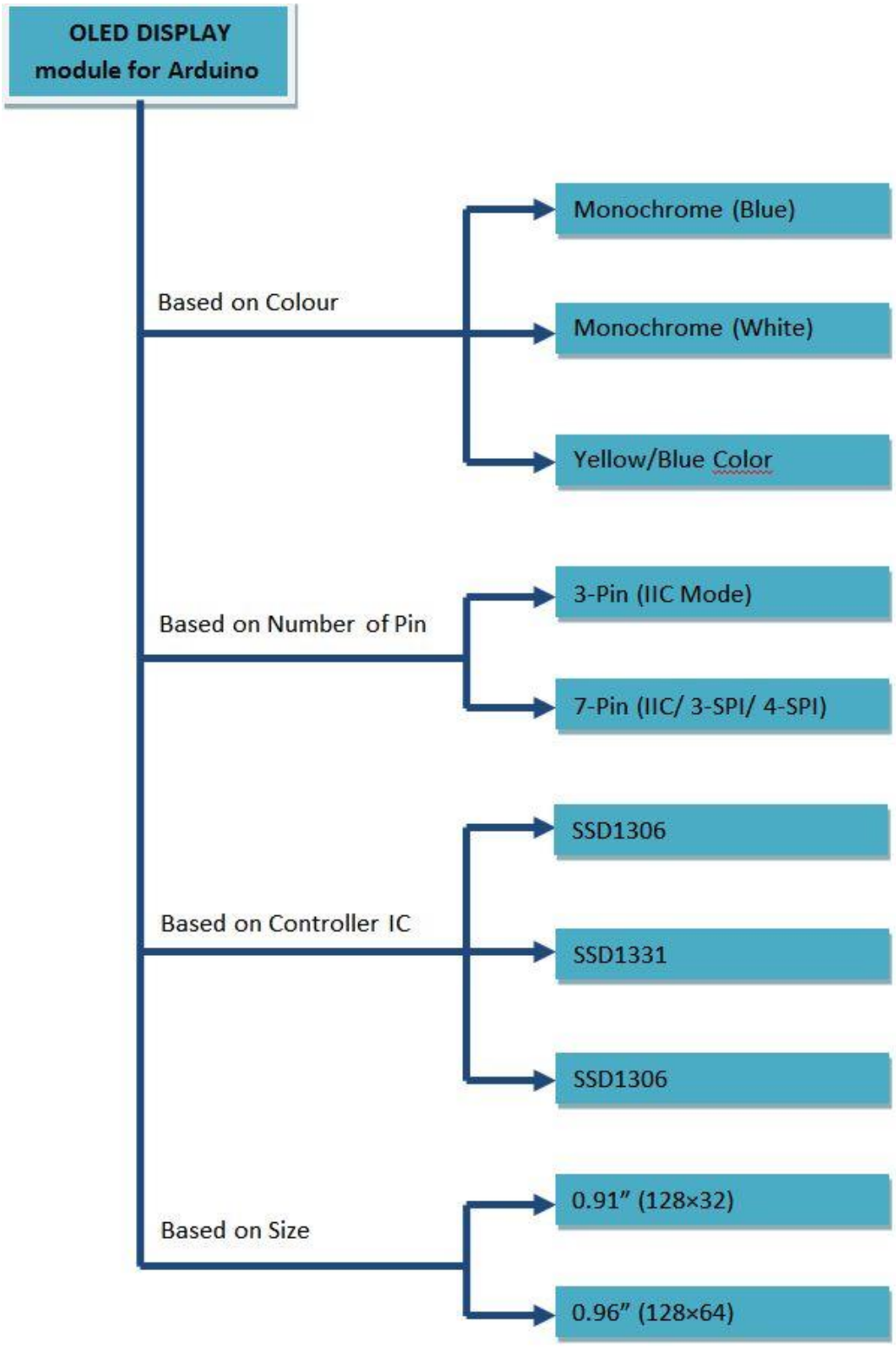
Before you start working with your OLED display make sure under which category your display fall into. Here we have shown a **Monochrome 7-pin SSD1306 0.96" OLED display**. This type of display can work on three different communications Protocols such as the SPI 3 Wire mode, SPI four wire mode and IIC mode. **SPI 4-wire mode** is the fastest mode of communication and the default one.



Pinouts and Function:

As said earlier the module we are using will have 7-pins, the picture of the same is shown below.

There are lots of vendor for these modules and hence your board might look slightly different than mine. Also the naming might also be differed. The pins and its functions are explained in the table below.

Pin Number	Pin Name	Other Names	Usage
1	Gnd	Ground	Ground pin of the module
2	Vdd	Vcc, 5V	Power pin (3-5V tolerable)
3	SCK	D0,SCL,CLK	Acts as the clock pin. Used for both I2C and SPI
4	SDA	D1,MOSI	Data pin of the module. Used for both IIC and SPI
5	RES	RST,RESET	Resets the module (useful during SPI)
6	DC	A0	Data Command pin. Used for SPI protocol
7	CS	Chip Select	Useful when more than one module is used under SPI protocol

