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Ihr Experte für Mikroelektronik!

0,96 Zoll OLED Display Datenblatt

Content:

1. Basic Specifications

- Module dimensions: 28 mm x 33 mm x 4 mm
- Dot Matrix: 128 x 64
- Pixel size: 0.152 × 0.152 mm
- Pixel pitch: 0.175 × 0.175 mm
- Display Mode: Passive Matrix
- Duty: 1/64 Duty
- Display Color: White
- Interface: I2C
- Power consumption: Less then 11mA
- Size: 0.96 inch

2. Absolute Maximum Ratings

Parameter	Symbol	Min.	Max.	Unit	Notes
Supply Voltage for Logic	VDD	-0.3	5.5	V	1,2
Operating Temperature	Top	-40	+85	°C	
Storage Temperature	Tstg	-40	+85	°C	3
Life Time (120cd/□)	--	10.000	--	hour	4
Life Time (80cd/□)	--	30.000	--	hour	4
Life Time (60cd/□)	--	50.000	--	hour	4

Note 1: All the above voltages are on the basis of "VSS = 0V".

Note 2: When this module is used beyond the above absolute maximum ratings, permanent breakage of the module may occur.

Note 3: The defined temperature ranges do not include the polarizer. The maximum withstood temperature of the polarizer should be 80 °C.

Note 4: Ta=25 °C., 50% Checkerboard.

End of lifetime is specified as 50% of initial brightness reached. The average operating lifetime at room temperature is estimated by the accelerated operation at high temperature conditions.

3. Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage for Logic	V_{DD}	External Supply	3.0	3.3	5.0	V
Supply Voltage for Logic IO	V_{DDIO}	Internal Supply	3.0	--	3.3	V
High Level Input	V_{IH}	-	$0.8 \times V_{DDIO}$	--	V_{DDIO}	V
Low Level Input	V_{IL}	-	0	--	$0.2 \times V_{DDIO}$	V
High Level Output	V_{OH}	I_{OUT} = 100uA,3.3MHz	$0.9 \times V_{DDIO}$	--	V_{DDIO}	V
Low Level Output	V_{OL}	I_{OUT} = 100uA,3.3MHz	0	--	$0.1 \times V_{DDIO}$	V
Operating Current for V_{DD}	I_{DD}	Note 5	--	28.5	33	mA
Sleep Mode Current for V_{DD}	I_{DD}, Sleep	--	--	-	1	mA

Note 5: V_{DD} = 3.3V, 100% Display Area Turn on.

4. Pinout

I2C Serial Data Line - SDA
I2C Serial Clock Line - SCL
Power Supply - VCC
Ground - GND

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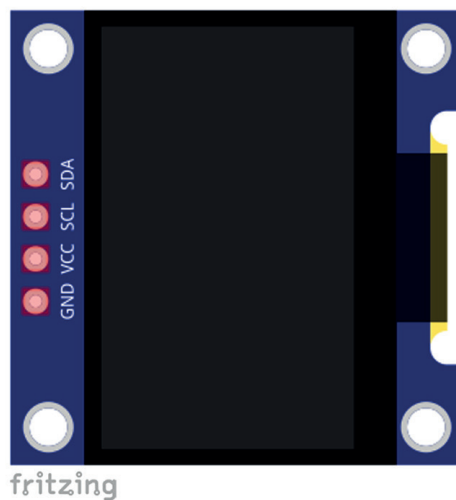
These displays have an on-board 3.3V voltage regulator.

The pins of 0.96 inch OLED display can be connected to either 3.3V or 5V logic and power supply without risk of damaging display.

NOTE: When using these displays with Raspberry Pi, power supply is 3.3V.

