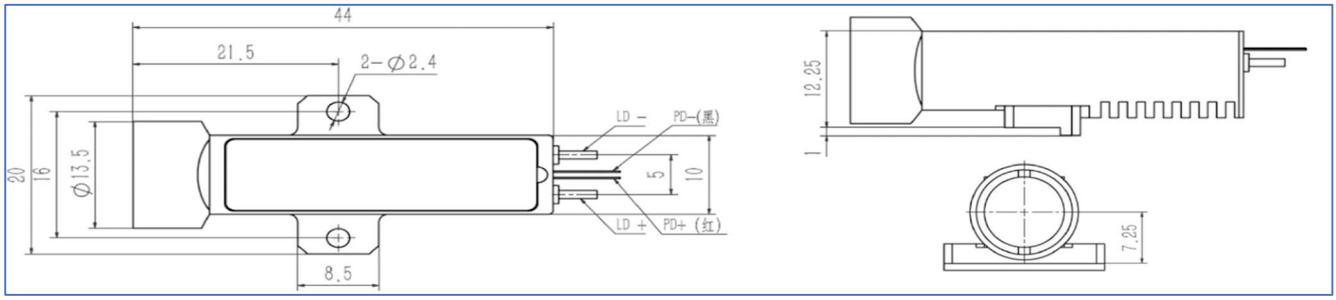
Remark:
xxx: pulsed energy (μJ)

4. A5 Series Er Glass Lasers SLY-1535-xxx-A5



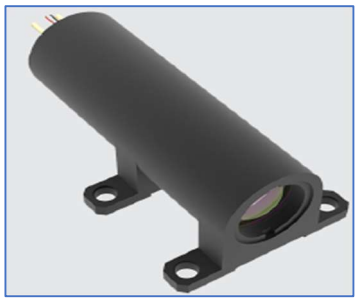
Parameters	SLY-1535-100-A5	SLY-1535-200-A5	SLY-1535-300-A5	SLY-1535-400-A5
Wavelength	1535nm			
Pulsed width (FWHM)	3ns - 6ns			
Pulsed energy (μJ)	100	200	300	400
Peak Power (kw)	25	50	70	80
Energy Stability	≤5%			
Beam-divergence angle	≤0.5mrad			
Working Voltage	2V			
Working current (A)	7	12	12	14
Working Frequency	1Hz - 10Hz			
Pulsed Width	1ms - 2.5ms			
Working temperature	-40°C - 60°C			
Storage temperature	-50°C - 70°C			
Life Time	10000000 times			
Weight	<20g			

Dimension of SLY-1535-xxx-A5:



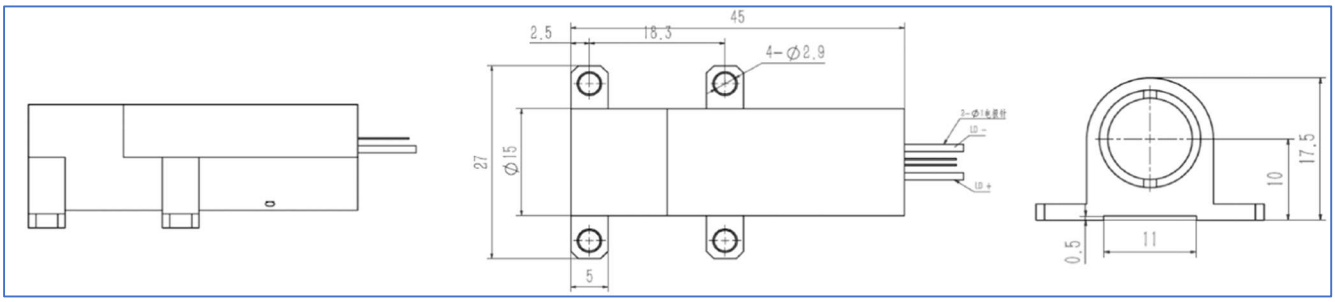
Remark:
xxx: pulsed energy (μJ)

5. A6 Series Er Glass Lasers SLY-1535-40-A6

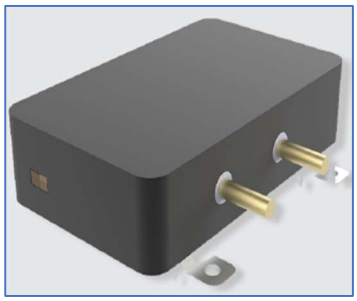


Parameters	SLY-1535-40-A6
Wavelength	1535nm
Pulsed width (FWHM)	3ns - 5ns
Pulsed energy (μJ)	40
Peak Power (kw)	10
Energy Stability	≤5%
Beam-divergence angle	≤0.5mrad
Working Voltage	2V
Working current (A)	3
Working Frequency	10000Hz
Pulsed Width	0.2ms – 0.4ms
Working temperature	-40°C - 60°C
Storage temperature	-50°C - 70°C
Life Time	10000000 times
Weight	<20g

