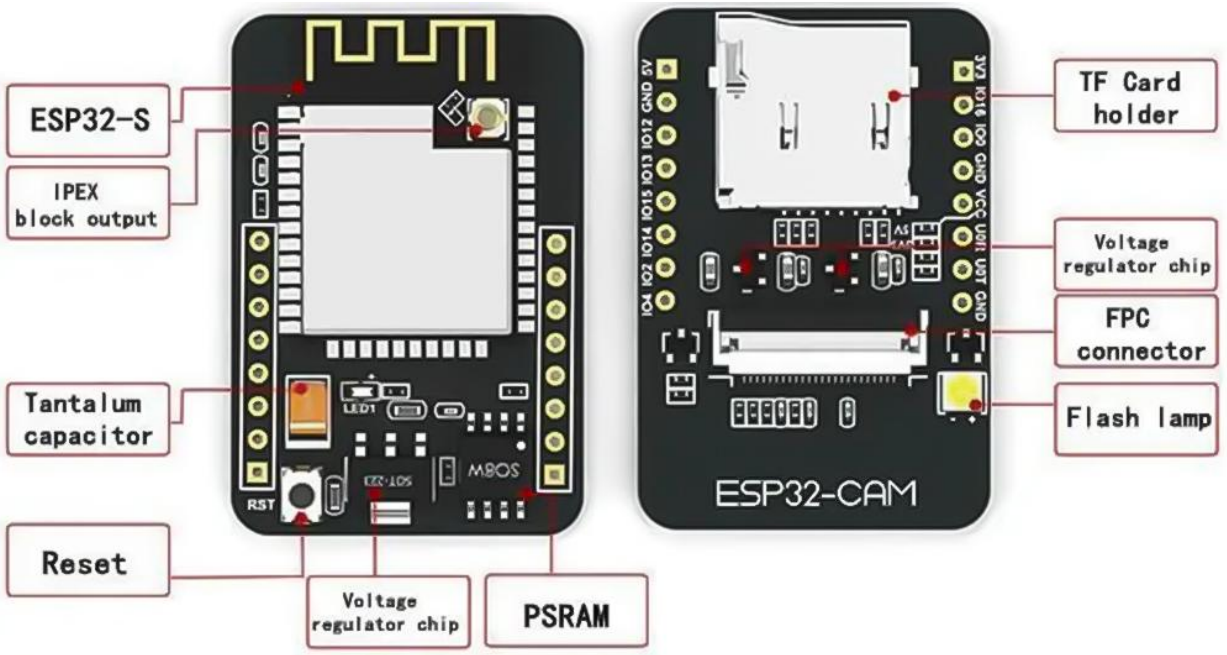
1. Main control board introduction :

ESP32-CAM (with OV2640 camera) is a very small camera module with an ESP32-S chip. In addition to the OV2640 camera and several GPIOs for connecting peripherals, it also has a microSD card slot that can be used to store images taken with the camera or store files to be served to clients.



ESP32 -CAM Features :

Features the smallest 802.11b / g/n Wi-Fi BTSoC module

Low-power 32-bit CPU, can also be an application processor

The clock speed is 160MHz and the total computing power is up to 600 DMIPS

Built-in 520KB SRAM, external 4MPSRAM

Support UART/SPI/I2C/PWM/ADC/DAC

Support OV2640 and OV7670 cameras, built-in flash memory

Support WiFI upload image

Support TF card

Support multiple sleep modes

Embedded Lwip and FreeRTOS

Support STA/AP/STA+AP operation mode

Support smart configuration/AirKiss technology

Support serial local and remote firmware upgrade (FOTA)

There are three GND pins and two power pins: 3.3V or 5V. GPIO 1 and GPIO 3 are serial pins. You need these pins to upload code to the board. Also, GPIO 0 plays an important role as it determines whether the ESP32 is in blink mode or not. When GPIO 0 is connected to GND, the ESP32 is in blink mode.

The following pins are internally connected to the microSD card reader:

GPIO 14: CLK

GPIO 15: CMD

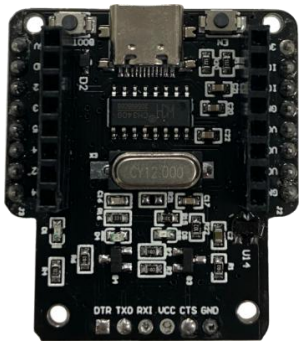
GPIO 2: Data 0

GPIO 4: Data 1 (also connected to onboard LED)

GPIO 12: Data 2

GPIO 13: Data 3

2. Expansion board: FTDI programmer / expansion board with type-c port



3. Motor drive module L298N

Product parameters:

1. Driver chip: L298N double h-bridge DC motor driver chip

2. The power supply range Vs of the terminal drive part: +5V~+35V; if the circuit board needs power supply, the power supply range Vs: +7V~+35V

3. The peak current of the driving part Io: 2A

4. The power supply range Vss of the logic part terminal: +5V~+7V (+5V can be taken out from the circuit board)

5. Logic component working current range: 0~36 mA

6. Control signal input voltage range:

Low level: -0.3V≤Vin≤1.5V

High level: 2.3V≤Vin≤Vss

7. Enable signal input voltage range:

Low level: -0.3≤Vin≤1.5V (control signal is invalid)

High level: 2.3V≤Vin≤Vss (control signal is valid)

8. Maximum power consumption: 20W (at temperature T=75°C)