RG Rajguru Electronics (I) Pvt. Ltd.

OLED 7 PIN 128x64 Display Module 1.3" Blue White Color

OLED's are the future of displays, as they possess some of the greatest advantages over both conventional display technologies of LCD's and LED 's.

The most attractive thing about using the OLED displays is that they do not need a backlight like conventional LCD/LED screens. The organic material itself has a property known as Electroluminescence (EL), which causes the material to "glow" when stimulated by a current or an electric field. Best energy saving displays ever!!!

This 1.3″ OLED Display Module offers 128×64-pixel resolution. They are featuring much less thickness than LCD displays with good brightness and produce better and true colors.

This OLED Display Module is very compact and will add a great ever user interface experience to your Arduino project. The connection of this display with Arduino is made through the I2C (also called as IIC) serial or SPI interface.

The 1.3″ OLED Display Module produces blue text on black background with very good contrast when supplied with DC 2.8V supply. The OLED Display Modules also offers a very wide viewing angle of about greater than 160°.

Setting up SPI/I2C Connection with GMS096A OLED Module:

Being a new entry into the market, only limited resources are available on this small piece of a miracle (GMS096A). I2C/SPI configuration always demands helpful resources as in any case. For the SPI setup, the module comes in 4 wire SPI configurations by default and to make it work with the Arduino you can use these libraries from Adafruit.

For the I2C setup, it demands a little bit of work on the module, let us start with reordering the resistor from position R3 to R1 and then short the R8 resistor with some soldering tin (0 Ohm resistor). The R6 and R7 pullup resistors are already soldered, nothing to do there. Once done, the module is ready for I2C communication! The CS Pin is not necessarily needed, so just connect it to GND. The DC Pin selects the address for standard address wire it to GND. The RES-pin needs a low pulse at startup and a high voltage during operation (as in SPI mode), a 100nF capacitor to GND and a 10k resistor to VCC would be ideal!

Features:

• No need of the backlight
• The display is self-illuminating
• Power requirement is low
• Pixel Color: Blue (Top 128x16 Pixels)
            White (Bottom 128x48 Pixels)
• They are offering the large viewing angle
• Full Compatible with Arduino
• Factory configured for SPI protocol (can easily change to IIC)

• Better performance characteristics than traditional LCD and LED displays.

## BLOCK DIAGRAM AND POWER SUPPLY:
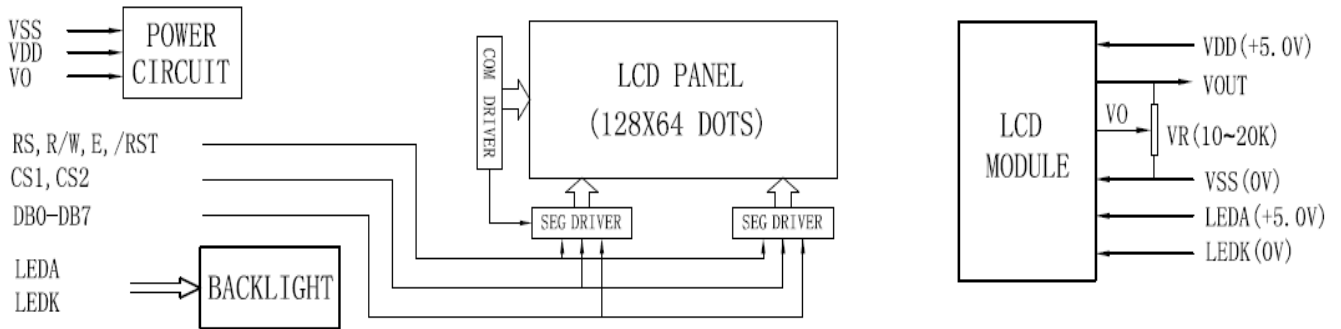
ELECTRICAL CHARACTERISTICS:

ITEM	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Operating voltage	VDD	Ta=25^{0}C	--------	5.0	--------	V
Operating voltage for LCD	VLCD	Ta=25^{0}C	--------	5.0	--------	V
Supply current	IDD	Ta=25^{0}C, VDD=5.0V	--------	2.0	3.0	MA
Supply current for Back light	IF	Ta=25^{0}C, VF=5V	--------	20	--------	MA

SPECIFICATIONS:

