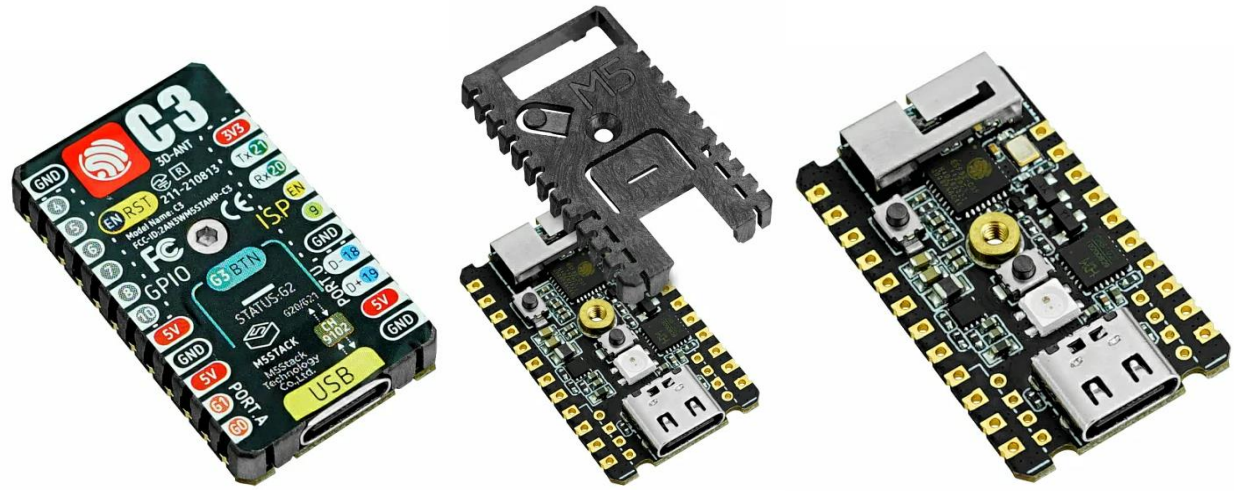
# STAMP-C3

SKU:C056-B, K056



## Quick-Start

### ESP-IDF

This tutorial will show you how to control STAMP-C3 devices through the IDF graphical programming platform

## Description

M5Stack just added a new family to its popular series of modules with the Stamp-C3. the new Stamp-C3 featuring ESPRESSIF ESP32-C3 **RISC-V** MCU with **Wi-Fi** connectivity for IoT edge devices such as home appliances and Industrial Automation. By combining RSA-3072-based secure boot and the AES-128-XTS-based flash encryption, while also make it optimal for industrial IoT equipment collecting sensor data within a factory or a building.

The Stamp-C3 is based on **32-bit RISC-V** microcontroller and operates at a maximum clock frequency of **160 MHz**. With 400 KB of internal RAM and **4 MB Flash**, it can facilitate many different use-cases involving connected devices. Furthermore, the exceptional heat resistance plastic enclosure is sustained at a higher operating temperature.

## Product Features

- MULTIPLE STYLE:
  - Three types soldering options are available(SMT, DIP, flywire), with a high-temperature resistant plastic enclosure, Peak temperature = 230℃
- HIGH INTEGRATION:
  - Stamp-C3 contains 5V->3.3V DC/DC design, GPIOx13, programmable RGB LED x1, Reset button x1, button x1, 3D antenna,providing stable and reliable wireless communication.
- LOW-CODE DEVELOPMENT:
  - Stamp-C3 fully compatible with Arduino, ESP32-IDF, and other mainstream development platforms to quickly build various applications. (UIFlow support coming soon)

## Include

- M5Stamp C3 (5pcs):
  - 5 x M5Stamp C3
  - 5 x Heat Resistant Sticker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- M5Stamp C3 Mate:
  - 1 x M5Stamp C3
  - 1 x Heat Resistant Sticker
  - 2 x 2.54-12P header
  - 2 x 2.54-10P header
  - 2 x 90° Grove Connector
  - 1 x M2 Hex Key


