

LASER Module

A LASER (Light Amplification by Stimulated Emission of Radiation) module which produces a polarised beam of light in the 650 nanometre [nm] (red colour) range.

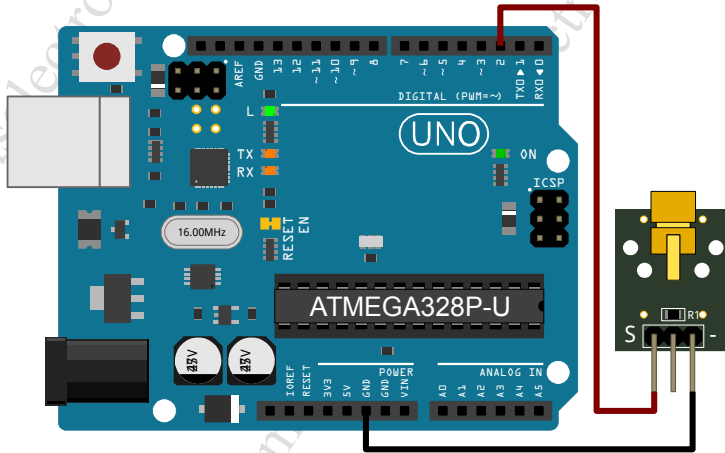
Low voltage LASER's are used in Barcode Scanners, Digital Versatile Disc players, and in many devices where fast optical based switching is required.

Warning! While the output of the LASER module is less than 1 milliwatt, this can still cause permanent injury if shone into the eyes.

Table 1: LASER Module Pin Connections

Device	Arduino	Wire	Description
S	D2	■	Positive 5 Volts Direct Current supply to LASER module.
middle	NC		Connects to "s" pin via 10 kilohm [kΩ] resistor.
-	GND	■	Ground connection.

D2: can be any digital pin.



The sketch below can be used to control the LASER module via the Arduino Serial Monitor:

```
int pLASER = 2;
void setup () {
  Serial.begin( 9600 );
  while ( !Serial ) {
    ;
  }
  pinMode ( pLASER, OUTPUT );
  digitalWrite ( pLASER, LOW );
  Serial.println( "0 to turn off, 1 to turn on" );
}
void loop () {
  if ( Serial.available() > 0 ) {
    int cInput = Serial.read();
    if ( cInput == '0' ) {
      Serial.println( "Off" );
      digitalWrite ( pLASER, LOW );
    }
    if ( cInput == '1' ) {
      Serial.println( "On" );
      digitalWrite ( pLASER, HIGH );
    }
  }
}
```

LASER Module...

Module Specifications

PCB Dimensions (H × W × D):	18.8 × 15.4 × 1.6 millimetres [mm]
Enclosing Dimensions (H × W × D):	25.8 × 15.4 × 9.3 mm
Weight:	2.43 grams [g]
Input Voltage:	5 VDC

Module Performance

Current Draw (LASER on): 27.9 milliamps [mA] @ 5.02 VDC

Module Mounting

There are 2 × 2 mm mounting holes close to the edge of the Printed Circuit Board. The bare component leads protrude through the PCB, so suitable spacers and insulation will be required.

Projects

Folder: **Modules\Optical\LASER**

- **LASER_SM**: Controls the **LASER** module via the Arduino Serial Monitor.
- **LASER_Timed**: Controls the **LASER** using preset on and off durations.

LASER Module - Dimensions

