

AtomS3-Lite

SKU:C124





Description

AtomS3-Lite is a programmable controller of the Atom series within the M5Stack development kit lineup, featuring **ESP32-S3** as the main controller and measuring just 24.0 x 24.0 x 9.5mm. It adopts the **ESP32-S3FN8** solution with **8MB** SPI flash, integrated **Wi-Fi**, built-in **3D antenna**, and a **5V to 3.3V** power circuit. The device offers an **IR transmitter LED**, **RGB status indicator**, **button**, and **HY2.0-4P** interface. Power pins and six GPIO female headers are routed out at the bottom for easy expansion. The onboard **USB Type-C** port enables program download and serial communication, and an **M2 screw hole** on the back provides mounting options. This module is ideal for various embedded smart device applications.

Tutorial



Arduino IDE

This tutorial will introduce how to program and control the AtomS3-Lite device using the Arduino IDE.



UiFlow2

This tutorial will introduce how to control the AtomS3-Lite device through the UiFlow2 graphical programming platform.

Features

- Developed based on ESP32-S3FN8
- Built-in USB download function
- Programmable button
- Infrared transmission function
- Expandable pins and interfaces
- Development Platform
 - UiFlow2
 - Arduino IDE
 - ESP-IDF
 - PlatformIO

| Includes

- 1 x AtomS3-Lite

| Applications

- IoT nodes
- Microcontrollers

| Specifications

Specification	Parameter
SoC	ESP32-S3FN8 @ Xtensa® 32-bit LX7 dual-core processor, clock frequency 240MHz
Flash	8MB
RGB	WS2812C-2020
DC-DC	SY8089
Operating Temp	0 ~ 40°C
Power Voltage	5V
Power Method	Type-C
Output Voltage	3.3V
IO Interface ×6	G5/G6/G7/G8/G38/G39
Product Size	24.0 x 24.0 x 9.5mm
Product Weight	5.3g
Package Size	85.0 x 65.0 x 12.2mm
Gross Weight	11.0g