5. Connection Diagrams

Connect the 0.96 inch OLED display with the Uno as shown on the following connection diagram:
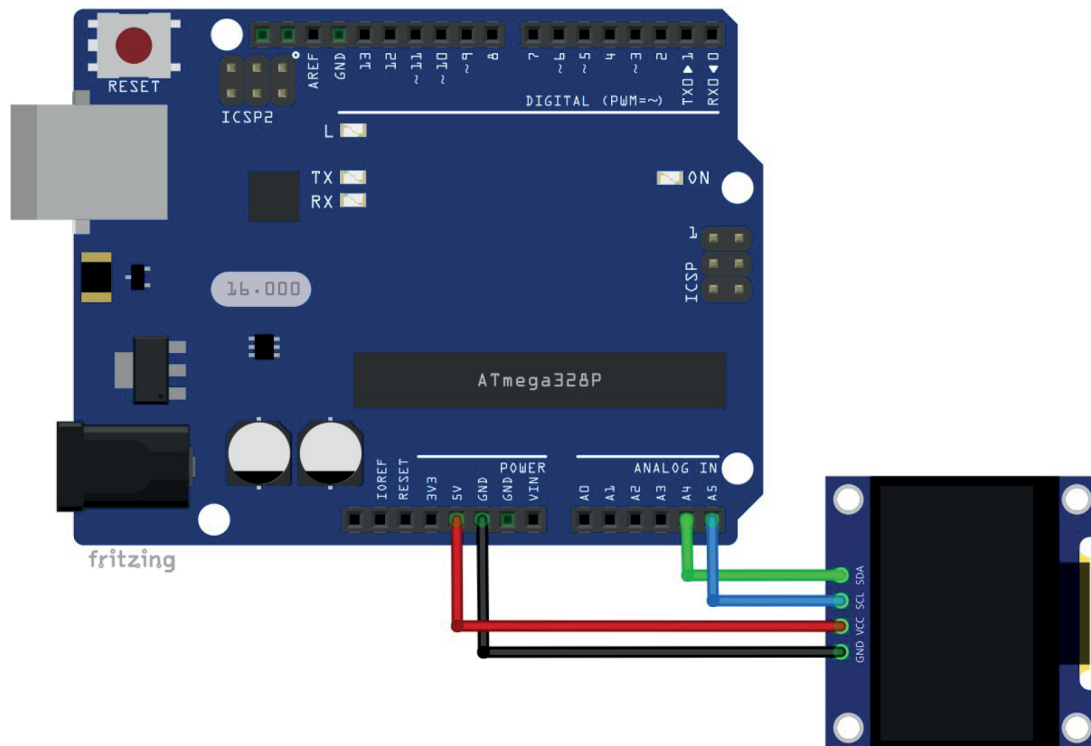
Screen pin	Uno pin	Wire color
SDA	A4	**Blue wire**
SCL	A5	**Green wire**
VCC	5V	**Red wire**
GND	GND	**Black wire**

