

INDUSTRIAL PRODUCT DATASHEET

Seeed Studio XIAO ESP32-C6(Tape & Reel)

This is the Tape & Reel version of XIAO ESP 32-C 6, which is a cost-effective MCU based on Espressif's ESP 32-C 6. This packaging format is designed for automated SMT assembly and large-scale production. This compact MCU excels in Matter-compliant smart home applications with its support for various wireless connectivity (2.4 GHz Wi-Fi 6, BLE 5.0, Zigbee, and Thread). Designed

SKU

101991470

UPDATED

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PRICE

\$4.90(Excl. VAT)



Overview



Figure 1. 101991470 Seed Studio XIAO Esp32C6 Tape Reel

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Key Features

01

Enhanced Connectivity

Combines 2.4GHz Wi-Fi 6 (802.11ax), Bluetooth 5(LE), and IEEE 802.15.4 radio connectivity, allowing you to apply the Thread and Zigbee protocols.

02

Matter Native

Supports building Matter-compliant smart home projects thanks to its enhanced connectivity, achieving interoperability

03

Security Encrypted on Chip

Powered by ESP32-C6 Wi-Fi 6 & BLE 5 & Thread/Zigbee SoC | Espressif Systems, it brings enhanced encrypted-on-chip security to your smart home projects via secure boot, encryption, and Trusted Execution Environment (TEE)

04

Outstanding RF performance

Has an on-board antenna with up to 80m BLE/Wi-Fi range, while reserving an interface for external UFL antenna

05

Leveraging Power Consumption

Comes with four working modes, with the lowest being 15 μ A in deep sleep mode, while also supporting lithium battery charge management.

06

Dual RISC-V Processors

Incorporates two 32-bit RISC-V processors, with the high-performance processor running up to 160 MHz, and the low-power processor clocking up to 20 MHz

07

Classic XIAO Designs

Remains the classic XIAO designs of the thumb-size form factor of 21 x 17.8mm, and single-sided mount, making it perfect for space-limited projects such as wearables

08

Seamless integration with mainstream Cloud Platforms

ESP Rain Maker, AWS IoT, Microsoft Azure, and Google Cloud

09

Production-Ready Design with Fusion PCBA Support

Product Gallery



Figure 1. 101991470 Seeed Studio XIAO Esp32C6 Tape Reel



Figure 2. 101991470 Seeed Studio XIAO Esp32C6 Tape Reel

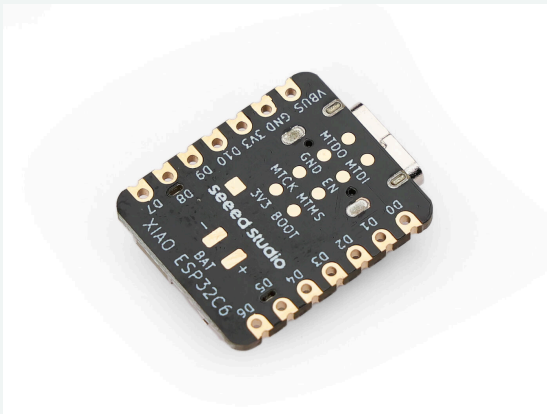


Figure 3. 101991470 Seeed Studio XIAO Esp32C6 Tape Reel

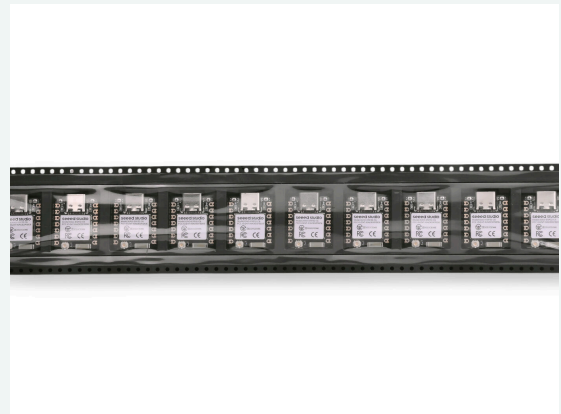


Figure 4. 101991470 Seeed Studio XIAO Esp32C6 Tape Reel

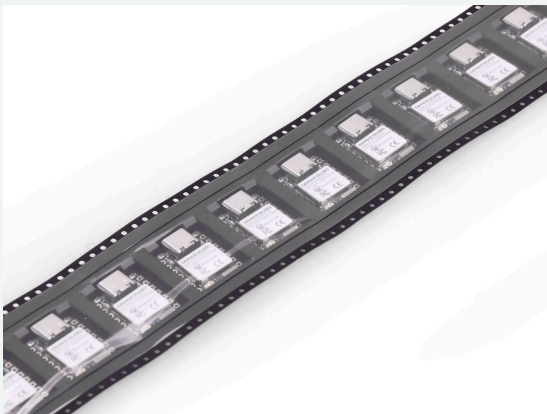


Figure 5. 101991470 Seeed Studio XIAO Esp32C6 Tape Reel

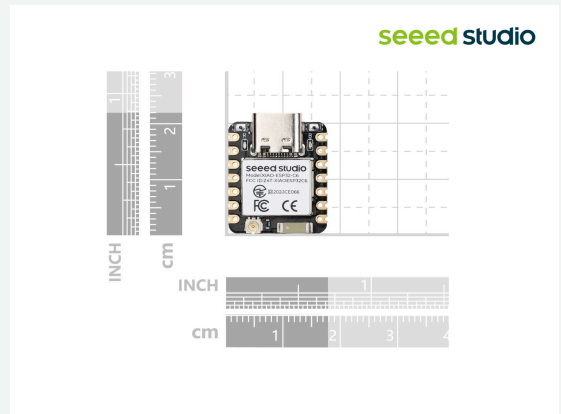


Figure 6. 101991470 Seeed Studio XIAO Esp32C6 Tape Reel

Specification

XIAO ESP32-C3(Tape&Reel)

