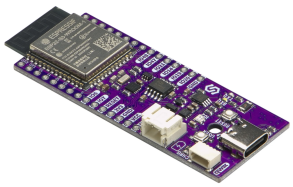
PRODUCT DATASHEET



NULA DeepSleep ESP32-S3

333352

The NULA DeepSleep ESP32-S3 is a low-power development board with 16µA deep sleep current, ideal for battery-powered IoT applications.

Full product documentation, files and tutorials: **solde.red/333352**

CORE ATTRIBUTES

SKU	**333352**
WEIGHT	**9 g**
DIMENSIONS	**63.0 × 26.0 × 7.2 mm**
BARCODE	**732388644209**

DESCRIPTION

The **NULA DeepSleep ESP32-S3** is a powerful development board engineered for ultra-low-power IoT applications. Built around the **ESP32-S3-WROOM-1-N8R8** module, it combines a dual-core processor with 8MB of Flash and 8MB of PSRAM, providing ample resources for complex projects. The board's standout feature is its exceptionally low deep sleep current of just 16µA, making it an ideal choice for battery-powered devices where power efficiency is crucial. With integrated **Wi-Fi** and **Bluetooth** LE connectivity, the NULA DeepSleep is the perfect center-stage for your embedded projects! Due to it's ample connectivity, it excels in general use applications as well, such as display driving and wireless communicating.

It features an integrated **PCF85063A** real-time clock (RTC) for precise timekeeping, even when the main processor is in deep sleep. Power management is handled by an onboard **TP4056M Li-Ion/Li-Po** battery charger, allowing for battery integration and charging. The board's design ensures stable performance and provides all the necessary components for a long-lasting IoT solution right out of the box. A **USB-C to USB-C** cable is included in the package, so you can start programming immediately without any additional accessories.

Power your next project with the NULA DeepSleep ESP32-S3 if you are building remote environmental sensors, asset trackers, or low-power wireless nodes. This board provides the performance and efficiency you need with its breadboard-friendly layout that makes prototyping quick and easy, while the rich feature set supports a wide range of applications.

TECHNICAL DETAILS

- ESP32-S3-WROOM-1-N8R8 module (8MB Flash, 8MB PSRAM)
- **Ultra-low deep sleep current:** 16µA
- Dual-core Xtensa LX7 CPU with Wi-Fi and Bluetooth LE
- USB C to C cable included

- Integrated PCF85063A Real-Time Clock (RTC)
- Onboard TP4056M Li-Ion/Li-Po battery charger
- Breadboard-compatible form factor
- Ideal for battery-powered IoT, data logging, and remote sensing
- qwiic/Qwiic compatible for easy peripheral connection

SPECIFICATIONS

MCU PART NUMBER	ESP32-S3
MCU CLOCK (MHZ)	240 MHz
SRAM (KB)	512 KB
FLASH (MB)	8 MB
WIFI	Wifi4
BLUETOOTH	Ble 5
WIRELESS MODULE	ESP32-S3-WROOM-1(N8R8)
QWIIC COMPATIBLE	Yes
BREADBOARD COMPATIBLE	Yes
BATTERY CONNECTOR	Jst 2Pin
ONBOARD BATTERY CHARGER	Yes
SUPPLY VOLTAGE	3V3 5V
LOGIC LEVEL	3V3
SLEEP CURRENT UA	16
DEV ENVIRONMENTS	Arduino IDE, MicroPython, ESP-IDF

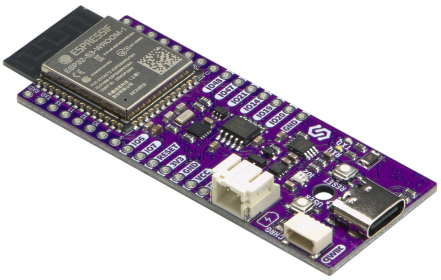
DOCUMENTS

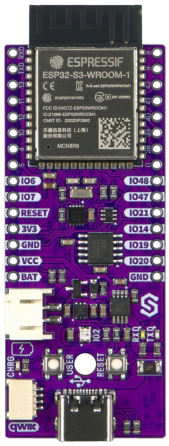
Main IC Datasheet · EN	https://cms.soldered.com/products/333352/documents/ic-datasheet/333352_ic-datasheet_1afc3b.pdf

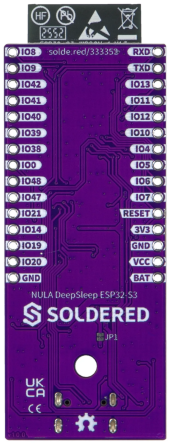
LINKS

Full Documentation	https://docs.soldered.com/deepsleep-esp32-s3/overview/
Hardware Details	https://docs.soldered.com/nula-deepsleep-esp32-s3/hardware-details/
Arduino: Get Started	https://docs.soldered.com/nula-deepsleep-esp32-s3/arduino/
Pinout	https://cms.soldered.com/products/333352/media/333352_pinout-png_b3cefc.png

GALLERY




ESPRESSIF
ESP32-S3-WROOM-1
IO6
IO7
RESET
3V3
GND
VCC
BAT
IO48
IO47
IO21
IO14
IO19
IO20
GND
CHRG
USER
RESET
IO2
TXD
RXD
GWIK


IO8
IO9
IO42
IO41
IO40
IO39
IO38
IO0
IO48
IO47
IO21
IO14
IO19
IO20
GND
RXD
TXD
IO13
IO11
IO12
IO10
IO4
IO5
IO6
IO7
RESET
3V3
GND
VCC
BAT
NULA DeepSleep ESP32-S3
SOLDERED
JP1