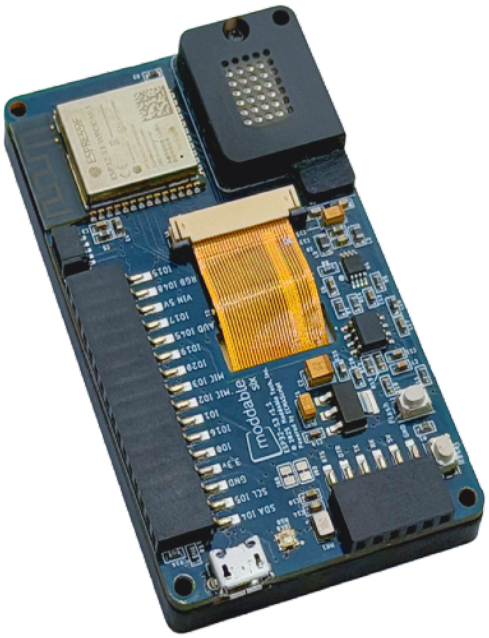
Moddable Six

MOD6-0001.1

moddable.com

JavaScript-powered HMI and communication module with ESP32-S3 and touch screen

Features



- ESP32-S3 microcontroller
  - 240 MHz Xtensa processor (dual-core)
  - Wi-Fi and BLE 5
  - 512 KB RAM and 8 MB High-speed PSRAM
  - 8 MB High-speed flash
- 2.4” LCD display
  - IPS – high brightness, no bad viewing angle
  - 240 x 320 QVGA, 16-bit color
  - ST7789 display controller
  - Backlight brightness control
  - GT911 capacitive multi-touch controller
- 20 External pins for external components
  - I²C, SPI, analog input, pulse count, 15 GPIO
- Amplified Audio
  - Filter circuit and PAM8302 amplified speaker
  - Integrated MEMS forward facing microphone
- Power
  - 3.3 V and 5 V outputs
  - 5 V inputs
- Software powered by Moddable SDK
  - Modern, industry standard JavaScript for rapid development of robust, secure firmware
  - Native C code for performance and integrating existing libraries
  - XS JavaScript engine, Piu UI framework, Poco graphics renderer
  - Rendering extensions for SVG outlines, QRCodes, and animated GIF
  - Use any TrueType/OpenType font
  - BLE, Wi-Fi, TLS, HTTP, WebSockets, MQTT, mDNS, telnet
  - ECMA-419 APIs for I/O
  - Multi-core programming with WebWorkers
  - Open source – available on GitHub
- Node-RED MCU Edition
  - Fully supports Node-RED MCU Edition
  - Quickly build UIs with Node-RED dashboard
  - Run huge projects with built-in 8MB PSRAM

More Information

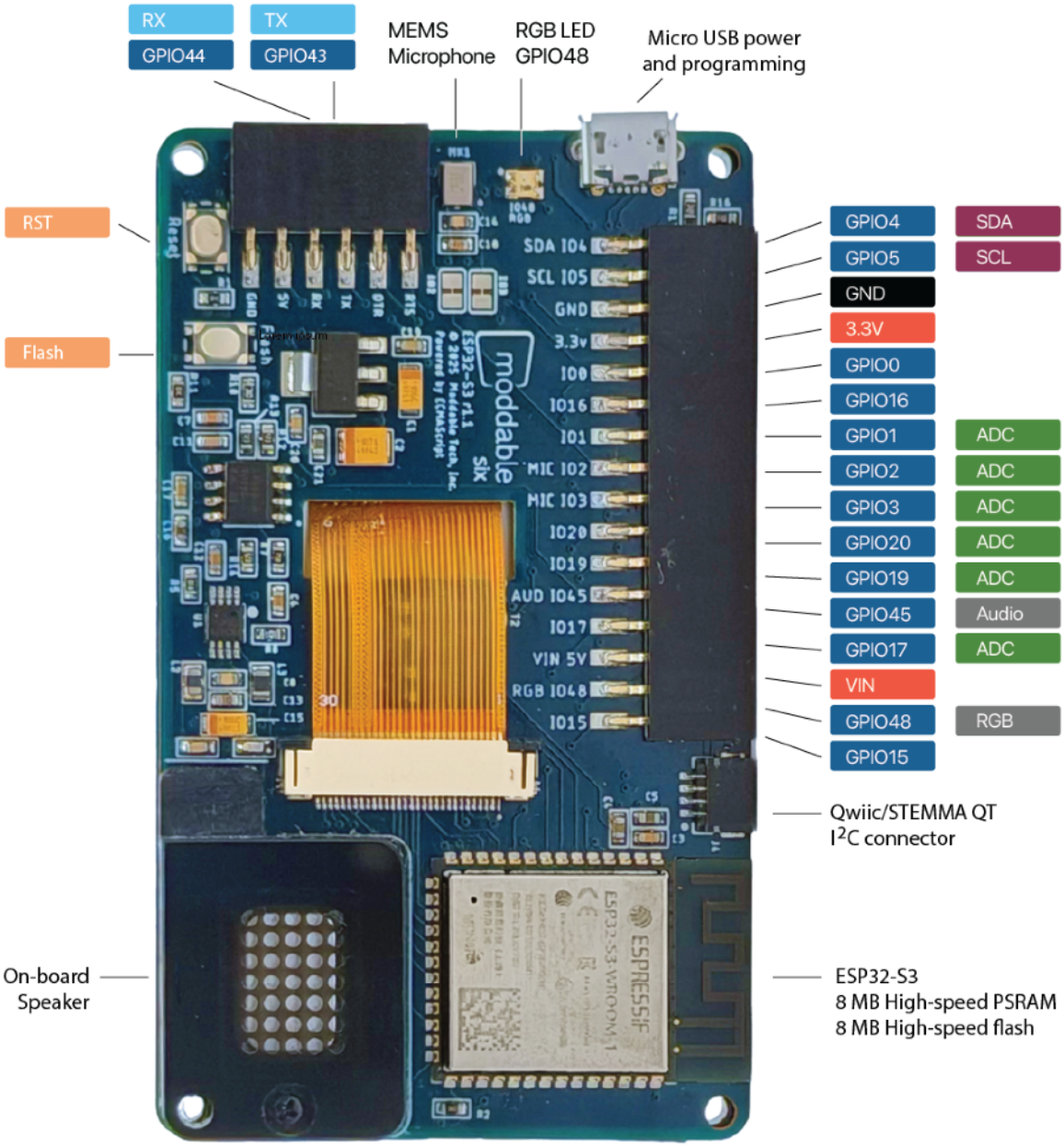
To get the most out of Moddable Six, use it together with the open source Moddable SDK. The Moddable SDK is a suite of software libraries and tools for creating IoT products for consumers and industrial users. Built around XS, the only modern JavaScript engine for resource constrained embedded devices, the Moddable SDK brings the power and speed JavaScript development to embedded systems. Proven and hardened by over 20 years of use on the web, JavaScript is well suited for building UI, communication, and product logic code.

