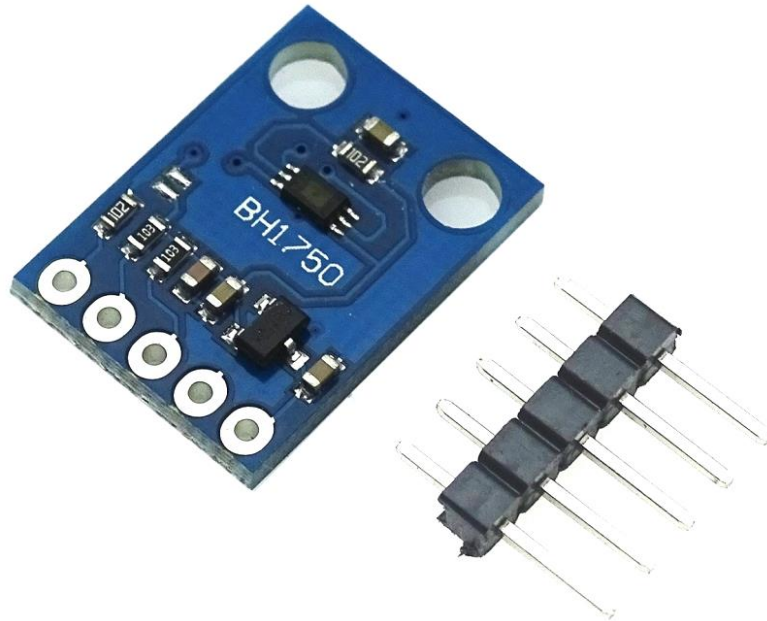**Data Specs**

# BH1750 Ambient Light Sensor Module

BH1750 Module is an digital Ambient Light Sensor IC for I2C bus interface. This module is the most suitable to obtain the ambient light data for adjusting LCD and Keypad backlight power of Mobile phone. It is possible to detect wide range at High resolution of 1~ 65535 lux.

**SKU:** SSR1054

**Brife Data:**

- Module Type: GY-302.
- Sensor IC: BH1750FVI ROHM.
- Power Supply: 5Vdc.
- Data range: 0-65535
- Data Type: 16bit Serial.
- Direct digital output, bypassing the complicated calculation, omit calibration
- Close to the visual sensitivity of spectral characteristics
- For a wide range of brightness for 1 lux high precision measurement
- Size: 13.9 mm X 18.5 mm.

