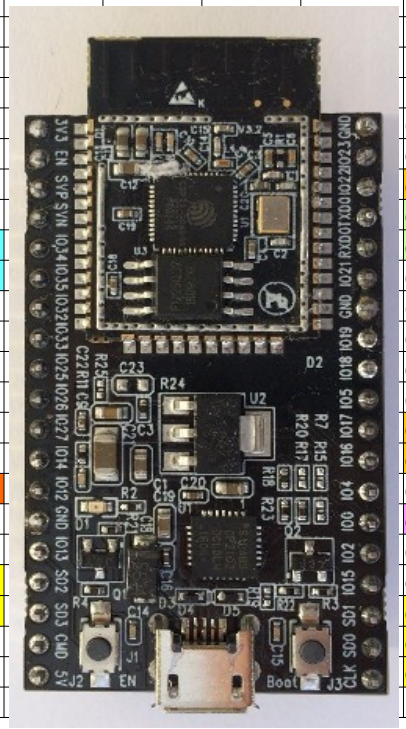
ESP32-Devkit-C



3V3	Gnd
EN Used by program logic. SW2 grounds via resistor.	GPIO23, VSPID, HS1_STROBE
	GPIO22, VSPIWP, U0RTS, EMAC_TXD1
	GPIO1, U0TXD, CLK_OUT3, EMAC_RXD2
GPIO34, ADC1_CH6, RTC_GPIO4	GPIO3, U0RXD, CLK_OUT2
GPIO35, ADC1_CH7, RTC_GPIO5	GPIO21, VSPIHD, EMAC_TX_EN
GPIO32, 32K_XP (32.768 kHz osc i/p),ADC1_CH4, TOUCH9, RTC_GPIO9	Gnd
GPIO33, 32K_XN (32.768 kHz osc o/p),ADC1_CH5, TOUCH8, RTC_GPIO8	GPIO19, VSPIQ, U0CTS, EMAC_TXD0
GPIO25, DAC_1, ADC2_CH8, RTC_GPIO6, EMAC_RXD0	GPIO18, VSPICLK, HS1_DATA7
GPIO26, DAC_2, ADC2_CH9, RTC_GPIO7, EMAC_RXD1	GPIO5, VSPICS0, HS1_DATA6, EMAC_RX_CLK
GPIO27, ADC2_CH7, TOUCH7, RTC_GPIO17, EMAC_RX_DV	GPIO17, HS1_DATA5, U2TXD, EMAC_CLK_OUT_180
GPIO14, ADC2_CH6, TOUCH6, RTC_GPIO16, MTMS, HSPI-CLK, HS2_CLK, SD_CLK, EMAC_TXD2	GPIO16, HS1_DATA4, U2RXD, EMAC_CLK_OUT
GPIO12, ADC2_CH5, TOUCH5, RTC_GPIO15, MTDI, HSPIQ,HS2_DATA2, SD_DATA2, EMAC_TXD3	GPIO4, ADC2_CH0, TOUCH0, RTC_GPIO10, HSPIHD,HS2_DATA1, SD_DATA1, EMAC_TX_ER
Gnd	GPIO0, ADC2_CH1, TOUCH1, RTC_GPIO11, CLK_OUT1,EMAC_TX_CLK
GPIO13, ADC2_CH4, TOUCH4, RTC_GPIO14, MTCK, HSPID,HS2_DATA3, SD_DATA3, EMAC_RX_ER	GPIO2, ADC2_CH2, TOUCH2, RTC_GPIO12, HSPIWP,HS2_DATA0, SD_DATA0 External pulldown
GPIO9, SD_DATA2, SPIHD, HS1_DATA2, U1RXD	GPIO15, ADC2_CH3, TOUCH3, RTC_GPIO13, MTDO,HSPICS0, HS2_CMD, SD_CMD, EMAC_RXD3
GPIO10, SD_DATA3, SPIWP, HS1_DATA3, U1TXD	GPIO8, SD_DATA1, SPID, HS1_DATA1, U2CTS
Marked Gnd Something odd here: caused crashes when I used it. Avoid.	GPIO7, SD_DATA0, SPIQ, HS1_DATA0, U2RTS
5V	GPIO6, SD_CLK, SPICLK, HS1_CLK, U1CTS

ADC: FSD = 4095 = 1.109V (Because 693mV gave 2559. Is the limit 1.0V?)

Used for internal flash, not recommended for other use

Input only. No internal pullup or pulldown.

Used by USB/REPL

GPIO0 has a 5KΩ external pullup. SW0 grounds via 470Ω

Used on ESP32-WROVER-KIT etc to access external SPI RAM

DAC: FSD = 255 = 3.19V (Vs = 3.3V). 127 gave 1.63V implying 3.3V FS.

Value	Expected	Actual	Error %
10	0.13	0.21	2.4
20	0.26	0.33	2.1
127	1.64	1.63	-0.3
200	2.58	2.53	-1.5
240	3.11	3.01	-3
255	3.3	3.19	-3.3

SPI: Hardware SPI ID1 is HSPI, ID2 is VSPI. Any pins may be used - native pins are faster.
ID1 MISO 12 MOSI 13 CLK 14
ID2 MISO 19 MOSI 23 CLK 18
machine.SPI(1, baudrate=100000, sck=2, mosi=15, miso=4) to alter pins.

Must not be pulled low or high on boot. Affects supply voltage to flash.
https://github.com/micropython/micropython/issues/6149

ESP32-D2WD is the chip with embedded 2MB flash and the internal flash is connected to different pins (GPIO16, GPIO17, SD_CMD, SD_CLK, SD_DATA_0 and SD_DATA_1)