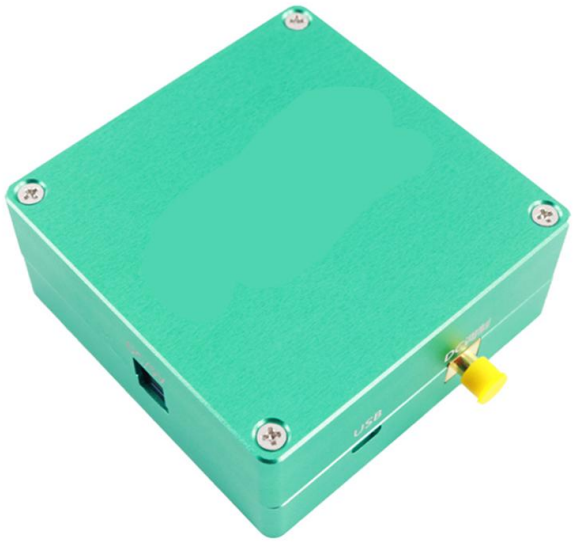
Low Noise Laser Driver A-type Pin



- ## Product Description

The laser driver designed by our company is the most advanced semiconductor laser driver technology in the world. It has the advantages of large output current, high current accuracy, good constant current characteristics, strong anti-interference ability, etc. At the same time, it has overcurrent, overvoltage, overheating and other protection measures to ensure the stability of the laser's operation and service life. It is very

suitable for use by various companies, universities, and scientific research institutions.

Product features

Provides standard butterfly fixture for easy laser replacement、 Stable and reliable automatic temperature control system、Over-current, over-voltage, over-heat, current slow-rise, current slow-fall and other protection mechanisms、 Excellent laser protection mechanism and fault diagnosis function、 Equipped with host computer communication function, it can better set parameters

Part Number

MP-LDR-600-A

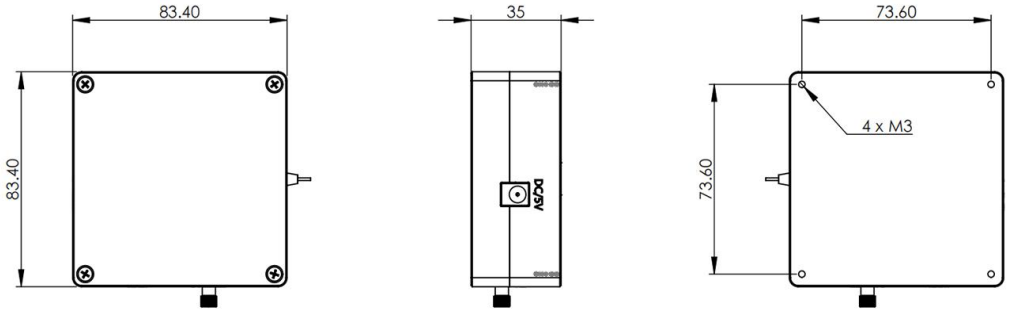
Application area

Fiber optic passive component production and testing laboratories and scientific research applications

Core parameters

LD Current	LD Voltage
0-600mA	2.8V

- **Dimension Drawing**



- **General Parameters**

1. Important safety information and usage precautions

1.1General Safety Information

Please be sure to use the product as specified;

Read the following safety precautions carefully to avoid personal injury and prevent damage to this product or any products connected to it;

Read all instructions carefully and keep them for future reference;

To ensure correct and safe operation of the product, you must follow generally recognized safety procedures in addition to the safety precautions specified in this manual;

The product is restricted to trained personnel:

Before use, always check that the product is from a known source to ensure correct operation and when integrating this device into a system, the safety of that system is the responsibility of the assembler of the system.

1.2Avoid fire or personal injury

Use the appropriate power cord: Only use the power cord that is dedicated to this product and certified by the country/region where it is located. Do not use other inferior power cords.

Observe all terminal ratings: To avoid fire or electric shock hazards, observe all ratings and markings on the product. Before connecting the product, check the user manual for detailed ratings.

Stay away from exposed circuits: Do not touch exposed connectors and components directly with your hands when the power is turned on.

Do not operate if you suspect a malfunction: If you suspect the product is damaged, have it checked by qualified service personnel. Do not use the product if it is damaged. Do not use the product if it is damaged or malfunctioning. If you suspect a safety issue with the product, turn it off and disconnect the power cord, and clearly mark it to prevent further use.

