SSIRLL1

Introduction

The Grove - Flame Sensor can be used to detect fire source or other light sources of the wavelength in the range of 760nm - 1100 nm. It is based on the YG1006 sensor which is a high speed and high sensitive NPN silicon phototransistor. Due to its black epoxy, the sensor is sensitive to infrared radiation. In fire fighting robot game, The sensor plays a very important role, it can be used as a robot eyes to find the fire source.

Features

- § Grove Interface
- § High Photo Sensitivity
- § Fast Response Time
- § Easy to use

§ Sensitivity can adjustable

Specification

Item	Min	Typical	Max	Unit
Voltage	4.75	5.0	5.30	VDC
Current	/	20	/	mA
Range of Spectral Bandwidth	760	940	1100	nm
Detection range	0	~	1	m
Response Time		15		µS
Operating Temperature	-25	~	85	°C

Usage

The module mainly is used to detect the infrared light. It output digital signal 0 and 1 using a Comparator output. The outpue values is 0 when infrared light is detected. And the sensitivity is adjustable by the precision potentiometer.

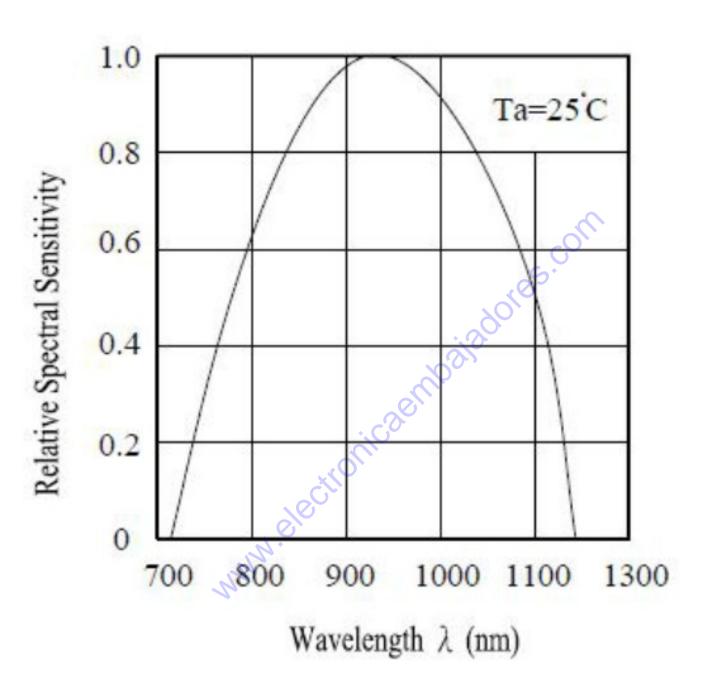Let's use it to control. When the output values is 0, the led is light up.

§ 1. Connect the module to the D3 of Grove - Base Shield using the 4-pin grove cable.

§ 2. Plug the Grove - Base Shield into Arduino.

§ 3. Connect Arduino to PC by using a USB cable.

§ 4. Copy and paste code below to a new Arduino sketch. Please click here if you do not know how to upload.

```
/
***************************************************************************/

#define SENSOR 3 //connect SENSOR to digital pin3

#define LED 2//connect Grove - LED to pin2

void setup()
```

```
{
        pinsInit();
}
void loop()
{
  if(isFlameDetected())
        turnOnLED();
  else turnOffLED();
}
/*******************************/
void pinsInit()
{
        pinMode(FLAME_SENSOR, INPUT);
        pinMode(LED,OUTPUT);
        digitalWrite(LED,LOW);
}
void turnOnLED()
{
        digitalWrite(LED,HIGH);
}
void turnOffLED()
{
        digitalWrite(LED,LOW);
}
boolean isFlameDetected()
{
        if(digitalRead(FLAME_SENSOR))
                return false;
        else return true;
}
```

§ 5. The LED light up when there has infrared light. Please use it to designed your products.

Reference

The sensor can detect the light source which wavelength is in the range of 760nm - 1100 nm. The below picture shows the spectral sensitivity.