0.96 Inch 128x64 Dots OLED Graphic Module with SPI Interface for High Contrast Display

Our Product Introduction

Basic Information

Product Specification

- Operating Voltage: 3.3V / 5V
- Pixel Pitch: 0.18mm
- Overall Dimensions: 35.1 X 30.9 X 3 Mm
- Contrast Ratio: Up To 10,000:1
- Backlight Technology: LED
- Pins Number: 30PINS
- Active Area: 21.744*10.864mm
- Screen Size: 0.96 Inches
- Highlight: **0.96 Inch OLED Display**, **128x64 Dots OLED Graphic Module**, **SPI Interface OLED Screen**

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Our Product Introduction

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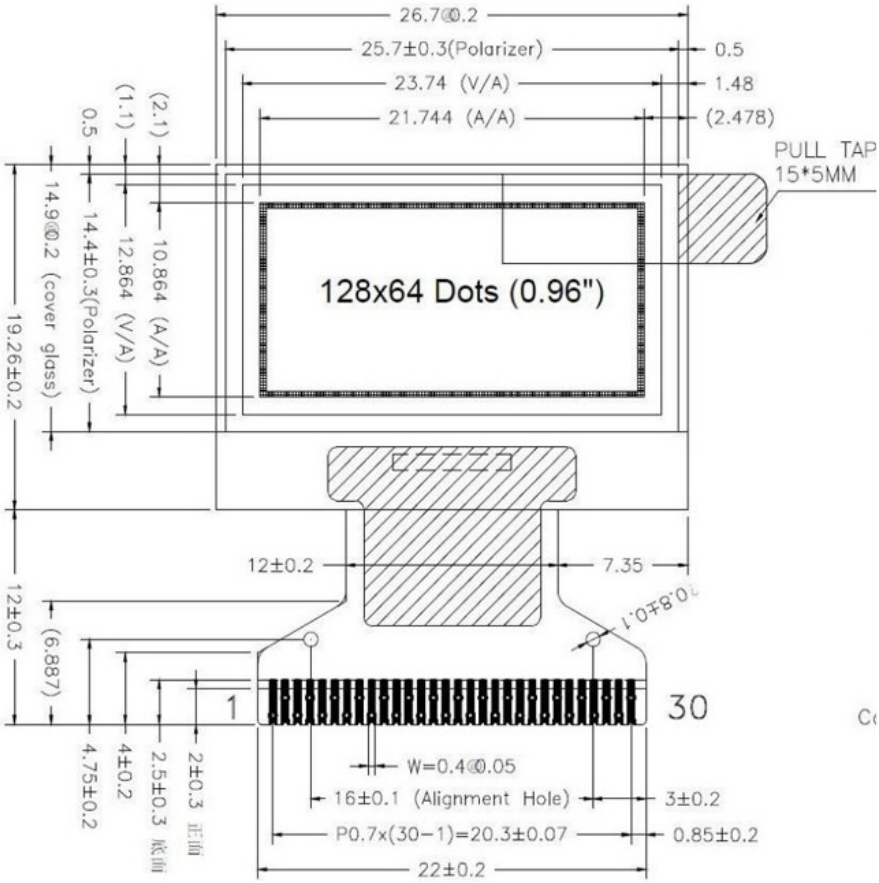
Product Description

0.96 Inch 128x64 Dots OLED Graphic Module Single Color SPI Interface

Product Specifications

Product	0.96 Inch OLED Display Module	Resolution	128x64 Graphics
Driver IC	SSD1306BZ Or Equivalent	Outline Dimensions	26.7x19.26x1.41 (mm)
Display Color	White&Blue Optional	Touch Screen	Without Touch Screen (Optional)
Viewing Direction	All Viewing Angles	Interface	6800, 8080, SPI, I2C
Connection	Soldering/Hotbar (customizable)	Pin Number	30 Pins (Can Be Customized)

Product Drawing



Interface Pin Definition

PIN NO.	SYMBOL	TYPE	FUNCTION DESCRIPTIONS
1	NC (GND)	P	It should be connected to external ground.
2	C2P	I	C1P/C1N-Pin for charge pump capacitor. C2P/C2N-Pin for charge pump capacitor. Connect to each other with a capacitor. They must be floated when the Charge pump not use.