# Mechanical Dimension:

**Unit: mm**
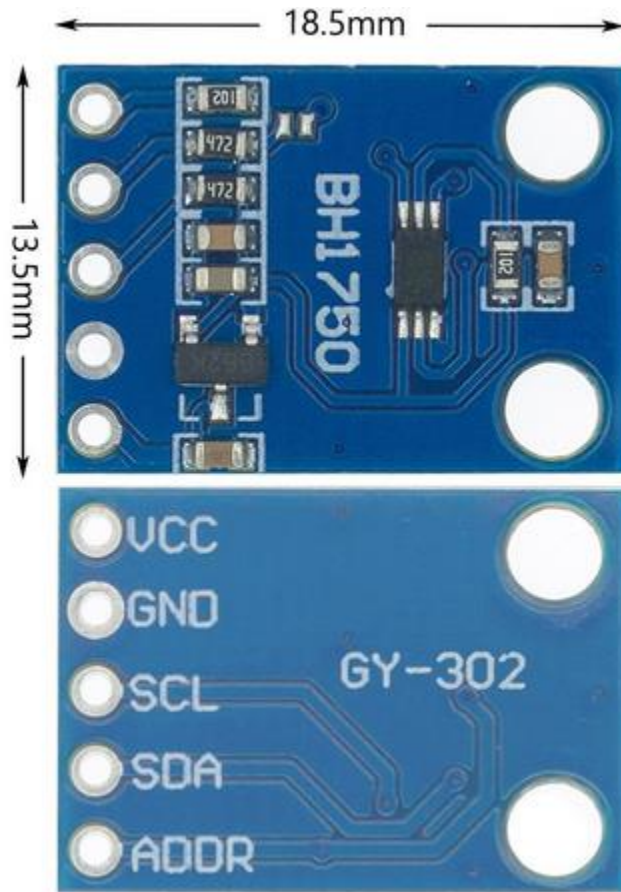
# **Functional Diagram:**



- VIN - Power Supply 5Vdc.
- GND – Power Supply Ground .
- SCL - I2C clock pin, connect to your microcontroller I2C clock line.
- SDA - I2C data pin, connect to your microcontroller I2C data line.
- ADDR/AD0 Jumper - I2C Address pin. Pulling this pin high or bridging the solder jumper on the back will change the I2C address from 0x23 to 0x5C.

# Connecting to Arduino Board:

Using the BH1750 with Arduino is a simple matter of wiring up the sensor to your Arduino-compatible microcontroller, installing the hp_BH1750 library written by Stefan Armborst, and running one of many very well written examples. Download this library and install it to Arduino IDE Library folder.

Wire up the BH1750 module to Arduino Board as shown below:
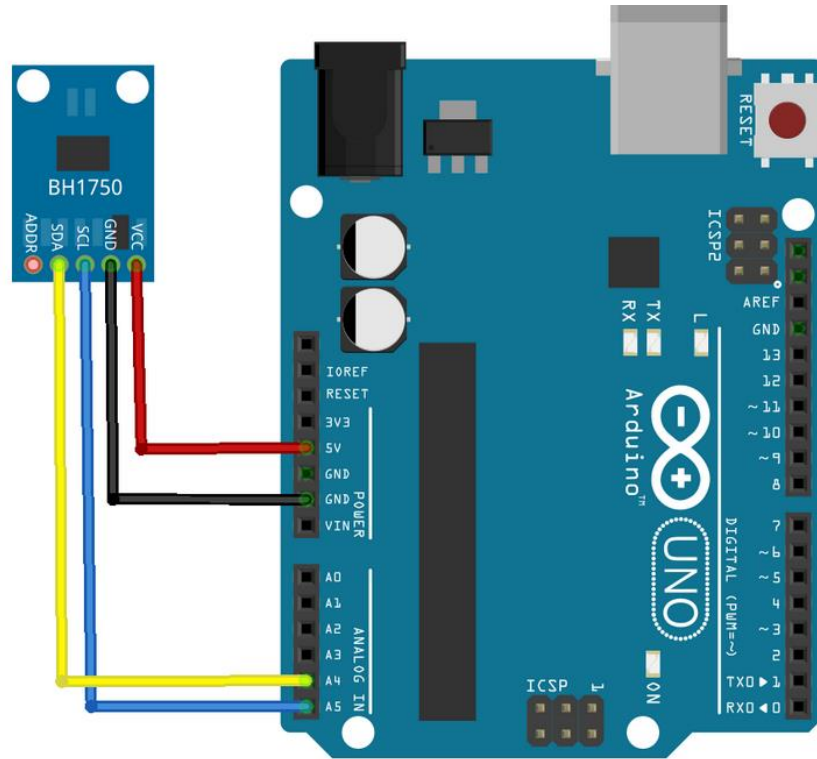


To show the fundamental feature of the sensor, measuring the ambient light in lux, you can use the modestly titled "BareMinimum" example:

Open File -> Examples -> hp_BH1750 -> BareMinimum

After opening the demo file, upload to your Arduino wired up to the sensor. Once you upload the code, you will see the Lux values being printed when you open the Serial Monitor (Tools->Serial Monitor) at 9600 baud, similar these measurements I got from waving a flashlight at the sensor.

```
COM5

10:50:59.377 -> 23.33
10:50:59.477 -> 23.33
10:50:59.623 -> 23.33
10:50:59.723 -> 23.33
10:50:59.876 -> 23.33
10:50:59.976 -> 23.33
10:51:00.076 -> 23.33
10:51:00.222 -> 23.33
10:51:00.322 -> 23.33
10:51:00.469 -> 23.33
10:51:00.563 -> 23.33
10:51:00.715 -> 23.33
10:51:00.831 -> 23.33
10:51:00.963 -> 23.33
10:51:01.062 -> 23.33
10:51:01.215 -> 23.33
10:51:01.315 -> 23.33
10:51:01.415 -> 23.33
10:51:01.562 -> 23.33
10:51:01.662 -> 23.33
10:51:01.815 -> 23.33
10:51:01.914 -> 23.33
```

# Schematic Diagram:
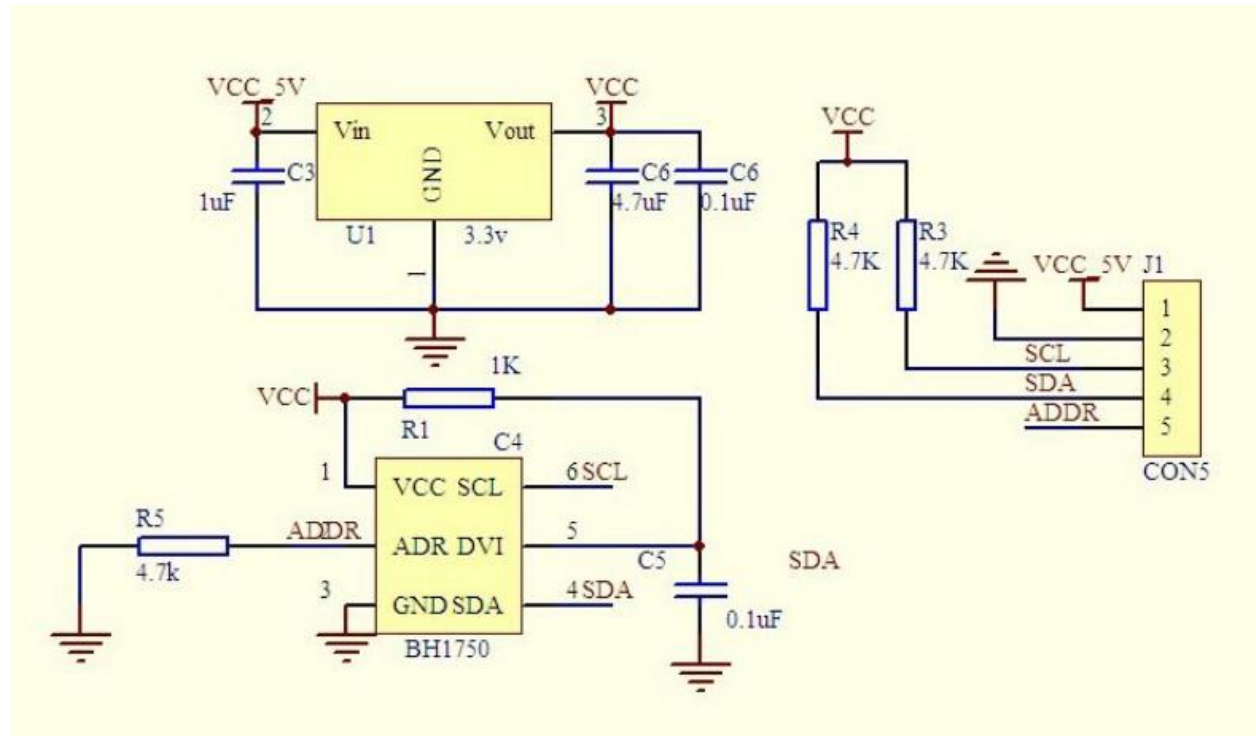


# Web Resources:

- **BH1750 Sensor Arduino Library**

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