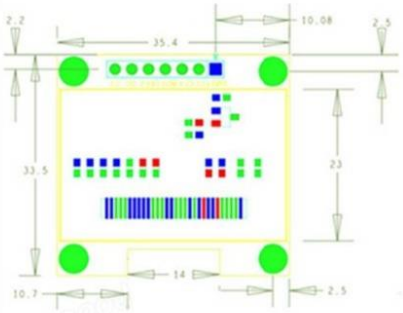
Characteristic

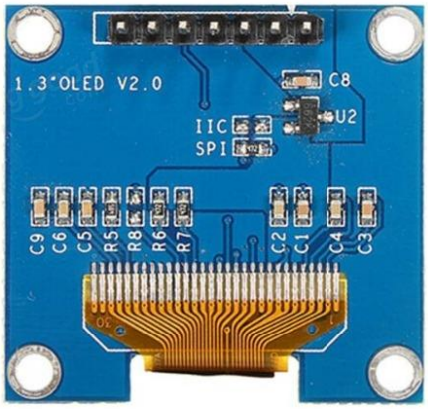
1, High Resolution: 128X64 (but more than 12864 LCD resolution)
2, Ultra Wide Viewing Angle: greater than 160 ° (display visual angle of a screen for maximum)
3, Ultra Low Power Consumption: normal display 0.08W (far below the TFT display)
4, Wide Power Supply Range: DC 3V-5V (without any changes, directly compatible with commonly used 3.3V and 5V power supply system)
5, Industrial Grade: operating temperature range of -30 ~70 degree
6, Ultra Small Size: (L)35.4MM* (W) 33.5MM* (T) 4.3MM
7, Support Multiple Operating Mode: 3 lines SPI, 4 lines SPI, IIC,
8, With chip select CS signal, can implement multiple SPI or IIC devices on the same bus
9, compatible with 3.3V and 5V control chip I/O level (without any setup, directly compatible)
10, OLED screen inner drive IC: SH1106 (same operation with SSD1306)
11,unsoldered Pin.

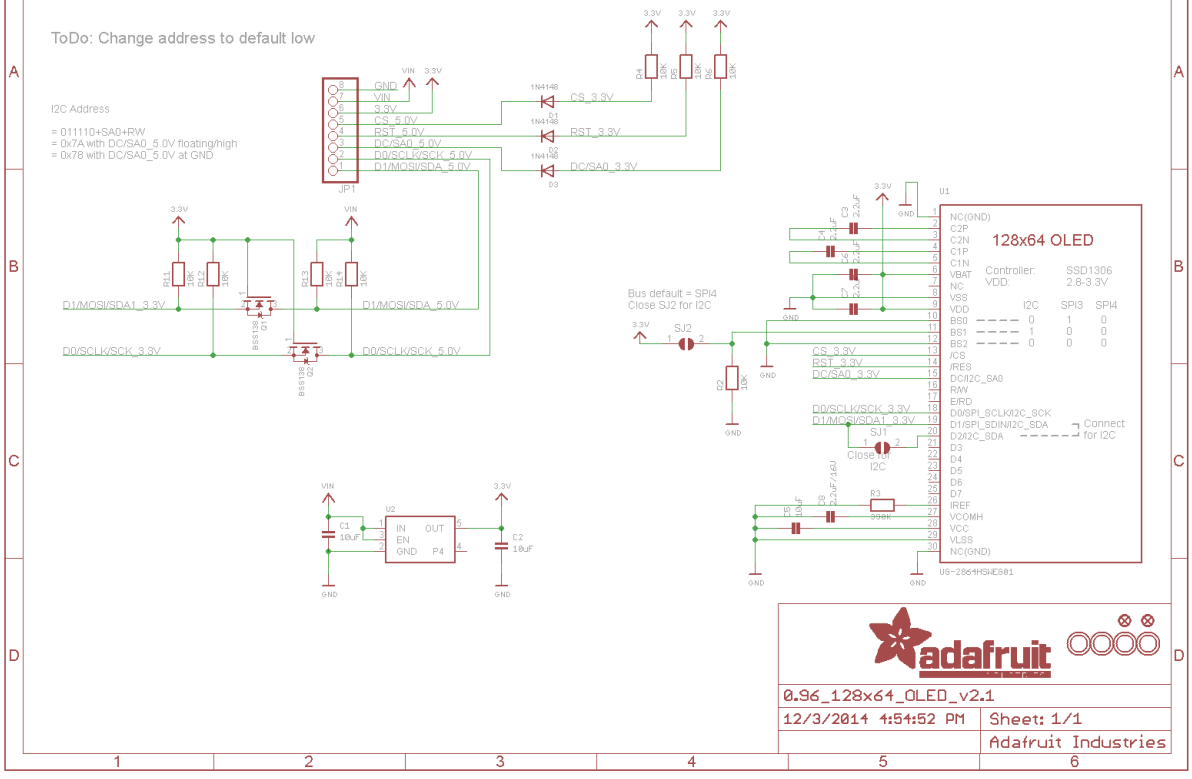
Pin description

GND: power ground
VCC: 3.3V or 5V power supply
D0: CLK clock
D1: MOSI data
RST: reset
DC: data / command
CS: chip select signal


GND VCC CLK MOSI RES DC CS
FM101.7
2013.8.22
Menu
MSN


35.4
10.08
2.2
2.5
33.5
23
14
10.7
2.5


1.3"OLED V2.0
C8
U2
IIC
SPI
C9 C6 C5 R5 R8 R6 R7 C2 C1 C4 C3


ToDo: Change address to default low
I2C Address
= 011110+SA0+RW
= 0x7A with DC/SA0_5.0V floating/high
= 0x78 with DC/SA0_5.0V at GND
JP1
GND
VIN
3.3V
CS_5.0V
RST_5.0V
DC/SA0_5.0V
D0/SCLK/SCK_5.0V
D1/MOSI/SDA_5.0V
CS_3.3V
RST_3.3V
DC/SA0_3.3V
D1/MOSI/SDA1_3.3V
D0/SCLK/SCK_3.3V
Bus default = SPI4
Close SJ2 for I2C
SJ2
SJ1
Close for I2C
128x64 OLED
Controller: SSD1306
VDD: 2.8-3.3V
I2C SPI3 SPI4
Connect for I2C
U6-2864HSWE601
0.96_128x64_OLED_v2.1
12/3/2014 4:54:52 PM
Sheet: 1/1
Adafruit Industries