| Learn

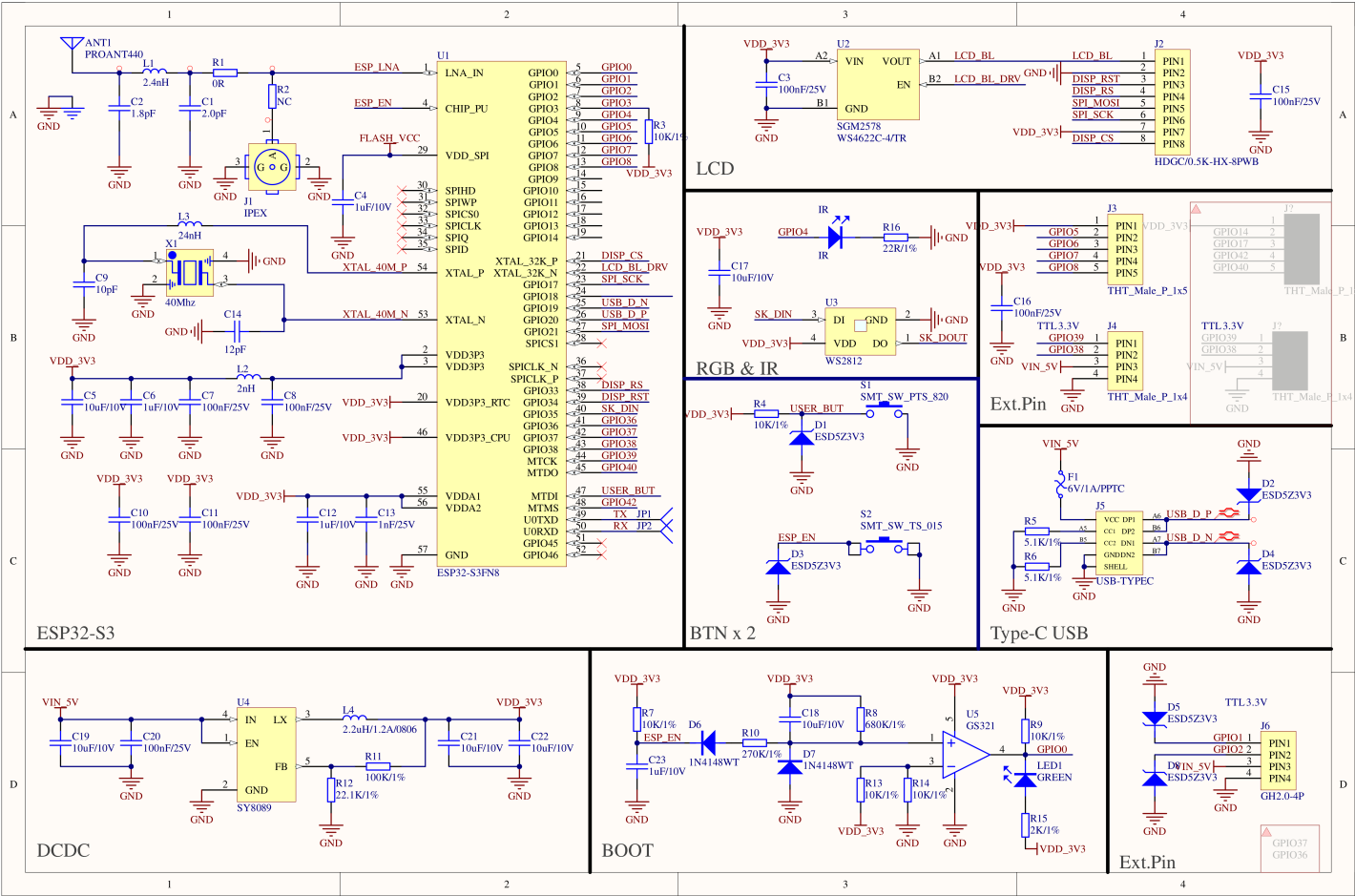
Download Mode

To flash firmware, press and hold the reset button (for about 2 seconds) until the internal green LED lights up, then release. The device is now in download mode, ready for flashing.

