



Datasheet

SHS-4500 Laser Diode Driver

Features

- High Drive Current
- Fast Modulation
- Wide Diode Range
- Small Size



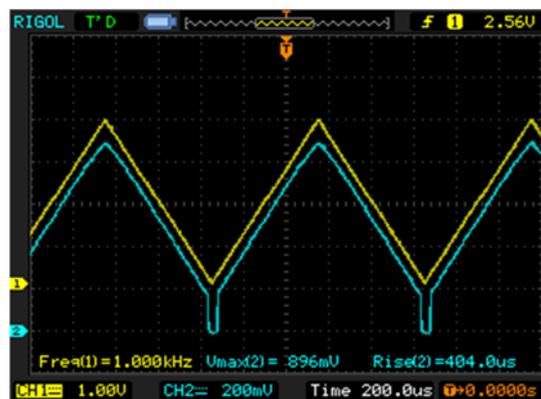
Modulation



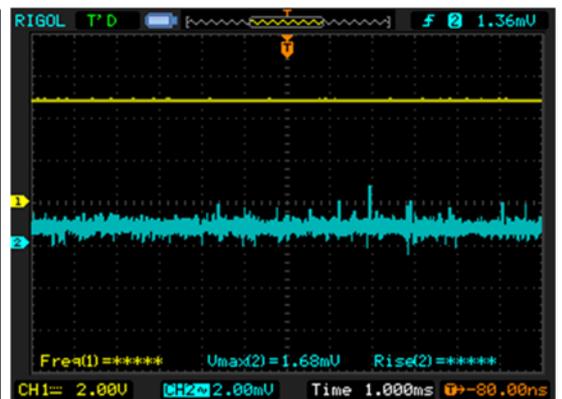
Rise Time



Linearity



Noise





Datasheet

SHS-4500 Laser Diode Driver

Features

- High Drive Current
- Fast Modulation
- Small Size
- Wide Diode Range

Setting The Laser Diode Driver

1. Set the potentiometers **BIAS** and **GAIN** by turning the screws counterclockwise (25 turns) to zero.
2. Connect the laser diode to the „LD“ connector at the bottom of the driver board.
3. Set the supply voltage to 3-24VDC. Pay attention to the red marked text below for choosing the right voltage.
4. Connect the power supply to the „Vin“ connector.
5. Connect the modulation source to the connector „MOD“.
6. Set the modulation voltage to 0,2-0,3VDC.
7. Now you can set the BIAS current turning the screw of the **BIAS** potentiometer clockwise until the threshold current of the laser diode is reached and it starts to lase.
8. Set the modulation voltage to 5VDC.
9. Now you can set the GAIN current by turning the screw of the **GAIN** potentiometer clockwise until the max. working current is reached.
10. Set the modulation voltage again to 0,2-0,3VDC and check the BIAS current. If it has changed, turn the screw of the **BIAS** counterclockwise to the value you set in step 7.
11. Set the modulation voltage again to 5VDC and check the GAIN current. If it has changed, turn the screw of the **GAIN** clockwise to the value you set in step 9.
12. The laser diode driver is set now.

Laser Diode Current Measurement Procedure

The measurement of the laser diode current can be done by measuring the reference voltage at the points TP1 and TP2 above the shunt resistor.
Measure the voltage at the points TP1 und TP2. The ratio between voltage and current is 0.1V/A or 10.

The current calculation formula is: $A = V(TP1, TP2) * 10$

Example:

The reading is 0.04V. By applying the formula above you get: $A = 0.04 * 10$ for a current of 0.4A or 400mA.

Caution:

Connect the laser diode to the driver prior connecting the driver to the power supply. Otherwise the laser diode can get damaged due to the open circuit voltage. For working current of >300mA it is necessary to mount the driver on a heat sink.

It is highly recommended to choose the input voltage ~2VDC above the laser diode forward voltage to keep the heating of the MOSFET at its minimum.

Model	SHS-2500
Current (mA)	4500
Supply Voltage (VDC)	3~24
Modulation (kHz Analog / kHz TTL)	500 / 250
Modulation Voltage (VDC)	0~5
Rise-Fall-Time (µs)	1.4
Noise (mV)	1.6
Controller Type	High Side
Size (mm)	30x50
Compliance	RoHS

All technical parameters are subject to change without notice.