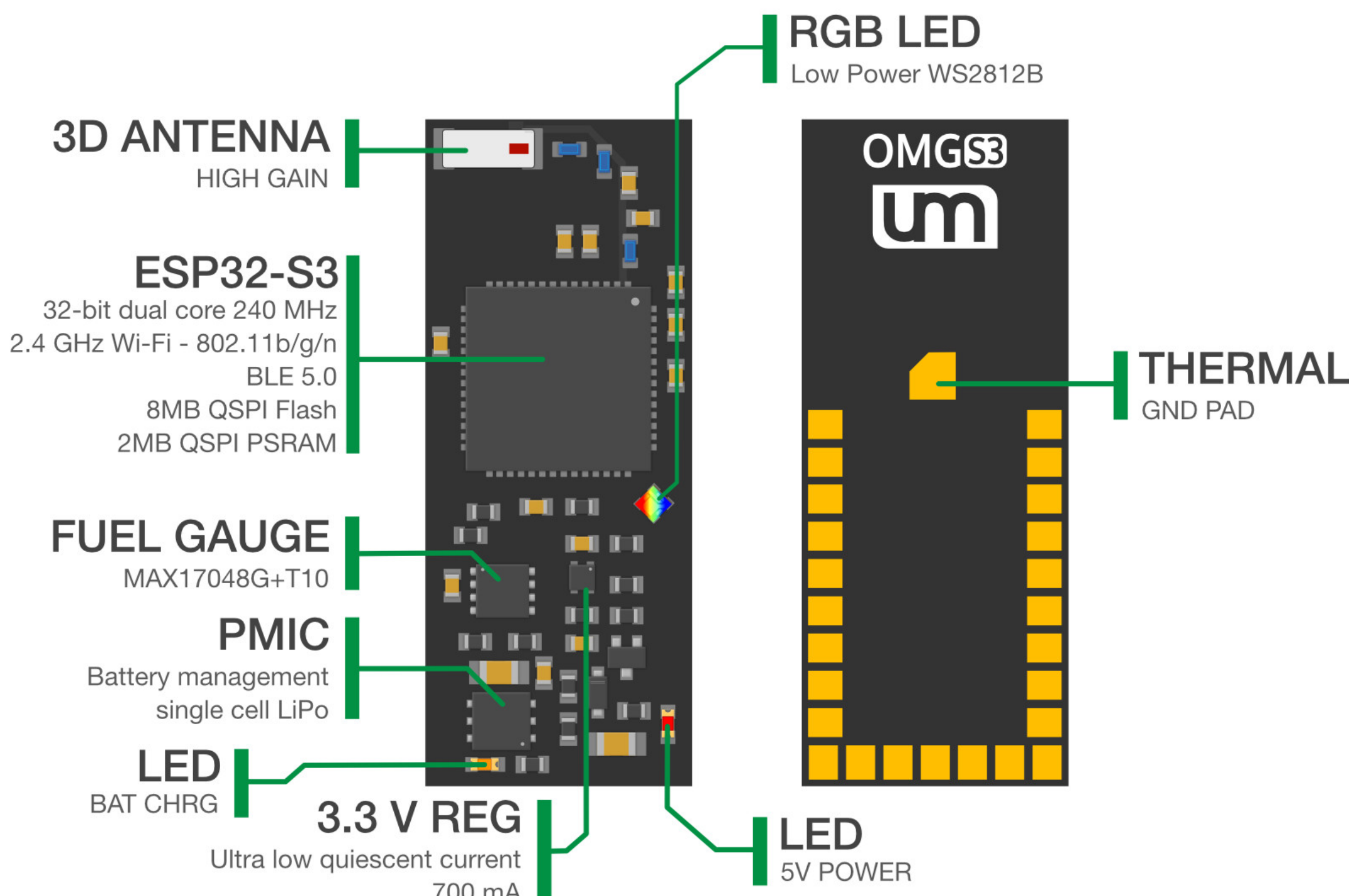


OMGS3 from Unexpected Maker



