# ESP32

## ESP-IDF

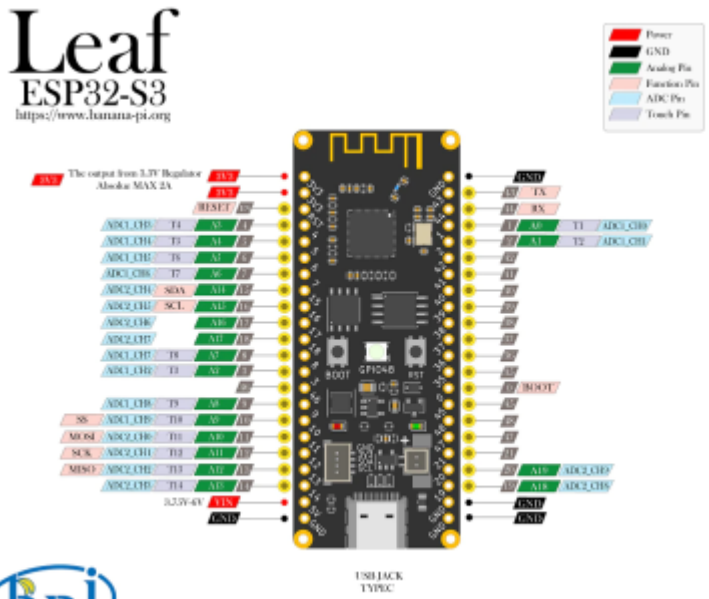
1. Install vscode
    1. Install ESP-IDF extension
2. Install git
    1. 
```
$ brew install git
```
3. Install Python, Download at https://www.python.org/downloads/

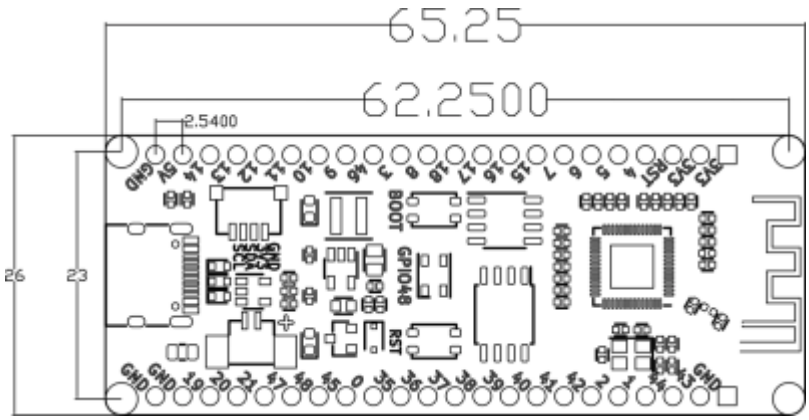
Standard Setup of Toolchain for Mac OS

## Pins

- TTGO T-DISPLAY ESP32; 12 * 2 = 24
- ESP32 (30pin); 15 * 2 = 30
- BPi ESP32 S3; 22 * 2 = 44

## Banana Pi ESP32 S3 (BPI-Leaf-S3)






- 바나나 파이 리프 ESP32 S3 실행 가능한 Micropython 저전력 에너지 절약 마이크로 컨트롤러, IoT 개발을 위해 설계 @aliexpress.com
- BPI-Leaf-S3
- 1 * JST SH 1mm 4-Pin Socket, support I2C
- 1 * MX 1.25mm 2-Pin Socket□support charging
- USB Host @ESPRESSIF
- USB Host Library Example @github

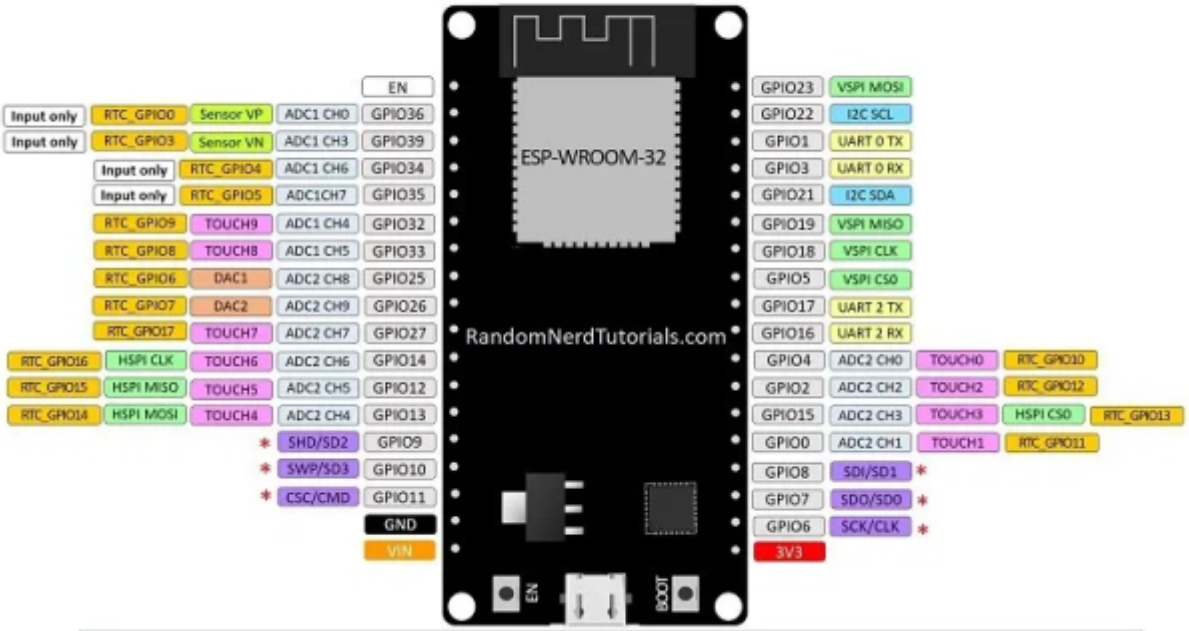
# TTGO T-DISPLAY

- 2 pin JST SH 1.25 connector.
- LILYGO® TTGO T-Display ESP32 WiFi and Bluetooth Module Development Board For Arduino 1.14 Inch LCD
- LILYGO® TTGO T-Display ESP32 WiFi and Bluetooth Module Development Board For Arduino 1.14 Inch LCD(1)(1)(1)(1)
- How to power off TTGO T-Display while charging? @reddit
- Documents on ESP32 and TTGO T-Display
- LilyGO TTGO T-display ESP32 @Joen's code snippets pages

# PINS

# ESP32 DEVKIT V1 – DOIT

## version with 36 GPIOs




* Pins SCK/CLK, SDO/SD0, SDI/SD1, SHD/SD2, SWP/SD3 and SCS/CMD, namely, GPIO6 to GPIO11 are connected to the integrated SPI flash integrated on ESP-WROOM-32 and are not recommended for other uses.

# ESP32 DEVKIT V1 – DOIT

## version with 30 GPIOs