Do not operate in wet conditions: Please note that condensation may occur if a unit is moved from a cold to a warm location.

Do not operate in flammable or explosive environments: Pay attention to the working environment around the instrument when operating it.

Provide a safe work environment: Make sure your work area meets applicable ergonomic standards.

1.3 Avoid laser damage to people

Be aware of the harm of laser to human body. Since the laser driven by this product has high output power, please do not look directly at the output port to avoid laser burns to eyes and skin. Do not place the product where children can easily reach it .

1.4 Precautions for use

Reasonable use and careful management of the product can maintain its performance indicators for a long time and extend its service life. Please pay attention to the following matters during use:

The instrument should be protected from mechanical vibration, collision, drop and other mechanical damage.

Please do not disassemble the device by yourself. The product has a self-destruct function. Disassembly by yourself will result in the warranty being void.

Do not allow the device to get wet. Liquids may cause serious damage to the device. Do not use it with wet hands .

Do not use non-special accessories for operation and measurement.

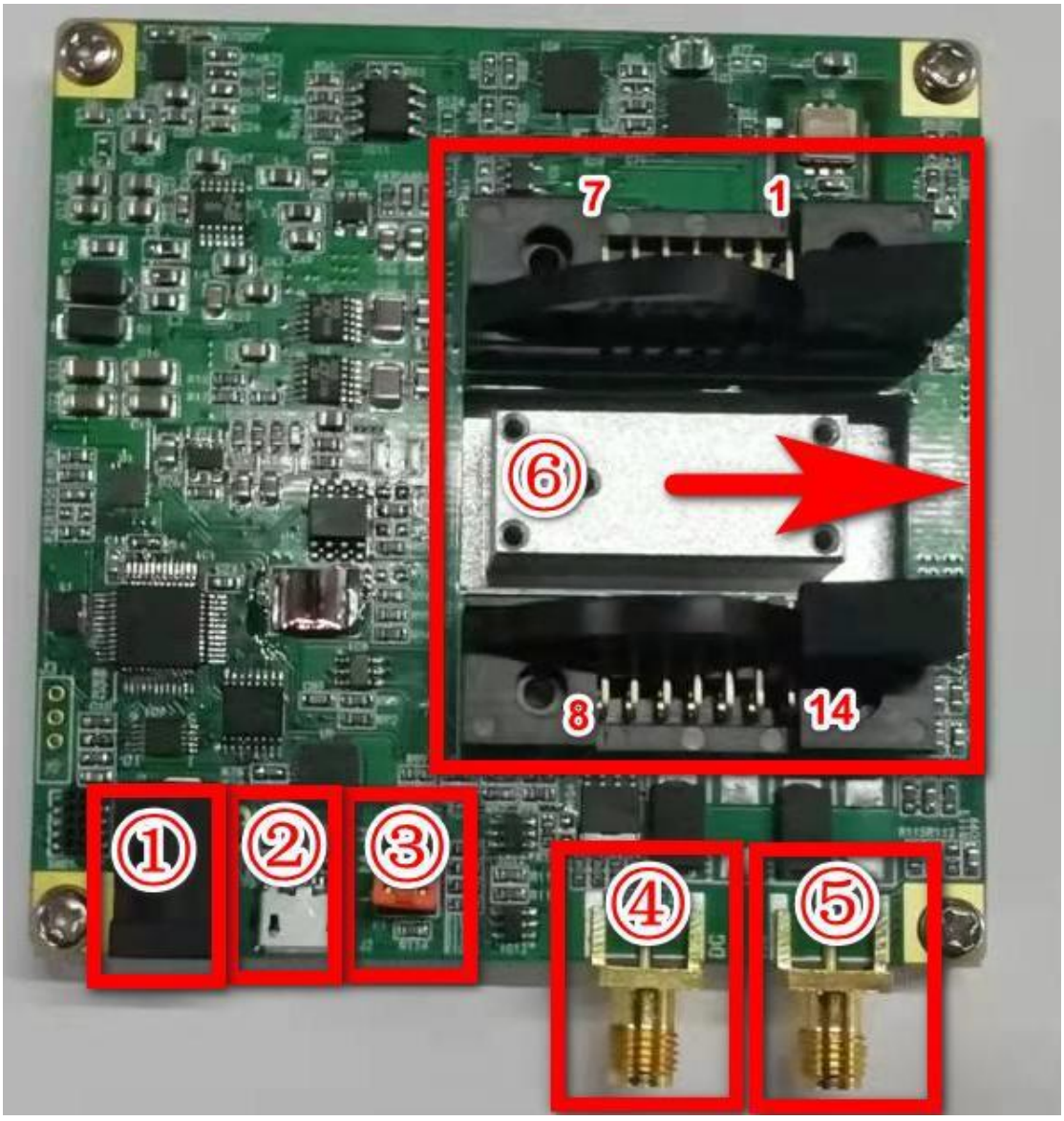
Product Parameters	Min. Value	Typical Value	Max. Value	Unit
LD Current	0		600	mA
LD Current Resolution		0.01		mA
LD Voltage			2.8	V
RMS Noise (10Hz- 1 MHz)			780	nArms
Current Noise Density (1 k Hz)			830	pA /√Hz
DC 3dB Bandwidth		10		MHz
DC Modulation Gain	0.8	8	80	mA/V
TEC Voltage			±3	V
TEC Current			1.2	A
PD Current	0		2.5	mA
Temperature Resolution		0.002		℃
Temperature Stability		0.002		℃/℃
Temperature Control Range	5	25	50	℃
Power Input Voltage		5		V
Power Consumption			15	W
Operating Temperature	0		45	℃
Storage Temperature	-10		60	℃
Size		116x90x35		mm