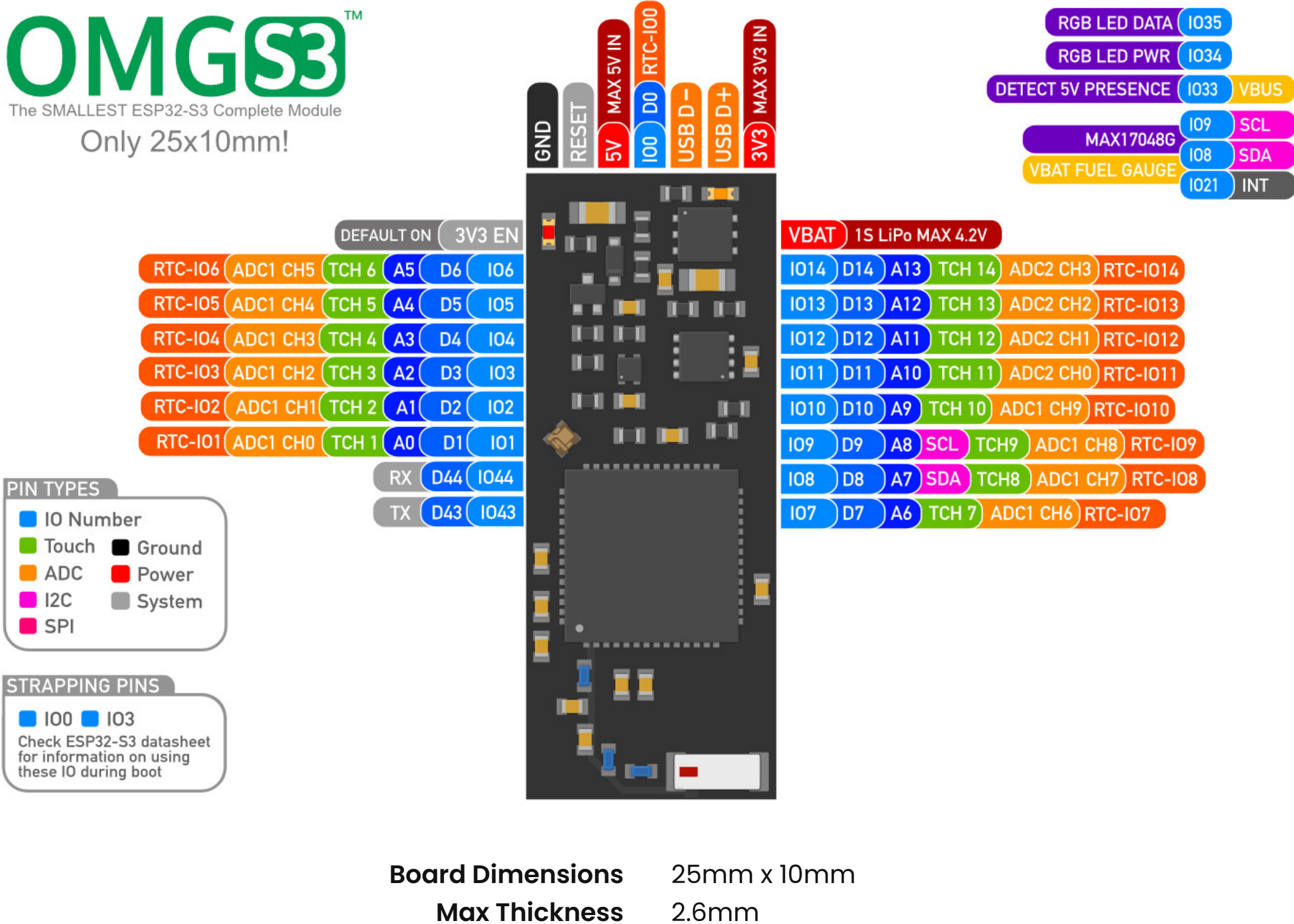
OMGS3 is the world’s smallest, fully-featured ESP32-S3 board/module!