3	C2N		as above
4	C1P		as above
5	C1N		as above
6	VBAT	P	Power supply for charge pump regulator circuit. It must be connected to external source when charge pump is used. It must be float when charge pump is not used.
7	NC		NC
8	VSS	P	Ground pin. It must be connected to external ground.
9	VDD	P	Power pin for logic circuit. It must be connected to external source.
10	BS0		Interface Select Pins
11	BS1		Interface Select Pins
12	BS		Interface Select Pins
13	CS#	I	Chip Select input pin. Active "L"
14	RES#	I	Hardware reset input pin. Active "L"
15	D/C#	I	This is Data/Command control pin. When the pin is pulled HIGH, the data at D[7:0] is data. When the pin is pulled LOW, the data at D[7:0] is command. In I2C mode, this pin acts as SA0 for slave address section. When 3-wire serial interface is selected, this pin must be connected to VSS
16	R/W#	I	read/write select pin. is selected, this pin must be connected to
17	E#	I	read/write enable pin. is selected, this pin must be connected to
18	D0	I/O	These are 8-bit bi-directional data bus to be connected to microprocessor's Data bus. When serial interface mode is selected, D2 should be kept NC, D1 will be the serial data input: SDIN, D0 will be the serial clock input: SCLK. When I2C mode is selected, D2, D1 should be tied together and serve as SDA and D0 is the serial clock input, SCL.
19-25	D1~D7		These are 8-bit bi-directional data bus to be connected to microprocessor's Data bus. When serial interface mode is selected, D2 should be kept NC, D1 will be the serial data input: SDIN, D0 will be the serial clock input: SCLK. When I2C mode is selected, D2, D1 should be tied together and serve as SDA and D0 is the serial clock input, SCL.
26	IREF	I	Current reference for brightness adjustment. This is segment output current reference pin. A resistor should be connected between this pin and VSS .Set the current at 12.5 uA maximum.
27	VCOMH	O	COM signal deselected voltage level. A capacitor should be connected between this pin and VSS.

28	VCC	P	Power supply for OLED driving voltage. A capacitor should be connected between this pin and VSS, when charge pump is used. It must be connected to external source when charge pump is not used.
29	VLSS	P	This is an analog ground pin. It should be connected to VSS externally.
30	NC(GND)	P	It should be connected to external ground.

This is a 0.96-inch, 128×64-pixel monochrome OLED graphic display module, featuring a SPI communication interface. The core driver chips are mostly SSD1306 (with some being SSD1315). It belongs to passive OLED (PMOLED), with pixels self-luminous and no backlight required. It has the characteristics of high contrast, wide viewing angle, low power consumption, and fast response.

The physical size of the module is compact, with the display area approximately 21.74×11.18mm. The overall module size is typically around 26×26mm. The supply voltage ranges from 3.3V to 5.5V, compatible with 3.3V and 5V systems. SPI is a 4-wire communication, and some models can be switched to I2C through hardware. The display color is mainly white, with blue and yellow-blue dual-color options available. The operating temperature range is usually -40 to +85 , suitable for industrial and consumer applications.

Core Features

Self-luminous: Each pixel emits light independently. The black areas do not consume power. The contrast is extremely high and the viewing angle is close to 180°.

Low power consumption: The standby current is extremely low. The current for full screen illumination is only several tens of mA, making it suitable for battery-powered devices.

SPI interface: The communication speed is fast and the wiring is simple. It is suitable for high-speed data refreshing and long-distance connection.

Mature driver: The SSD1306/SSD1315 drivers are complete, supporting mainstream controllers such as Arduino, STM32, and ESP32, and there are abundant open-source resources.

Dual support for graphics and text: It can display characters, numbers, icons, simple graphics and animations. The resolution meets the basic interaction display requirements.

Main Applications

Smart Wearables: Smart watches, bracelets, health monitors, showing time, heart rate, steps, and exercise data.

Internet of Things and Sensors: Local display terminals for temperature and humidity, air quality, voltage and current sensors.

Portable Medical Devices: Blood glucose meters, blood oxygen meters, electrocardiographs, portable testers, showing measurement values and status.

Industrial Control and Instruments: Small PLCs, frequency converters, thermostats, handheld testers, status and parameter screens of auxiliary displays.

Consumer Electronics and Hackers: Mini game consoles, desktop clocks, weather stations, Bluetooth speakers, DIY electronic projects.

Automotive Electronics: Vehicle small meters, tire pressure monitoring, auxiliary displays of interior control modules.

Frequently Asked Questions

1. I want the LCD display 8 digits and the outline size is 65x30x2.8mm?

No problem. Firstly, please kindly send us your specification/ drawing paper. If you have not the specification, you can also provide your samples; we will recommend the suitable one if it is standard products. Or we can customize for you based on your own requirement.

2. This LCD is just what we want, but it is big size, do you have any smaller size? And the display content need to be changed a little.

For the segment type LCD module, if you need modify the outline size or display content, a new LCD glass module is need. We have to open new tooling for you.

3. This LCD display is HTN type, but I want STN type, can you make?

That's all right. We can change for you as per you request.

4. I want customize a new LCD module. Can you do?

Yes, we can. Please send your drawing paper. If you have not, please advise me the outline size of the LCD display, display information (Glass thickness, Polarizer, Display Type, Connector mode, Storage Temp. Operating Temp. Supply Voltage, Viewing direction, drive condition), we can customize for you.

5. What is leading time for tooling?

General speaking, it will cost 15 to 25 days after drawing paper confirmation and tooling charge payment, we can report you the exact time when you confirm the drawing paper.

6. Can you send us samples for checking?

Yes. Samples order is available.

7. What is the Leading Time?

If we have stock for the standard ones, the leading time is one day after payment. If it is the mass production for special ones, the leading time is about 15-30 days. suppose we can finish earlier, we will report the information in advanced.

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