Product	XIAO ESP32-C6(3PCS)	XIAO ESP32-C3(Tape&Reel)	XIAO ESP32-S3
Processor	Espressif ESP32-C6 SoC	Espressif ESP32-C3 SoC	
two 32-bit RISC-V processors, with the high-performance one running up to 160 MHz, and the low-power one clocking up to 20 MHz	RISC-V single-core 32-bit chip processor with a four-stage pipeline that operates at up to 160 MHz	Xtensa LX7 dual-core, 32-bit processor running up to 240 MHz	
Wireless	Complete 2.4GHz Wi-Fi 6 subsystem	Complete 2.4GHz Wi-Fi subsystem	
Bluetooth Low Energy 5.0			
Zigbee,Thread,IEEE 802.15.4	/	/	
On-chip Memory	512KB SRAM & 4MB Flash	400KB SRAM & 4MB Flash	
Interface	1x UART1x LP_UART1x IIC1x LP_IIC1x SPI1x GPIO(PWM)7x ADC1xSDIO	1x UART1x IIC1x SPI1x GPIO(PWM)4x ADC	
1x Reset button1x Boot button			
Dimensions	21 x 17.8mm		
Power	Input voltage (Type-C): 5VInput voltage (BAT): 3.7V		
Power Consumption Model (Typ.) (Supply Power: 3.8V)	Modem-sleep Model: 30 mALight-sleep Model: 3.1 mADeep Sleep Model: 15 μ A	Modem-sleep Model: 24 mALight-sleep Model: 3 mADeep Sleep Model: 44 μ A	
Working Temperature	-40°C ~ 85°C	-40°C ~ 85°C	

Visual Reference

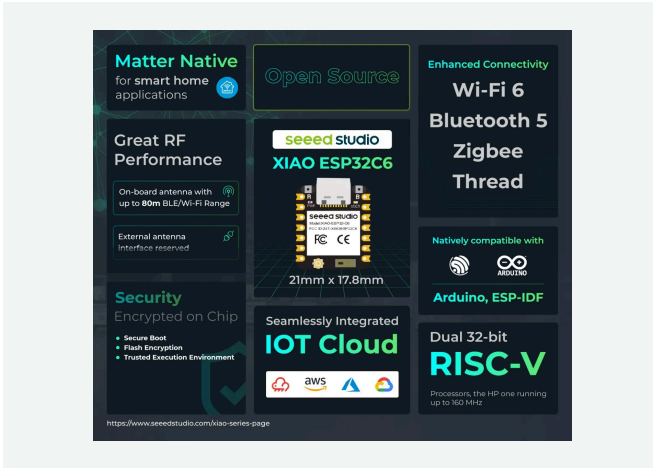


Figure 1. C6 New



Figure 2. XIAO 1

Hardware Overview

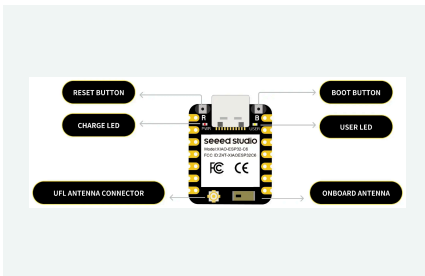


Figure 1. Seede Studio XIAO ESP32-C6(Tape & Reel)

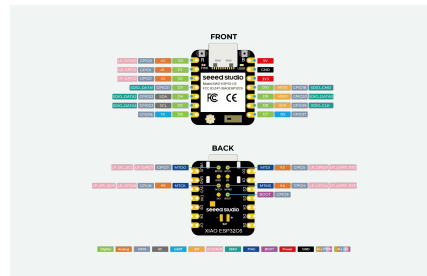


Figure 2. Seede Studio XIAO ESP32-C6(Tape & Reel)

Applications



Figure 1. Seed Studio XIAO ESP32-C6(Tape & Reel)

Secure and Connected Smart Home, enhancing everyday life through automation, remote control, and more

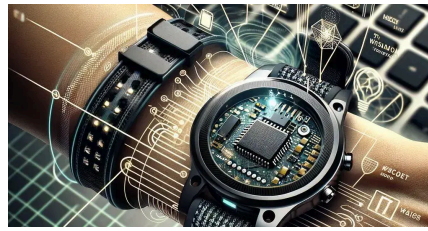


Figure 2. Seed Studio XIAO ESP32-C6(Tape & Reel)

Space-limited and Battery-Powered Wearables, thanks to their thumb-size and low-power consumption



Figure 3. Seed Studio XIAO ESP32-C6(Tape & Reel)

Part List



Seed Studio XIAO ESP32-C6 (Tape&Reel)	x1
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Compliance & Logistics



HSCODE	8543709990
USHSCODE	8517180050
UPC	
EUHSCODE	8543709099
COO	CHINA

Logistics	Value
ECCN	5A992
HSCODE	8543709990
USHSCODE	8517180050
EUHSCODE	8543709099
COO	CHINA

Resource Links

- <https://www.seeedstudio.com/Seeed-Studio-XIAO-ESP32C6-Tape-Reel-p-6565.html>
- [PCN-XIAO Series Packaging Upgrade.pdf](#)
- [Wiki-XIAO ESP32-C6 Resources](#)
- [Seeed Studio XIAO Use Case](#)

Seeed Technology Co.,Ltd.
9F, Building G3, International E City,
Zhongshanyuan Road, Nanshan, Shenzhen, China

Tel: +86 0755-80695676
Web: www.seeed.cc
Shop: www.seeedstudio.com