Dimension of SLY-1535-40-A6:

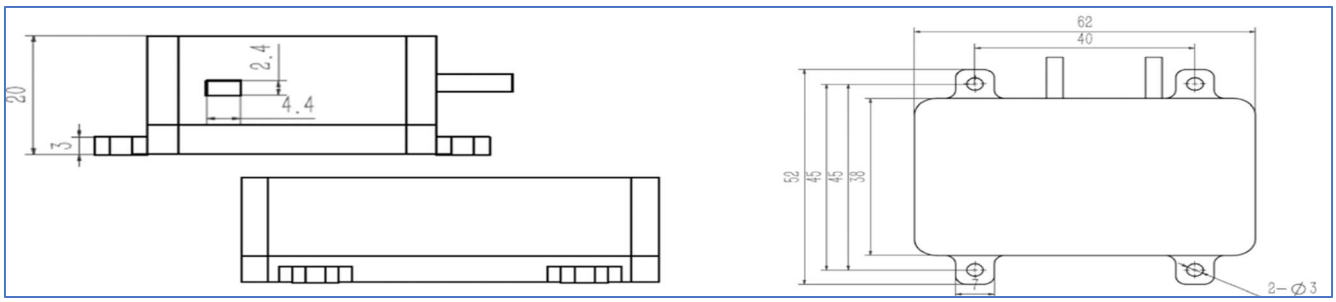


6. A8 Series Er Glass Lasers SLY-1535-2000-A8

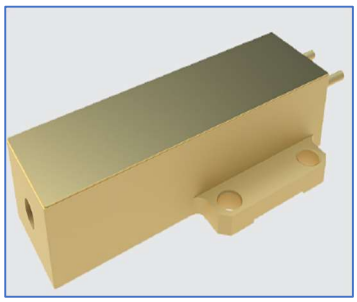


Parameters	SLY-1535-2000-A8
Wavelength	1535nm
Pulsed width (FWHM)	10ns - 15ns
Pulsed energy (μJ)	2000
Peak Power (kw)	150
Energy Stability	≤5%
Beam-divergence angle	≤4mrad
Working Voltage	<4V
Working current (A)	70
Working Frequency	1Hz – 5Hz
Pulsed Width	3ms – 5ms
Working temperature	-40°C - 60°C
Storage temperature	-55°C - 75°C
Life Time	10000000 times
Weight	<80g

Dimension of SLY-1535-2000-A8:



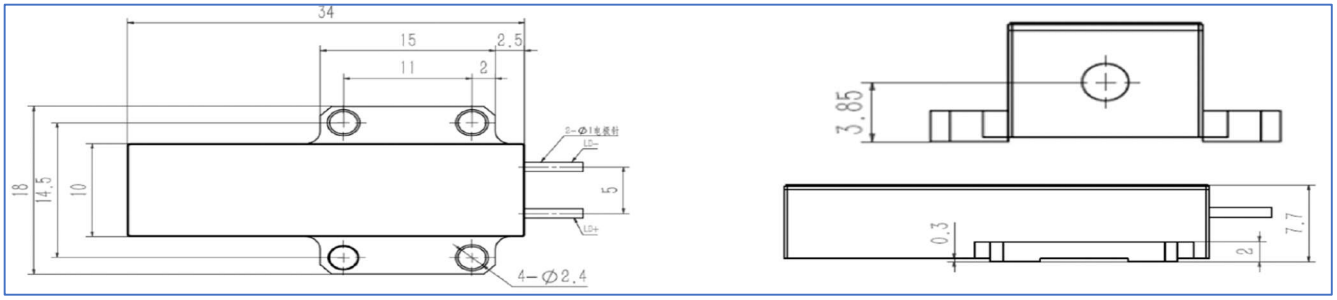
7. C1 Series Er Glass Lasers SLY-1535-500-C1