Connect the 0.96 display with the Raspberry Pi as shown on the following connection diagram:
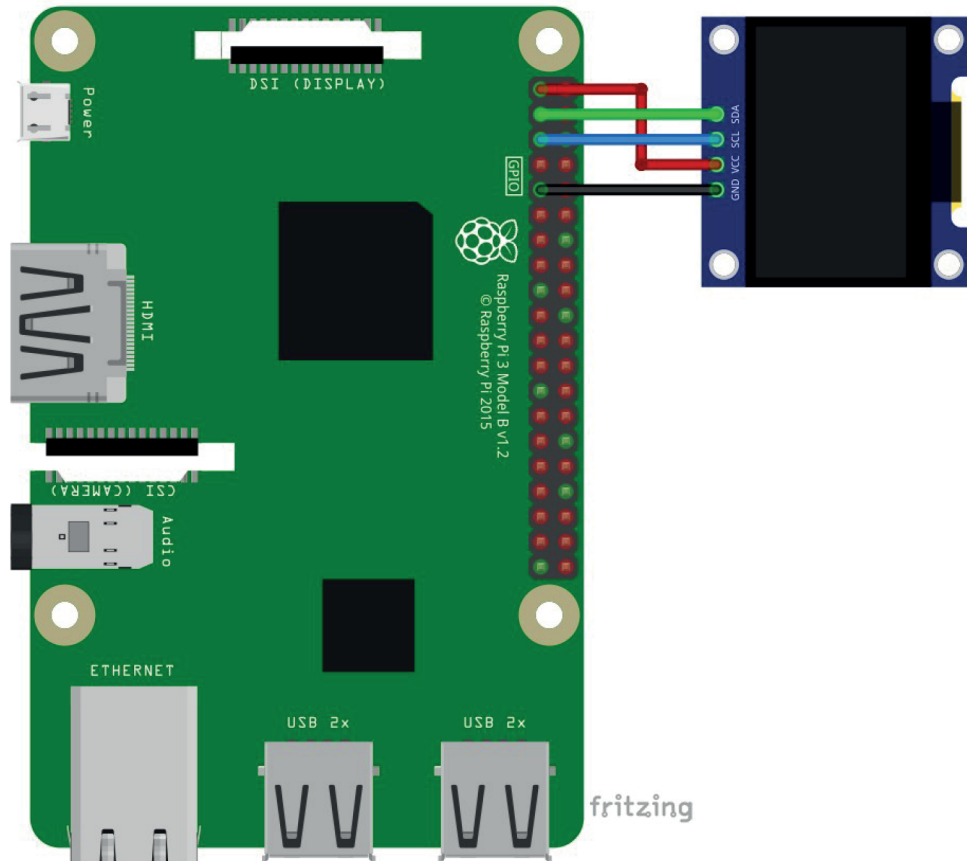
Screen pin	Raspberry Pi pin	Physical pin No.	Wire color
SDA	GPIO2	3	Green wire
SCL	GPIO3	5	Blue wire
VCC	3V3	1	Red wire
GND	GND	9	Black wire

6. Precautions

• Identify and, at all times, observe absolute maximum ratings for both logic and LC drivers.

• Prevent the application of reverse polarity to VDD and VSS, however briefly.

• When storing the OLED modules, avoid exposure to direct sunlight or to the light of fluorescent lamps.

• Liquid crystals solidify under low temperature (below the storage temperature range) leading to defective orientation or the
generation of air bubbles (black or white). Air bubbles may also be generated if the module is subject to a low temperature.

• To minimize the performance degradation of the OLED modules resulting from destruction caused by static electricity etc., exercise care to avoid holding the following sections when handling the modules.

- Exposed area of the printed circuit board.
- Terminal electrode sections.

• Do not disassemble the OLED display module.

• Do not drop, bend or twist OLED display module.

• Soldering: Only to the I/O terminals.

• Storage: Please store the display in anti-static electricity container and clean environment.
It is pretty common to use "Screen Saver" to extend the lifetime and do not use fix information for long time in real application.

Do not use fixed information in OLED panel for long time, that will extend "screen burn" effect time.

• Since the display panel is being made from glass, do not apply mechanical impacts such as dropping from a high position.

• If the display panel is broken by some accident and the internal organic substance leaks out, be careful not to inhale nor lick the organic substance.

• If pressure is applied to the display surface or its neighborhood of the OLED display module, the cell structure may be damaged and be careful not to apply pressure to these sections.

• The polarizer covering the surface of the OLED display module is soft and easily scratched.
 Please be careful when handling the OLED display module.

• When the surface of the polarizer of the OLED display module has soil, clean the surface. It takes advantage of by using adhesive tape.

Never try to breathe upon the soiled surface nor wipe the surface using cloth containing solvent. Also, pay attention that the following liquid and solvent may spoil the polarizer:
- Water
- Ketone
- Aromatic Solvents

• Hold OLED display module very carefully when placing OLED display module into the System housing. Do not apply excessive stress or pressure to OLED display module.

• Do not over bend the film with electrode pattern layouts. These stresses will influence the display performance. Also, secure sufficient rigidity for the outer cases.

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