It’s packed with amazing features and peripherals, wireless connectivity and stacks of FLASH and PSRAM, and can be surface mounted to a carrier PCB or have wires soldered to the pads.



Features

- Dual 32bit Xtensa LX7 cores @ up to 240Mhz
- RISC-V Ultra Low Power Co-processor
- 2.4GHz Wifi – 802.11b/g/n
- BLE 5.0 + Mesh
- 8MB QSPI FLASH
- 2MB of extra QSPI PSRAM
- 700mA 3.3V LDO Regulator
- ULTRA LOW Deep Sleep Current
- Low power RGB LED
- Native USB + USB Serial JTAG
- D+/D- pins for external USB connector
- LiPo Battery Charging
- I2C Battery Fuel Gauge
- 3D High Gain Antenna
- 17 GPIO
- Only 25 x 10mm in size



Board Dimensions 25mm x 10mm
Max Thickness 2.6mm

Board Comparison Matrix

	OMGS3	NanoS3	TinyPICO Nano
MCU	ESP32-S3-PICO	ESP32-S3FN8	ESP32-PICO-D4
Cores	2x Xtensa LX7	2x Xtensa LX7	2x Xtensa LX6
Speed	Up to 240Mhz	Up to 240Mhz	Up to 240Mhz
ULP CoProc	1x RISC-V, 1x FSM	1x RISC-V, 1x FSM	1x FSM
SRAM	512K	512K	520K
FLASH	8MB	8MB	4MB
PSRAM	2MB	8MB	4MB
GPIO	17	27	14
VBUS Sense	YES	-	-
VBAT Sense	I2C Fuel Gauge	-	-
Native USB	CDC, OTG & USB Serial JTAG	CDC, OTG & USB Serial JTAG	-
WiFi	2.4Ghz b/g/n	2.4Ghz b/g/n	2.4Ghz b/g/n
Bluetooth	BLE 5 & Mesh	BLE 5 & Mesh	BT Classic & BLE 4.2
DAC	-	-	2x 8bit
ADC	2x 12-bit SAR /20 chan	2x 12-bit SAR /20 chan	2x 12-bit SAR /18 chan
HW UARTs	3	3	3
ETH MAC	-	-	Yes
DMA Controller	5x TX chan, 5x RX chan	5x TX chan, 5x RX chan	-
SDIO	Yes	Yes	Yes
RGB LED	1010 Neopixel	1515 Neopixel	-
Antenna	Onboard	Onboard or External u.FL	Onboard
IO Connection	1.27mm Bottom Pads	1.27mm Castellations	1.27mm Castellations
Dimentions	25 x 10 x 2.6mm	27 x 12.7 x 2.4mm	27 x 12.7 x 2.4mm
Release Date	August 2024	July 2023	May 2020