To get started with the Moddable SDK, check out the repository on GitHub: https://github.com/Moddable-OpenSource/moddable. You'll find over 150 examples, hundreds of pages of detailed API documentation, and, of course, the source code for the runtime and tools. There's also a simulator that can run many of the examples on macOS, Windows, and Linux computers.

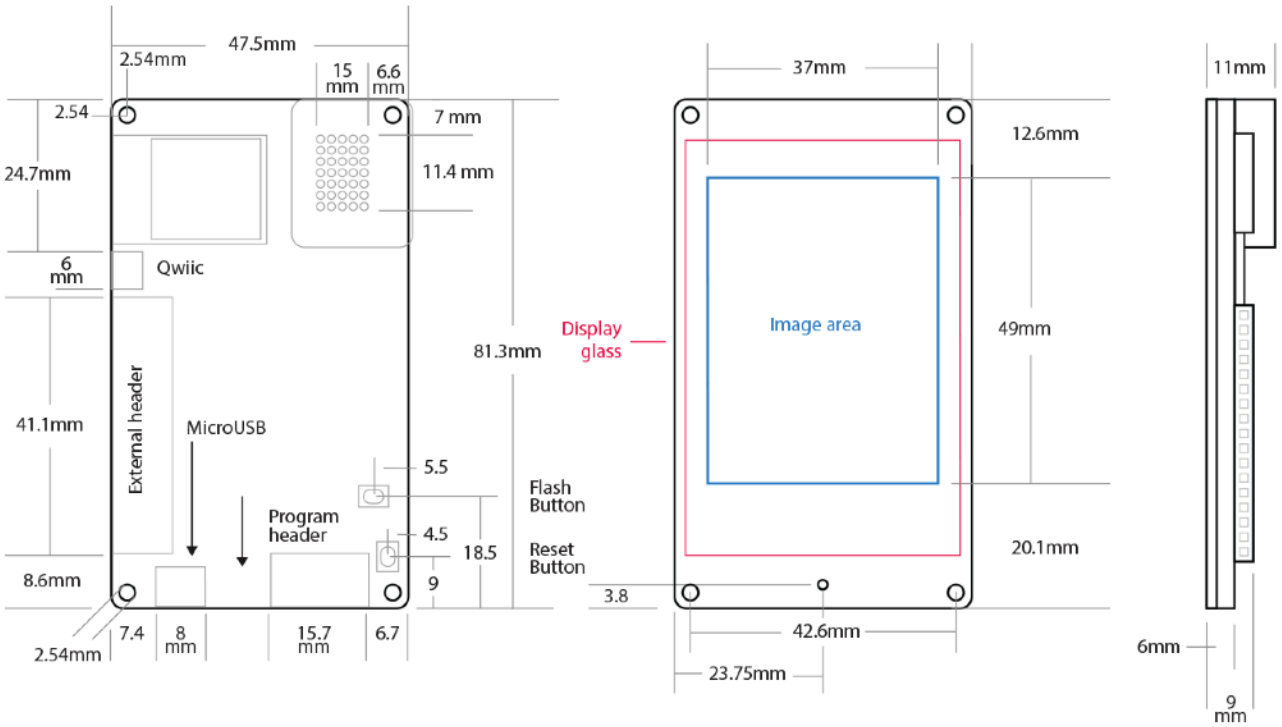
To get an idea of the power and flexibility of the Moddable SDK, check out the blog at https://moddable.com/blog to see articles about soft keyboards, QR codes, Christmas lights, sensors, TypeScript, security, robot hands, and more.

For embedded C programmers not yet working in JavaScript, the book IoT Development for ESP32 and ESP8266 with JavaScript contains a thorough introduction to JavaScript written for experienced embedded C developers.

Moddable Six r1.1 Pinout



Moddable Six r1.1 Dimensions



Copyright 2025 Moddable Tech, Inc.