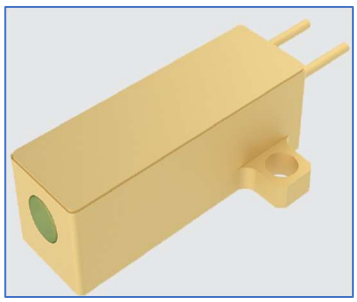
Parameters	SLY-1535-500-C1
Wavelength	1535nm
Pulsed width (FWHM)	4ns - 6ns
Pulsed energy (μJ)	500
Peak Power (kw)	100
Energy Stability	≤5%

Beam-divergence angle	≤12mrad
Working Voltage	2V
Working current (A)	15
Working Frequency	1Hz – 5Hz
Pulsed Width	1ms – 2.5ms
Working temperature	-40°C - 60°C
Storage temperature	-50°C - 70°C
Life Time	10000000 times
Weight	<20g

Dimension of SLY-1535-500-C1:

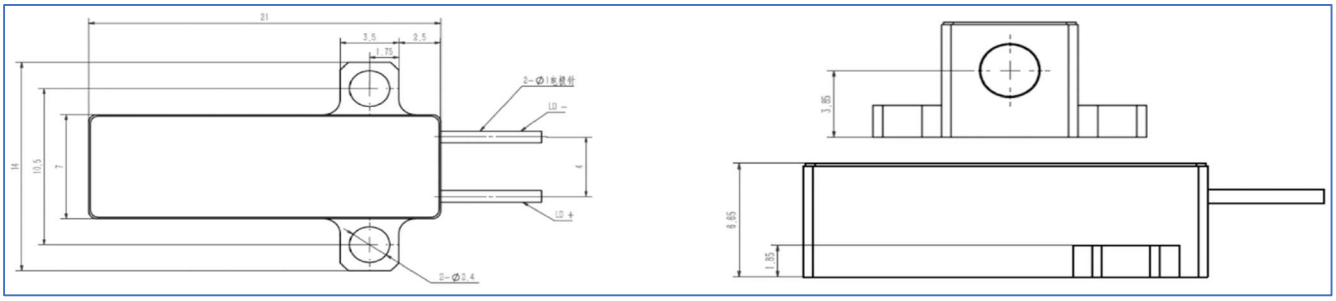


8. C2 Series Er Glass Lasers SLY-1535-40-C2

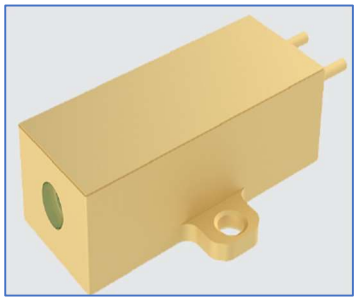


Parameters	SLY-1535-40-C2
Wavelength	1535nm
Pulsed width (FWHM)	3ns - 4ns
Pulsed energy (μJ)	40
Peak Power (kw)	10
Energy Stability	≤5%
Beam-divergence angle	≤15mrad
Working Voltage	2V
Working current (A)	3
Working Frequency	1000Hz
Pulsed Width	0.2ms – 0.4ms
Working temperature	-40°C - 60°C
Storage temperature	-50°C - 70°C
Life Time	10000000 times
Weight	<10g

Dimension of SLY-1535-40-C2:

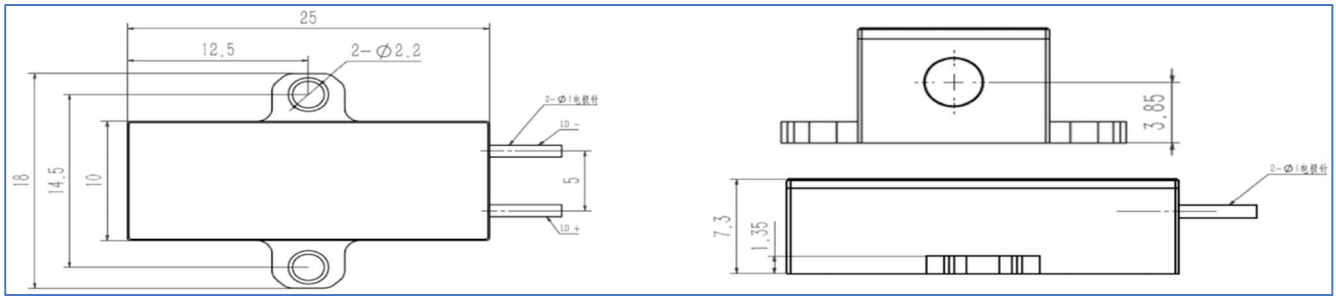


9. C3 Series Er Glass Lasers SLY-1535-xxx-C3



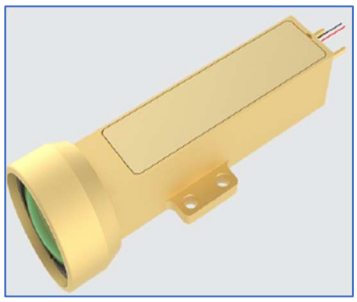
Parameters	SLY-1535-100-C3	SLY-1535-200-C3	SLY-1535-300-C3	SLY-1535-400-C3
Wavelength	1535nm			
Pulsed width (FWHM)	≤12ns			
Pulsed energy (μJ)	100	200	300	400
Peak Power (kw)	25	50	70	80
Energy Stability	≤5%			
Beam-divergence angle	≤0.5mrad			
Working Voltage	2V			
Working current (A)	7	12	12	14
Working Frequency	1Hz - 10Hz			
Pulsed Width	1ms - 2.5ms			
Working temperature	-50°C - 70°C			
Storage temperature	-55°C - 75°C			
Life Time	10000000 times			
Weight	<15g			

Dimension of SLY-1535-xxx-C3:



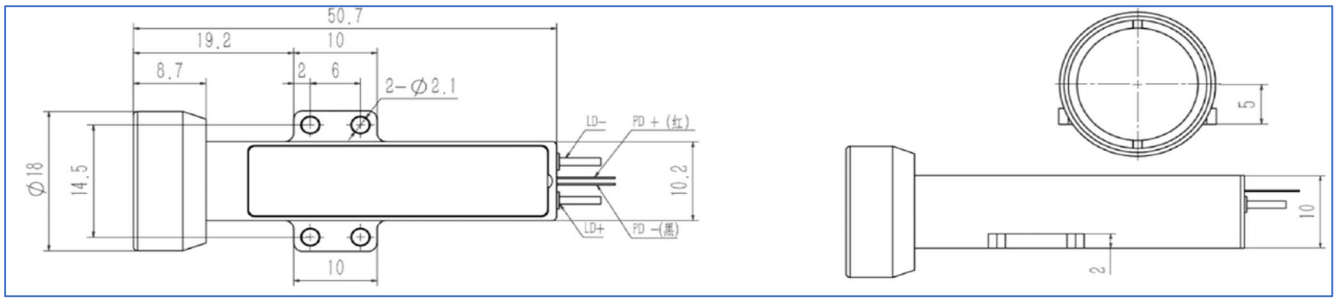
Remark:
xxx: pulsed energy (μJ)

10. C7 Series Er Glass Lasers SLY-1535-40-C7

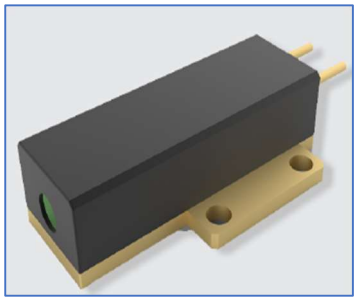


Parameters	SLY-1535-40-C7
Wavelength	1535nm
Pulsed width (FWHM)	3ns - 5ns
Pulsed energy (μJ)	40
Peak Power (kw)	10
Energy Stability	≤5%
Beam-divergence angle	≤0.5mrad
Working Voltage	2V
Working current (A)	3
Working Frequency	1000Hz
Pulsed Width	0.2ms – 0.4ms
Working temperature	-40°C - 60°C
Storage temperature	-50°C - 70°C
Life Time	10000000 times
Weight	<30g

Dimension of SLY-1535-40-C7:



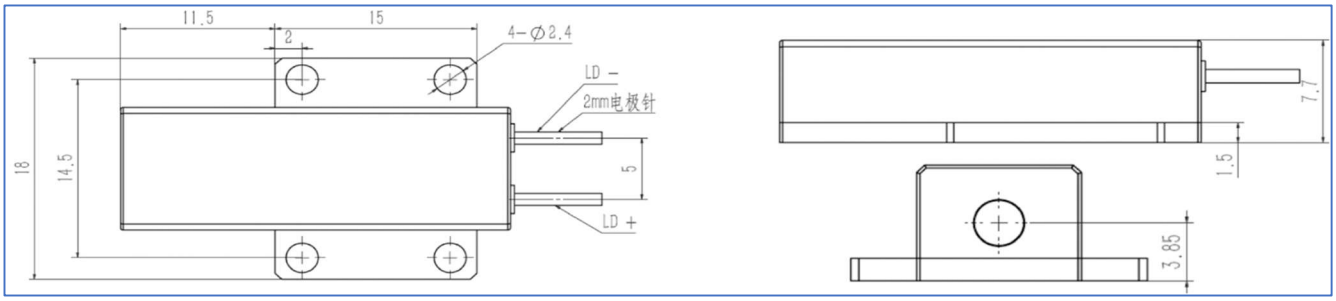
11. C7 Series Er Glass Lasers SLY-1537-500-C9