Note:

① To ensure product reliability, voltage fluctuation shall not exceed 10% of the operating voltage range.

② To ensure normal heat dissipation of the laser, please fix it to the relevant heat sink with screws after installing the laser.

Product structure front view



Laser driver product front view

Product front view diagram description table:

Serial number	Name	Symbol	Remark
①	Power Input	J1	Note: +5V
②	USB Interface	J1	USB serial communication
③	DC Modulated Signal	P1	Three gears
④	SMA Connector (DC)	DC	DC modulation
⑤	SMA Connector (AC)	AC	AC Modulation
⑥	Laser Fixing		The arrow indicates the direction of the optical fiber outlet

Remark:

DC modulation: modulation signal bandwidth: DC-10MHZ

The modulation signal has three levels: Low = 800 μA/V, Medium = 8 mA/V or

High = 80 mA/V, corresponding to the L, M, H levels on the board.

Modulation signal voltage range (-1.5V—+1.5V)

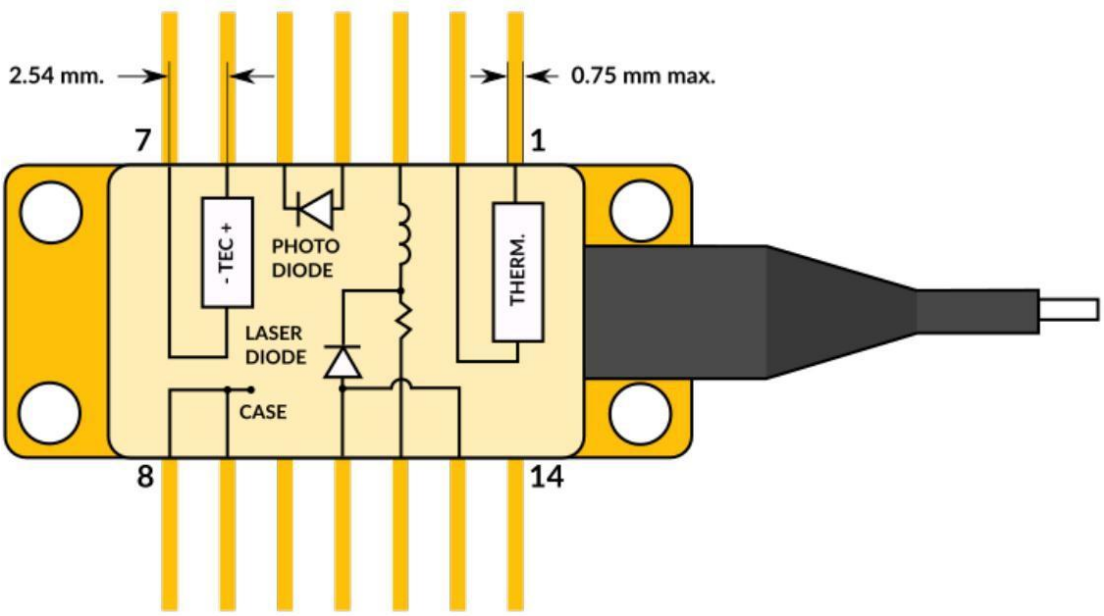
3. Configuration instructions and operation steps

