



1.28-inch ESP32S3 round TFT-I80 screen development board



Time: 2025/04/15

Version V1.0



Revision History

date	Version	Release Notes
2025-04-15	V1.0	-First release



1. Product Introduction

The development board uses a 1.28-inch round TFT screen, GC9A01 driver chip, 240*240 Resolution, 65K color display is clearer, the screen uses I80/MCU interface and onboard ESP32S3 is connected and has capacitive touch function. Driver examples are provided to make it easier to use.

Simple.

The development board provides a USB port for program downloading, serial communication and battery charging.

There is also a 3.7V lithium battery interface and charging circuit on board.

Connect it to the ESP32 IO port through the voltage divider resistor, and the voltage after voltage division can be collected by ADC.

The voltage can be roughly judged by the battery voltage.

In addition, there are three side buttons and a TF card interface on the board, which can be directly inserted into the TF card for

One of the buttons is used as the power button. After powering on, all three buttons can be used as

The user-defined buttons are encoded with corresponding codes according to their needs.

The board also includes an RTC clock chip, an IMU three-axis accelerometer and a three-axis gyroscope.

3W-IIS audio output interface, IIS-MIC and WS2812 and TF card and other peripherals for

User-developed, the board has a TCA6408 expansion chip to save IO ports.

2. Parameter Introduction

Product Type: ESP32S3-128I80T TFT Development Board Series

Input voltage: USB-5V / 3.7V-BAT (supports 3.7V lithium battery by default)

Working current: related to the code running situation, generally no more than 150ma

ESP32S3 minimum system parameters

Operating frequency: 240MHZ

Number of cores: 2



Flash size: 16Mbyte

Psram: 8/16 MByte

Antenna: Yes, onboard + ipex (default onboard antenna)

Wireless: Bluetooth 5 + Wi-Fi 2.4G

Screen type: TFT IPS (with touch)

Peripherals:

TFT screen: 1.28 GC9A01 240x240 I80

Capacitive touch: CST816

TF card holder: SPI

RTC: PCF85063

IMU: QMI8658

SPK:MAX98357

MIC: ICS43434

WS2812 x2

SW x3

Power collection interface x1

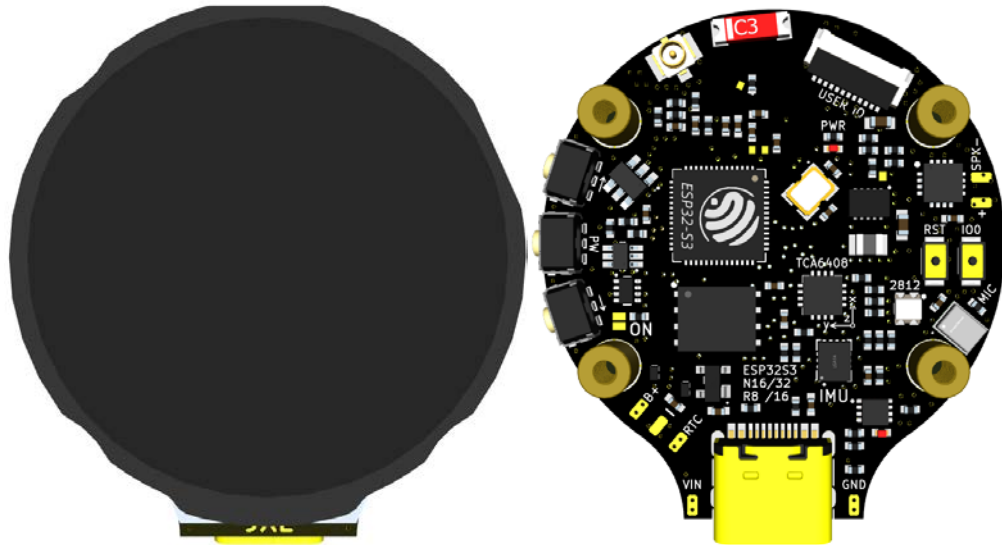
Fixing method: M2 copper column

Dimensions: 41.5mm (H) x 37mm (W) - without card

41.5mm (H) x 44mm (W) - Card

Manual measurement may result in deviations

3. Product Reference



Most of the functions of the modules can be identified by referring to the silk screen on the board. This document only briefly describes the functions of the modules.

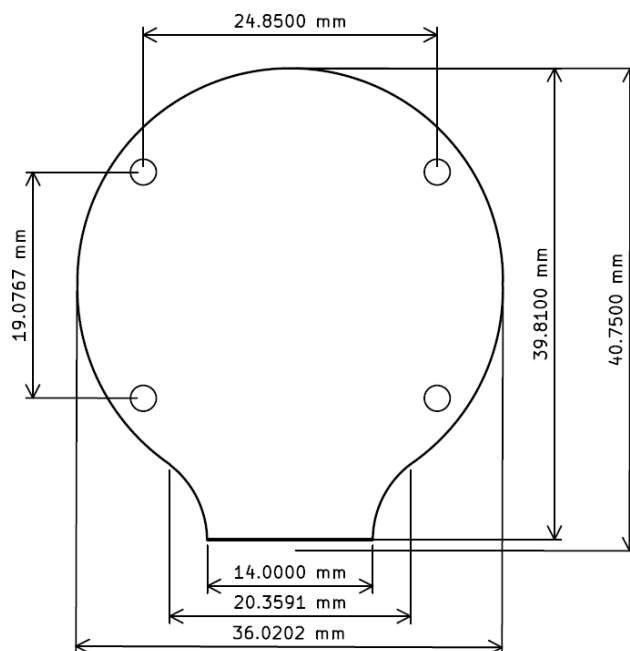
Some of the functions of the release board, for detailed descriptions and guidance of the functions of each board, please refer to

[Development Reference Documentation](#)Detailed instructions within.

4. Dimensions

This size is the PCB board size, for reference only, and does not include some components on the board frame.

External part



For the size, please refer to the 3D model provided in the document. Users can make their own



Measure the reference size

5. Functional board block diagram

The product does not open source detailed schematic diagram, but provides the connection diagram between each functional module.

In the data [Reference Schematic](#) [Matching Development Reference Documentation](#) Conduct secondary development of products.

6. Notes

1. The product is small in size and highly integrated, so the heat generated is relatively high, which is normal and does not affect

Use it.

2. The height of the M2 copper column is 4.5mm, so the screws you use cannot exceed this height.

Spend.

3. Regarding the external PFC interface, the 3.3V voltage output port provided is compatible with the ESP32

Therefore, when using the power supply on the expansion port to supply external power,

Be careful not to connect high-power devices, especially inductive devices such as motors, with high-power

LED capacitive devices should be avoided as much as possible to prevent such devices from affecting or even damaging ESP32.

bad.

4. The samples provided by the product can be used to initially test the main functions of each part, and more will be gradually tested.

If you have more suggestions, we can provide them to you.

More perfect, thank you for your support.