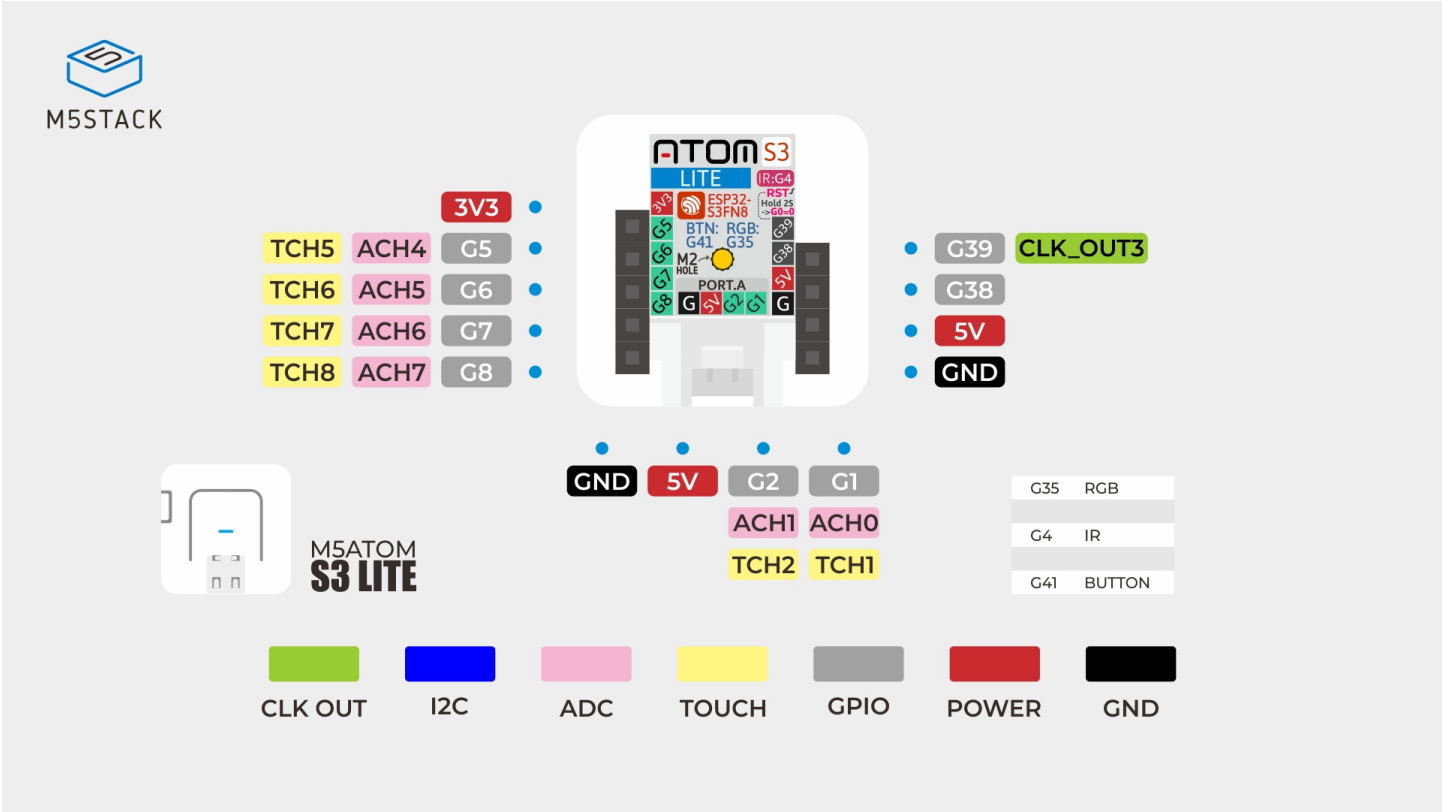


Schematics

AtomS3-Lite Schematics PDF



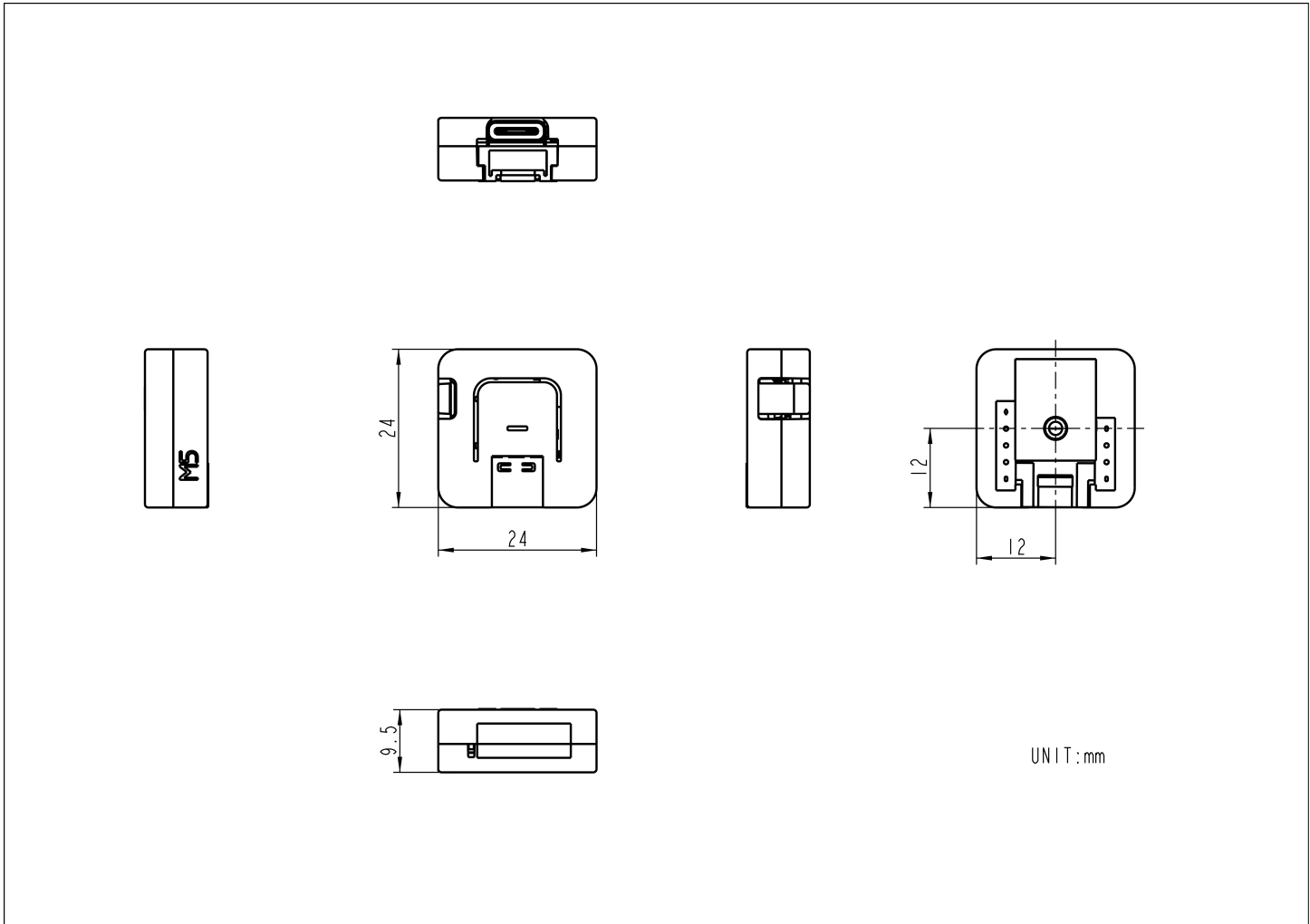
PinMap



HY2.0-4P

HY2.0-4P	Black	Red	Yellow	White
PORT.CUSTOM	GND	5V	G2	G1

Model Size



Structure

- [AtomS3-Lite Structure Files](#)

Datasheets

- [ESP32-S3](#)
- [SY8089](#)

Softwares

Arduino

- [AtomS3-Lite Arduino Quick Start](#)
- [AtomS3-Lite Arduino Library](#)

UiFlow2

- [AtomS3-Lite UiFlow2 Quick Start](#)

PlatformIO

```
[env:m5stack-atoms3]
platform = espressif32
board = esp32-s3-devkitc-1
framework = arduino
upload_speed = 1500000
monitor_speed = 115200
build_flags =
  -DESP32S3
  -DCORE_DEBUG_LEVEL=5
  -DARDUINO_USB_CDC_ON_BOOT=1
  -DARDUINO_USB_MODE=1
lib_deps =
  M5Unified=https://github.com/m5stack/M5Unified
```

Easyloader

Easyloader	Download	Note
AtomS3-Lite Factory Firmware Easyloader	download	/

Video

- AtomS3-Lite + Bluetooth LE PWM control RGB light (UIFlow)

[M5Stack AtomS3's %2B Bluetooth LE.mp4](#)

Product Comparison

To compare information on the Atom series products, you can visit the [Product Selection Table](#), check the target products, and get the comparison results. The selection table covers key information such as core parameters and functional features, and supports comparison of multiple products simultaneously.