# ESP32-S3-DevKitC-1

**ESPRESSIF**

ESP32-S3-WROOM-1

RGB@IO38

CP2102

BOOT    RESET

UART    USB

| Left pins | | | | | |
|---|---|---|---|---|---|
| | | | 3V3 | 3V3 | |
| | | | 3V3 | 3V3 | |
| | | | RST | RST | |
| ADC1_3 | TOUCH4 | RTC | GPIO4 | 4 | |
| ADC1_4 | TOUCH5 | RTC | GPIO5 | 5 | |
| ADC1_5 | TOUCH6 | RTC | GPIO6 | 6 | |
| ADC1_6 | TOUCH7 | RTC | GPIO7 | 7 | |
| XTAL_32K_P | ADC2_4 | U0RTS | RTC | GPIO15 | 15 |
| XTAL_32K_N | ADC2_5 | U0CTS | RTC | GPIO16 | 16 |
| ADC2_6 | U1TXD | RTC | GPIO17 | 17 | |
| CLK_OUT3 | ADC2_7 | U1RXD | RTC | GPIO18 | 18 |
| ADC1_7 | TOUCH8 | RTC | GPIO8 | 8 | |
| JTAG | ADC1_2 | TOUCH3 | RTC | GPIO3 | 3 |
| | LOG | GPIO46 | 46 | | |
| FSPIHD | SUBSPIHD | ADC1_8 | TOUCH9 | RTC | GPIO9 | 9 |
| FSPICS0 | SUBSPICS0 | FSPIIO4 | ADC1_9 | TOUCH10 | RTC | GPIO10 | 10 |
| FSPID | SUBSPID | FSPIIO5 | ADC2_0 | TOUCH11 | RTC | GPIO11 | 11 |
| FSPICLK | SUBSPICLK | FSPIIO6 | ADC2_1 | TOUCH12 | RTC | GPIO12 | 12 |
| FSPIQ | SUBSPIQ | FSPIIO7 | ADC2_2 | TOUCH13 | RTC | GPIO13 | 13 |
| FSPIWP | SUBSPIWP | FSPIDQS | ADC2_3 | TOUCH14 | RTC | GPIO14 | 14 |
| | | | 5V0 | 5V | |
| | | | GND | G | |

| Right pins | | | | | |
|---|---|---|---|---|---|
| G | GND | | | | |
| U0TXD | GPIO43 | CLK_OUT1 | | | |
| U0RXD | GPIO44 | CLK_OUT2 | | | |
| GPIO1 | RTC | TOUCH1 | ADC1_0 | | |
| GPIO2 | RTC | TOUCH2 | ADC1_1 | | |
| MTMS | GPIO42 | | | | |
| MTDI | GPIO41 | CLK_OUT1 | | | |
| MTDO | GPIO40 | CLK_OUT2 | | | |
| MTCK | GPIO39 | CLK_OUT3 | SUBSPICS1 | | |
| GPIO38 | FSPIWP | SUBSPIWP | RGB_LED | | |
| GPIO37 | SPIDQS | FSPIQ | SUBSPIQ | | |
| GPIO36 | SPIIO7 | FSPICLK | SUBSPICLK | | |
| GPIO35 | SPIIO6 | FSPID | SUBSPID | | |
| GPIO0 | BOOT | | | | |
| GPIO45 | VSPI | | | | |
| GPIO48 | SPICLK_N | | | | |
| GPIO47 | SPICLK_P | | | | |
| GPIO21 | RTC | | | | |
| USB_D+ | GPIO20 | RTC | U1CTS | ADC2_9 | CLK_OUT1 |
| USB_D- | GPIO19 | RTC | U1RTS | ADC2_8 | CLK_OUT2 |
| GND | G | | | | |
| GND | G | | | | |

**DO NOT USE THESE PINS**

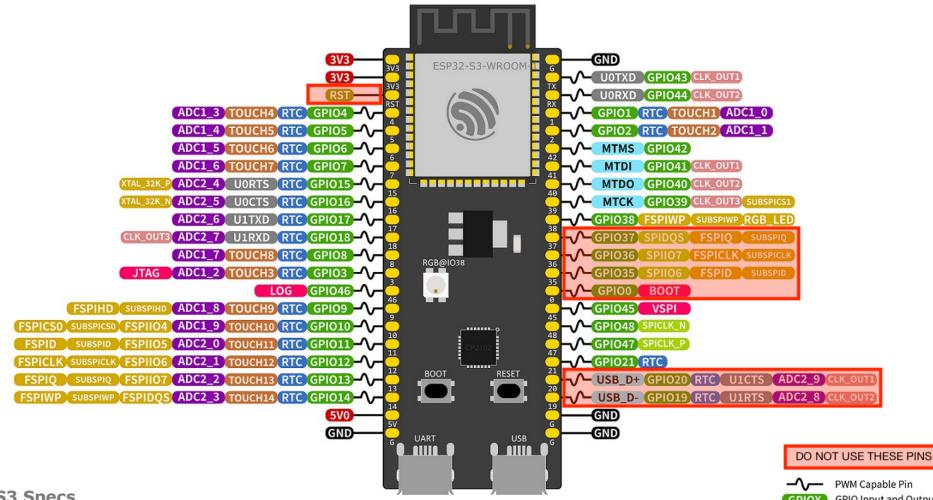## ESP32-S3 Specs
32-bit Xtensa® dual-core @240MHz
Wi-Fi IEEE 802.11 b/g/n 2.4GHz + BLE 5 Mesh
512 KB SRAM (16 KB SRAM in RTC)
384 KB ROM
45 GPIOs, 4x SPI, 3x UART, 2x I2C,
14x Touch, 2x I2S, RMT, LED PWM, USB-OTG,
TWAI®, 2x 12-bit ADC, 1x LCD interface, DVP

### Legend
- ⌁ PWM Capable Pin
- **GPIOX** GPIO Input and Output
- **JTAG/USB** JTAG for Debugging and USB
- **ADCX_CH** Analog-to-Digital Converter
- **TOUCHX** Touch Sensor Input Channel
- **OTHER** Other Related Functions
- **SERIAL** Serial for Debug/Programming
- **STRAP** Strapping Pin Functions
- **RTC** RTC Power Domain (VDD3P3_RTC)
- **GND** Ground
- **PWD** Power Rails (3V3 and 5V)
- **MISC** Miscellaneous/SPI functions
- **CLK_OUTx** Clock Output