Appendix 1 (Status indicator light description)

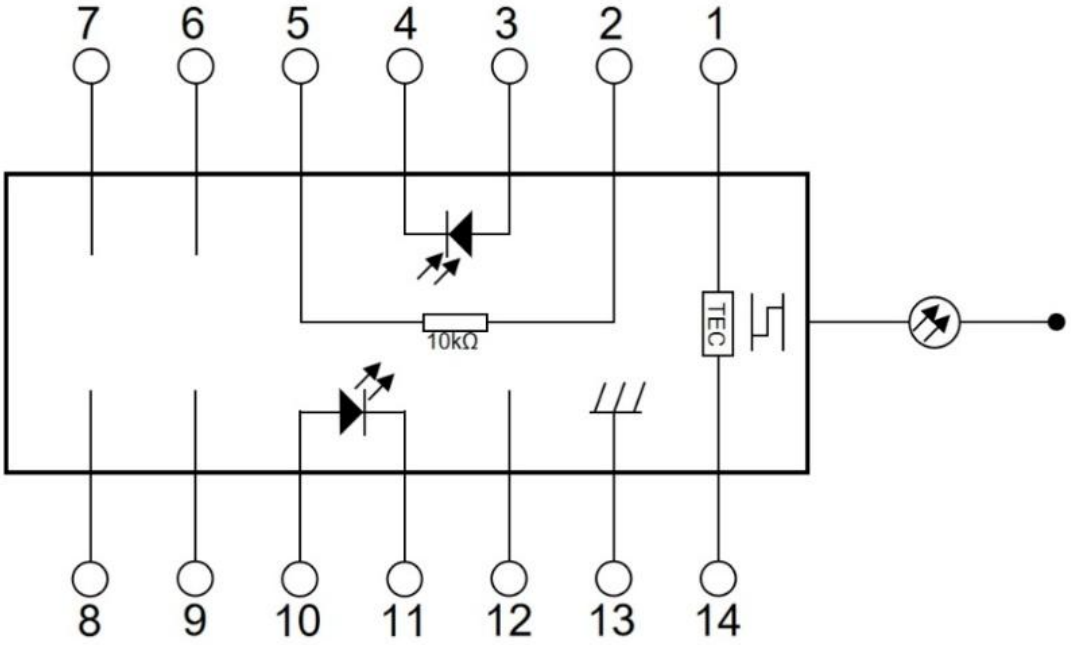
Indicator Lights	Power	LASER1	TEMP1
State	Bright	Bright	Bright
Illustrate	Power supply	Laser start	Temperature lock
Normal	Bright	Bright	Bright

Appendix 2 (The laser pin sequence is as follows (laser pin example diagram))

PIN1	Pin layout (PUMP)	PIN1	Pin layout (PUMP)
1	THERMISTOR	14	NC(empty)
2	THERMISTOR	13	LD+(Laser Anode)
3	LD-(Laser Cathode)	12	Laser RF
4	Monitor positive (+)	11	LD+(Laser Anode)
5	Monitor negative (-)	10	NC(empty)
6	TEC+ (cooler positive)	9	CASE
7	TEC-(negative electrode of cooler)	8	CASE



Laser Pinout Example



Type B pin

3.1 Configuration instructions:

Power interface: Input +5V DC power supply

Serial port interface: provides relevant communication protocols and host computer

Status indicator light: Indicates the working status of the laser (refer to Appendix 1)

Power: Power indicator light, the light is on, indicating that the power supply is normal

LASER1: Laser control status indicator, on for on, off for off

TEMP1: Laser temperature lock indication, when the thermistor temperature collected differs from the set temperature

When within ±10Ω, the indicator light is on

3.2 Steps:

1. Connect the power supply and check whether the power supply is normal and the Power light is on .

2. Turn off the power and install the laser. Before installation, please carefully confirm the laser pin sequence and direction (refer to Appendix 2) (note that the laser pin definition must be consistent with the appendix) .

Connect the serial port, open the host computer software, and set it according to your needs. For specific operations, please refer to "ONLD Host Computer User Manual".

Note: Please keep the laser close to the heat sink and fix it with screws to ensure normal heat dissipation of the laser.

Note: When the set current exceeds 500mA, please use air cooling or other cooling measures for the module.