Parameters	SLY-1537-500-C9
Wavelength	1537nm
Pulsed width (FWHM)	4ns - 7ns
Pulsed energy (μJ)	500
Peak Power (kw)	10

Energy Stability	≤5%
Beam-divergence angle	≤5mrad
Working Voltage	4V
Working current (A)	20
Repeating Frequency	10Hz
Working temperature	-40°C - 60°C
Storage temperature	-55°C - 75°C
Life Time	10000000 times
Weight	<20g

Dimension of SLY-1537-500-C9:



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. Laser window to ensure clean and pollution-free.
4. Use constant-current power supply to avoid peaks and surges when working.
5. The laser must be installed reliably when working.
6. Follow the operating instruction manual.
7. For other questions, please contact us.

Sintec Optronics

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, 120uJ Pulse energy and 3.5ns pulse width.

1. 100~300 μJ Erbium-doped glass laser, SED-1535nm-xxx-3.5ns

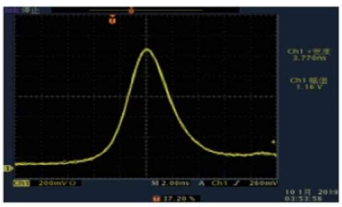
The erbium glass laser emits at an eye-safe wavelength of 1.54μm and offers high beam quality within the atmospheric window. With a pulse energy of 100-300 μJ, it is suitable for eye-safe laser ranging. This laser exhibits low power consumption, high peak power, narrow pulse width, compact size, and does not require temperature control. It has been proven to be a safe, efficient, and stable eye-safe laser solution.

Technical Specifications:

Part number	SED-1535nm-100uJ-3.5ns	SED-1535nm-200uJ-3.5ns	SED-1535-300uJ-3.5ns
Wavelength	1535nm	1535nm	1535nm
Pulse energy (Min/Typ.)	≥100μJ	≥200μJ	≥300μJ
Pulse width, Typ. (FWHM)	3.5ns	3.5ns	3.5ns
Pulse repetition rate	1~20Hz	1~10Hz	1~20Hz
Pulse stability	10%	10%	10%
Spots diameter	0.2mm	0.2mm	0.2mm
Beam divergence angle	10mrad	10mrad	10mrad
Spots mode	TEM00	TEM00	TEM00
Operating temperature	-45 °C~ +65°C	-45 °C~ +65°C	-45 °C~ +65°C
Storage temperature	-55 °C~ +85°C	-55 °C~ +85°C	-55 °C~ +85°C
Impact	1500G, 0.5ms	1500G, 0.5ms	1500G, 0.5ms
Vibration	20~2000 Hz/20G	20~2000 Hz/20G	20~2000 Hz/20G
Life span	>50 million shots	>50 million shots	>50 million shots
Dimension (mm)	25x8x7	25x8x7	25x8x7
Weight	8g	8g	8g
Voltage	2V	2V	2V
Current	6A	12A	12A
Pulse width	≥2ms	≥1.8ms	≥2.5ms

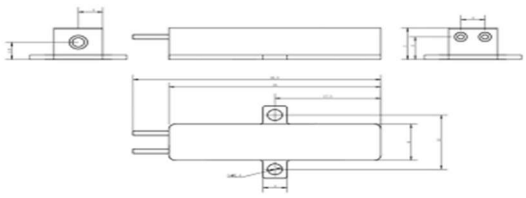
Pin Descriptions

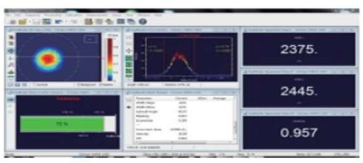
Pin	Function
1	Laser (+)
2	Laser (-)



Typical Pluse

Mechanical Dimensions (mm)