## Application

- DIY Prototyping
- Home Appliances
- Industrial Automation

| Specifications | Parameters |
| --- | --- |
| ESP32-C3 | 32bit RISC-V single-core processor, clocked at 160 MHz |
| Storage | 384KB ROM, 400KB SRAM, 8KB RTC SRAM, 4MB FLASH |
| Wi-Fi | 2.4 GHz band supports 20 MHz and 40 MHz bandwidth, IEEE 802.11 b/g/n protocol, data rate up to 150 Mbps |
| Input voltage | 5V @ 500mA |
| HMI | Programmable physical button x 1, reset debugging button x 1, programmable RGB LED (SK6812) x 1 |
| USB interface | TypeC x1 |
| Antenna Type | 2.4G 3D Antenna |
| Module peripheral interface resources | ADC, GPIO, SPI, UART, I2C, I2S, PWM, RMT, DMA, USB serial port, TWAI |
| IO interface x13 | G21, G20, G9, G18, G19, G1, G0, G10, G8, G7, G6, G5, G4 |
| IO interface spacing | 2.54mm |
| Net weight | 3.8g |
| Product size | 34 * 20 * 4.6mm |
| Packing size | 85*55mm sealing bag (translucent) |

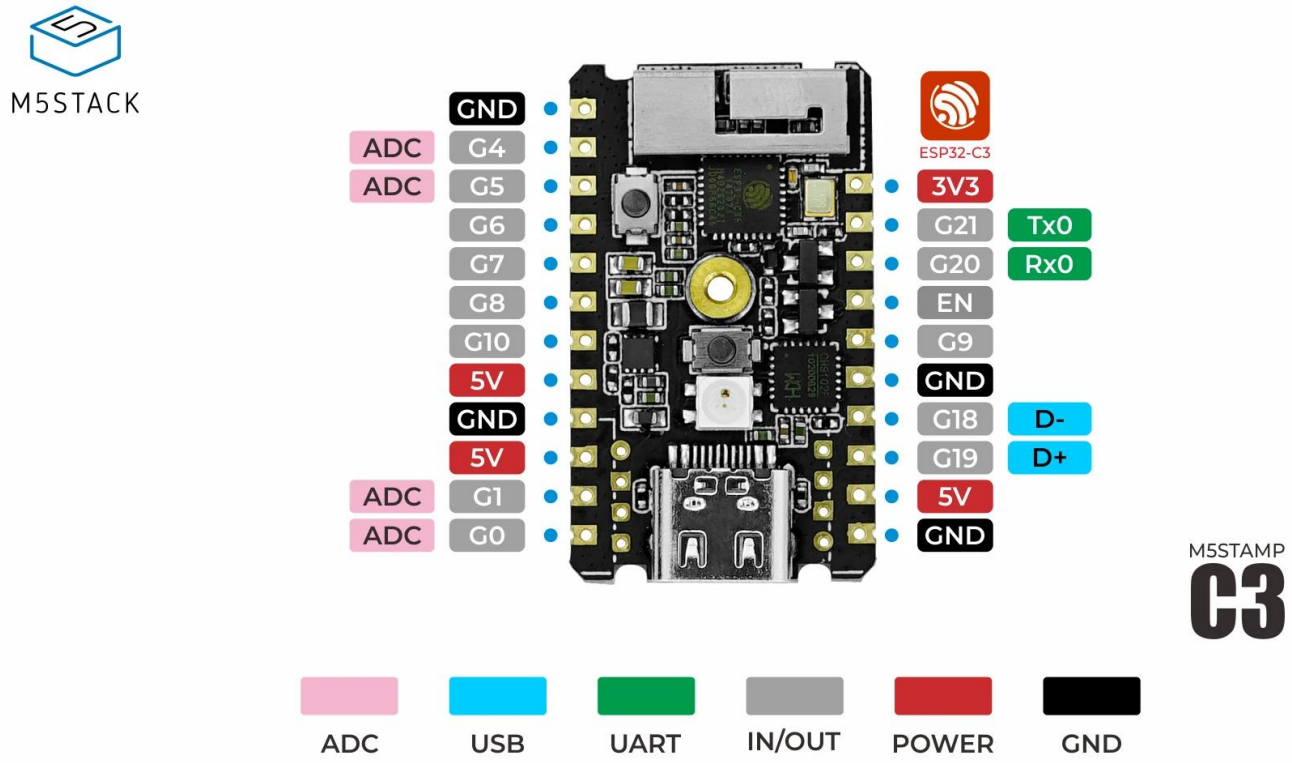


## Driver Installation

Click the link below to download the driver that matches the operating system. select the installation package corresponding to the number of operating systems to install. During the installation process of **CH9102_VCP_SER_MacOS v1.7**, an error may occur, but the installation is actually completed, just ignore it.) When using it, if If the program cannot be downloaded normally (the prompt is overtime or Failed to write to target RAM), you can try to reinstall the device driver.

| Driver name | Applicable driver chip | Download link |
| --- | --- | --- |
| CH9102_VCP_SER_Windows | CH9102 | Download |
| CH9102_VCP_SER_MacOS v1.7 | CH9102 | Download |