Driver IC	SSD1306
Pixel Resolution	128x64
Operating Voltage	3.3 to 5V
Operating Temperature	-30^{0}C to 60^{0}C
Character color	Blue
Background color	White

PIN CONFIGURATION:

Pin No.	Pin Name	Description
1	Ground (Gund)	Connected to the ground of the circuit
2	Supply Voltage (Vdd , Vcc, 5V)	Can be powered by either 3.3V or 5V
3	SCK (D0, SCL, CLK)	The display supports both IIC and SPI, for which clock is supplied through this pin
4	SDA (D1, MOSI)	This is the data pin of the both, it can either be used for IIC or for SPI
5	RES (RST, RESET)	When held to ground momentarily this pin resets the module
6	DC (A0)	This is command pin, can either be used for SPI or for IIC
7	Chip Select (CS)	Normally held low, used only when more than one SPI device is connected to MCU
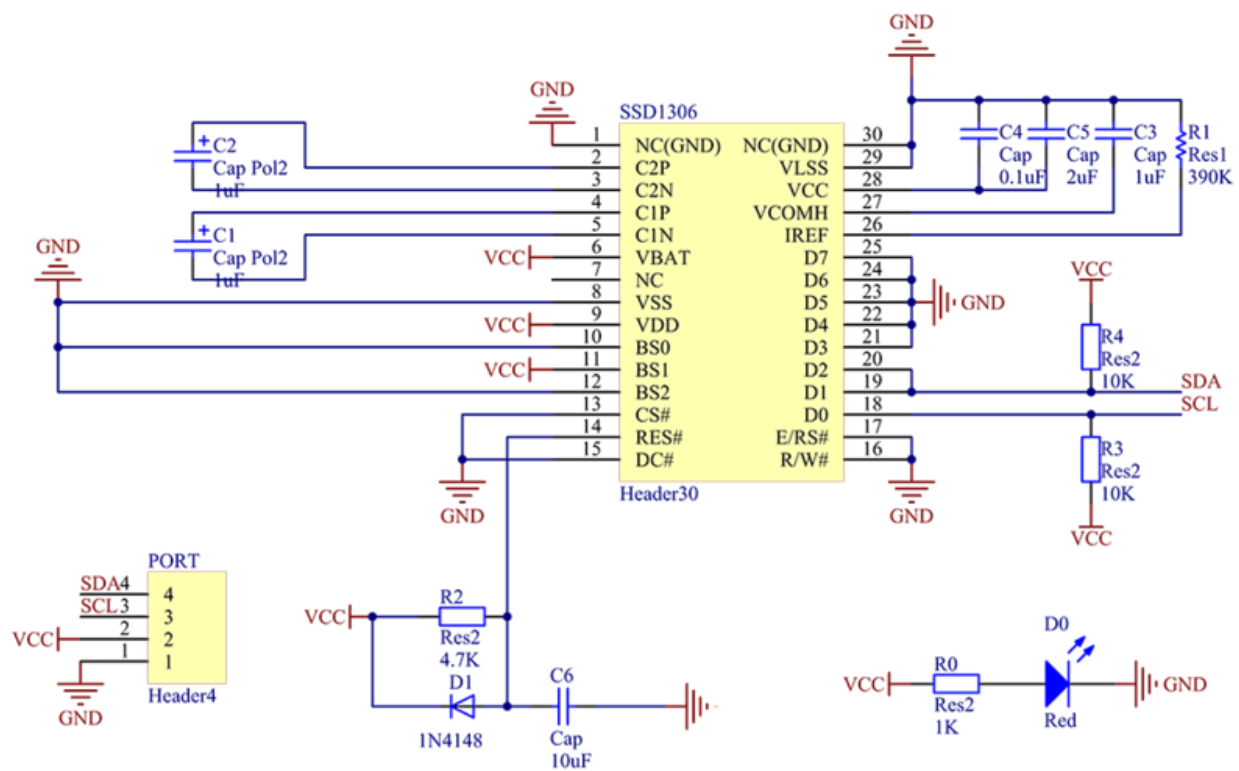
APPLICATIONS:

• Used in consumer electronics.

• Used for Smartwatch, mobile phone, and MP3 displays.

• Small level gaming displays.

• Wide range of viewing angle enable to be used in low light.