

GPIO Pins: ESP32 Wroom32 DevKit has total 25 GPIOs out of that few pins are Input only Pins, Input Only Pins

GPIO 35 GPIO 34 GPIO 36 **GPIO 39**

Not all pins have input pullup, you need external pullup on these pins when using as input pullup.

Pins with internal pull up INPUT PULLUP

GPIO14 GPIO16

GPIO17

GPIO18

GPIO19

GPIO21

GPIO22 GPIO23

ESP32 Dev. Board Pinout

Digital to Analog Converter (DAC)

Example code is available here There are 2 x 8 bits DAC channels on the ESP32 to convert digital signals into analog voltage signal outputs. These are the DAC channels:

DAC1 (GPIO25) DAC2 (GPIO26)

Pins without internal pull up

GPIO13

GPIO25

GPIO26

GPIO27

GPIO32

GPIO33

In arduino to use these pins you can simply use common commands

Example: To make GPIO22 as input and GPIO23 as output pinMode(22,INPUT PULLUP); pinMode(23,OUTPUT); digitalWrite(23,HIGH);

Analog Input Pins

Note that only a subset of ADC pins and functions are exposed. First, the supplied drivers expose only ADC1. The board layout of the ESP32-DevKitC only exposes some of the pins. Specifically, the following are exposed: ADC1 CH0, ADC1 CH3, ADC1 CH4, ADC1 CH5, ADC1 CH6 and ADC1 CH7.

see ESP32 Analog Read Example

Analog to digital conversion is the ability to read a voltage level found on a pin between 0 and some maximum value and convert that analog value into a digital representation. Varying the voltage applied to the pin will change the value read. The ESP32 has an analog to digital converter built into it with a resolution of up to 12 bits which is 4096 distinct values. What that means is that 0 volts will produce a digital value of 0 while the maximum voltage will produce a digital value of 4095 and voltage ranges between these will produce a correspondingly scaled digital value.

One of the properties on the analog to digital converter channels is attenuation. This is a voltage scaling factor. Normally the input range is 0-1V but with different attenuations we can scale the input voltage into this range. The available scales beyond the 0-1V include 0-1.34V, 0-2V and 0-3.6V.

Interrupts

All GPIOs can be configured as interrupts.

Enable (EN)

Enable (EN) is the 3.3V regulator's enable pin. It's pulled up, so connect to ground to disable the 3.3V regulator. This means that you can use this pin connected to a pushbutton to restart your ESP32. GPIO current drawn The absolute maximum current drawn per GPIO is source 40mA and sink 28mAmp according to the "Recommended Operating Conditions" section in the ESP32 datasheet.