Platforms

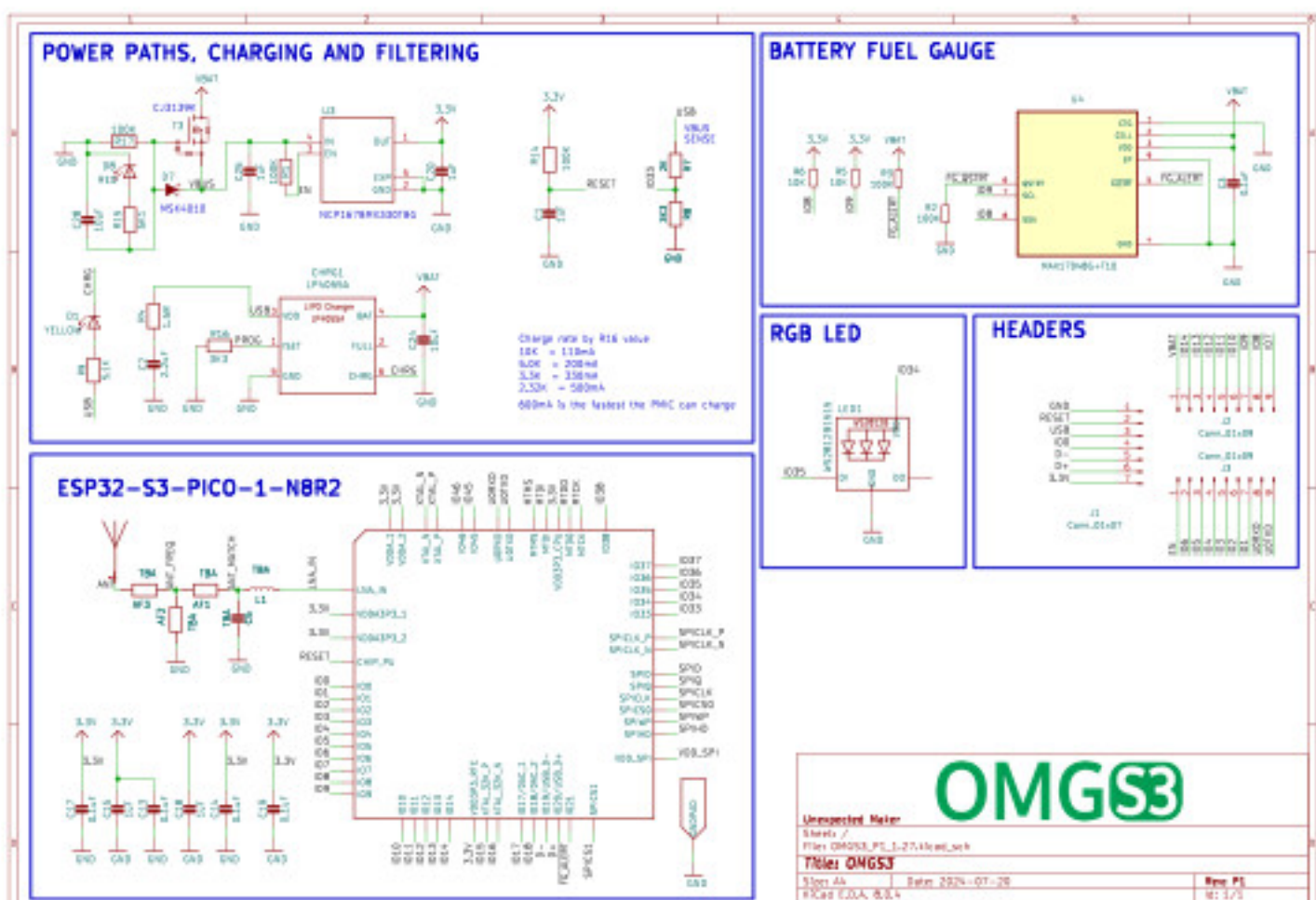


Please check out the new PLATFORMS area of the [Getting Started](#) guide to find out all about developing for your new board in a range of different languages!

Downloads

This is where you can find download links for OMGS3 specific things like the Schematic, 3D model, KiCAD footprint and more!

OMGS3 Schematic



GitHub

The [Unexpected Maker ESP32-S3 GitHub Repo](#) includes the following items:

- 3D STEP file for the OMGS3
- KiCAD 8 symbol file for the OMGS3 that you can use when integrating one of them into your PCB designs
- KiCAD 8 footprint file for the OMGS3
- KiCAD 8 OMGS3 carrier PCB reference design (*soon*)
- PDF Schematic for the OMGS3
- Hi-res pinout reference card for the OMGS3

ESP32-S3 Datasheet

If you need more detailed information about the ESP32-S3, including full IO capabilities and other functionality, please refer to the [ESP32-S3 Datasheet](#) from Espressif.



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