Beam Profile

2. 500 μJ Erbium-doped glass laser, SED-1535nm-500uJ-5ns

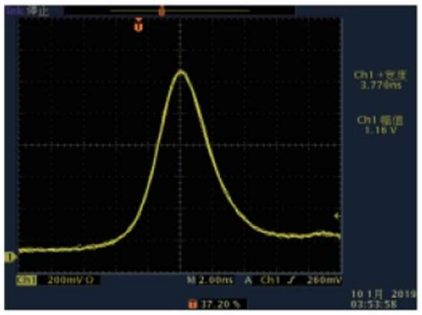
The erbium glass laser emits at an eye-safe wavelength of 1.54μm and offers high beam quality within the atmospheric window. With a pulse energy of 500 μJ, it is suitable for eye-safe laser ranging. This laser exhibits low power consumption, high peak power, narrow pulse width, compact size, and does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

Technical Specifications

Part number	SED-1535nn-500uJ-5ns
Wavelength	1535nm
Pulse energy (Min/Typ.)	≥500μJ
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	≥2.4ms

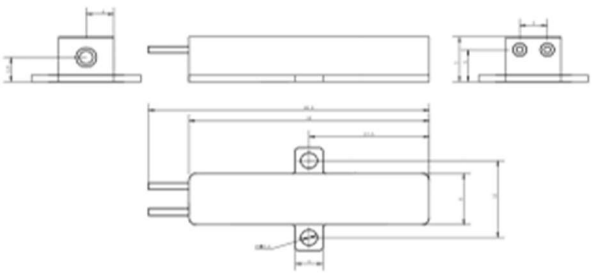
Pin Descriptions

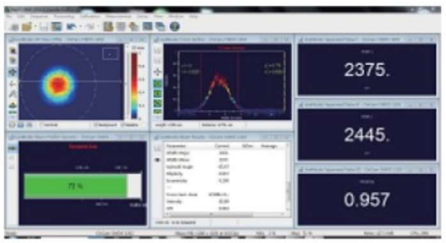
Pin	Function
1	Laser (+)
2	Laser (-)



Typical Pluse

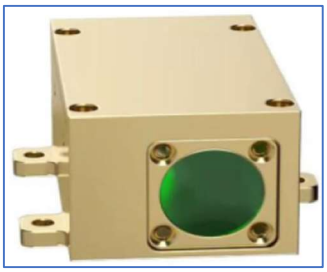
Mechanical Dimensions (mm)





Beam Profile

3. 2mJ Erbium-doped Glass Laser, SED-1535nm-2mJ-11ns



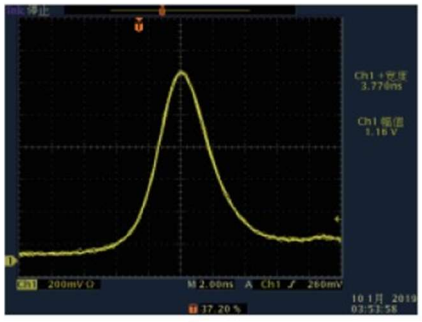
This laser employs erbium glass as the active medium operating at a wavelength of 1.54 μm. It offers a high photoelectric conversion efficiency, effectively converting electrical energy into laser power. With excellent optical performance and output stability, it consistently delivers pulse energy of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

Technical Specifications

Part number	SED-1535nm-2mJ-11ns
Wavelength	1535nm
Pulse energy (Min/Typ.)	≥2mJ
Pulse width, Typ. (FWHM)	11ns
Pulse repetition rate	5Hz
Pulse stability	±5%
Spots diameter	0.5mm
Beam divergence angle	4mrad
Spots mode	TEM00
Operating temperature	-45 °C~ +65°C
Storage temperature	-55 °C~ +85°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	≥4ms

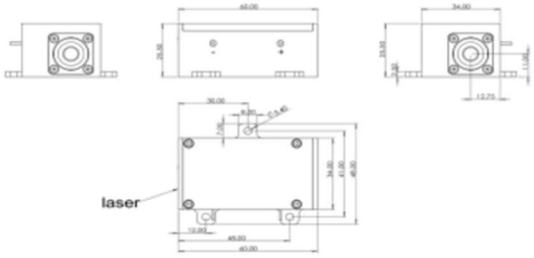
Pin Descriptions

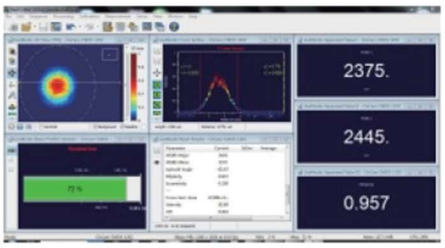
Pin	Function
1	Laser (+)
2	Laser (-)



Typical Pluse

Mechanical Dimensions (mm)





Beam Profile