Seeed Studio XIAO ESP32C3 - RISC-V tiny MCU Board with Wi-Fi and Bluetooth5.0, Battery Charge supported, power efficiency and rich Interface

SKU 113991054

The Pins are no Longer Included. Please order Part number 102010490

Seeed Studio XIAO ESP32C3 has equipped a highly integrated **ESP32-C3 chip**, built around a 32-bit RISC-V chip processor with a four-stage pipeline that operates at up to 160 MHz.

The board equips highly integrated ESP32-C3 SoC. The chip has been installed with a **complete 2.4GHz Wi-Fi subsystem** which means it supports Station mode, SoftAP mode, SoftAP and Station mode, and promiscuous mode for multiple Wi-Fi applications. It works under an **ultra-low power state**, also supporting features of **Bluetooth 5** and **Bluetooth mesh**. There are 400 KB SRAM & 4 MB Flash on the chip, allowing for more programming space, and bringing more possibilities to the IoT control scenarios.

Being a number to the Seeed Studio XIAO family, the board deservedly maintains the classic **thumb-sized form-factor design** and elegant **productization of single-sided components mounting**. Meanwhile, it has equipped with a **battery charge chip** and integrated circuit for enhancing its ability to carry. This board comes included with an external antenna to increase the signal strength for wireless applications. There are 11 digital I/O that can be used as PWM pins and 4 analog i/o that can be used as ADC pins. It supports UART, IIC, and SPI serial communication ports. Utilizing its small and exquisite hardware design and the powerful onboard chip, programming by Arduino, it will offer more ability to wearable and portable devices or other applications.

Please be noted that the pins are not included in this product. See above for part number.

Starter Kit with free Course for all Electronics Neophytes and Enthusiasts

Seeed Studio has provided the Grove Starter Kit along with free and detailed courses for you quickly get started with microcontrollers and electronics, regarding all the Seeed Studio XIAO boards, promising you a great learning experience.

Not only programming but also electronics knowledge is not required, you will be taken step by step, from **understanding the basic concepts to exercising the simple projects individually**, finally being able to **build complex, interesting, wearable projects** on your own, owing a **practical electronic product prototype** from the course.

You can have access to the **Seeed Studio Grove ecosystem** by connecting it to the compatible **Seeed Studio XIAO expansion board**. We have developed more than **400 Grove modules**, covering a wide range of applications that can fulfill various needs. Get started and explore the infinite possibilities of the Seeed Studio XIAO series!

Feature

- **Flexible MCU Board:** Incorporate the ESP32-C3 32-bit RISC-V chip, operating up to 160 MHz, mounted multiple development ports, supported by Arduino / CircuitPython
- **Outstanding RF performance:** Implement complete Wi-Fi functions and Bluetooth Low Energy, while supporting communication over 100m with a U.FL antenna
- **Elaborate Power Design:** Provide 4 working modes as low as 44µA in deep sleep mode, while supporting lithium battery charge management
- **Thumb-sized Design:** 21 x 17.5mm, Seeed Studio XIAO series classic form factor, suitable for wearable devices
- **Perfect for Production:** Breadboard-friendly & SMD design, no components on the back

Specification

Parameter	Description
Processor	ESP32-C3 SoC
	RISC-V single-core 32-bit chip processor with a four-stage pipeline that operates at up to 160 MHz
Wireless	Complete 2.4GHz Wi-Fi subsystem
	Bluetooth 5.0/ Bluetooth mesh
On-chip Memory	400KB SRAM & 4MB Flash
Interface	1x UART, 1x IIC, 1x SPI,11x GPIO(PWM), 4x ADC
	1x Reset button, 1x Boot button
Dimensions	21 x 17.5mm
Power	Circuit operating voltage: 3.3V@200mA
	Charging current: 50mA/100mA
	Input voltage (VIN): 5V
Deep Sleep Power Consumption	Deep Sleep Model: >44 µA
Wi-Fi Enabled Power Consumption	Active Model: <75 mA
	Modem-sleep Model: <25 mA
	Light-sleep Model: <4 mA
BLE Enabled Power Consumption	Modem-sleep Model: <27 mA
	Light-sleep Model: <10 mA
Working Temperature	-40°C ~ 85°C

Application

- Internet of Things
- Wearable devices
- Health monitoring
- Education
- Low-Power(LP) networking
- Rapid prototyping

Part List

1 - Seeed Studio XIAO ESP32C3

1 – Antenna

Hardware Overview