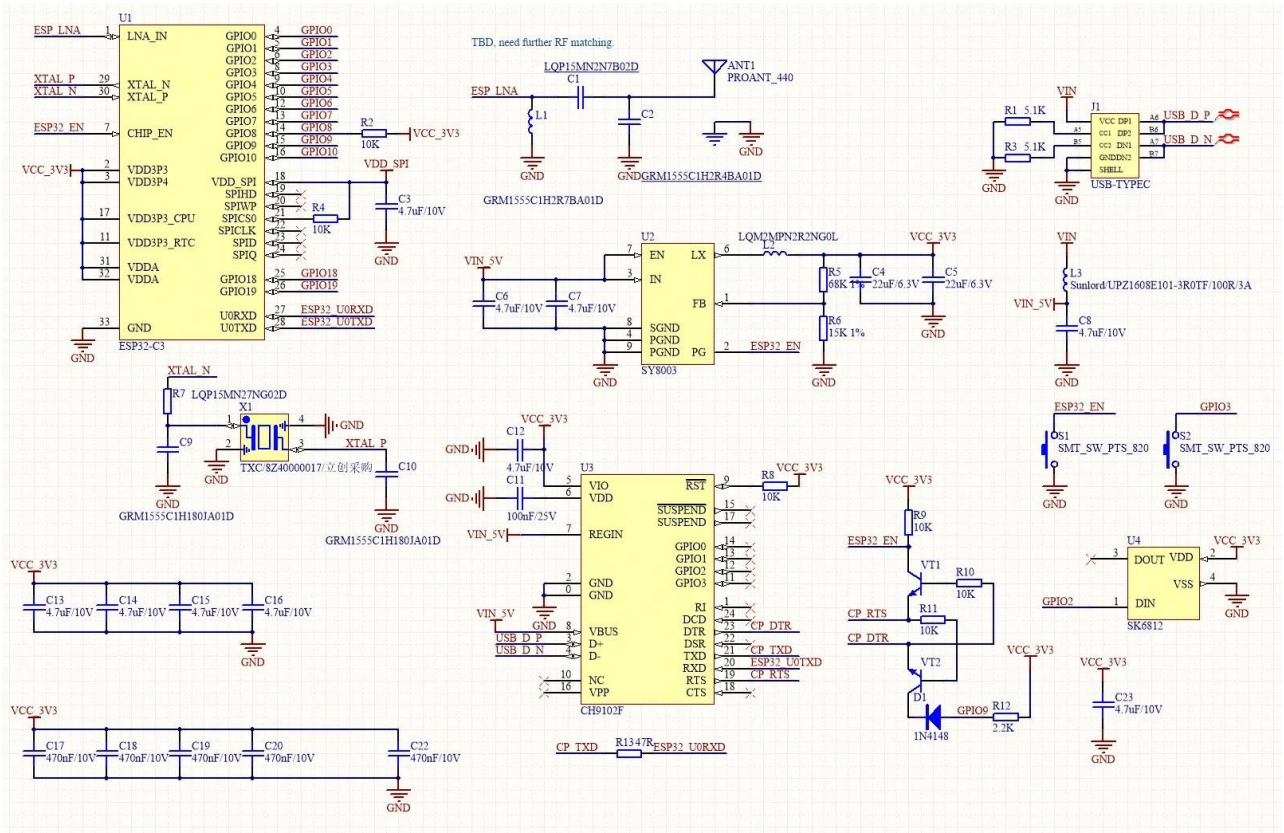
## PinMap



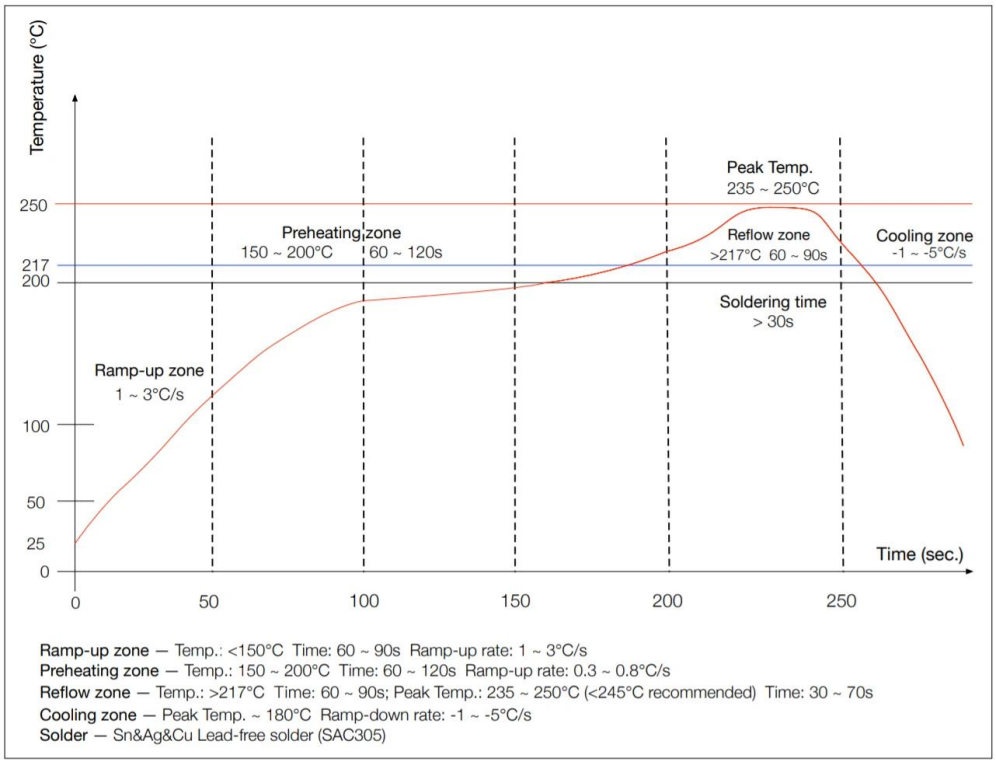
### SK6812 (RGB LED) and Button

| ESP32 | GPIO2 | GPIO3 |
|---|---|---|
| SK6812 | DI | / |
| Button | / | SW |

# Schematic



# The shell supports Reflow Profile




Related Links

- **Datasheet**
  - ESP32-C3
- **PCB**
  - LCEDA STAMP-C3 Component

Example

ESP-IDF

- RGB LED Control