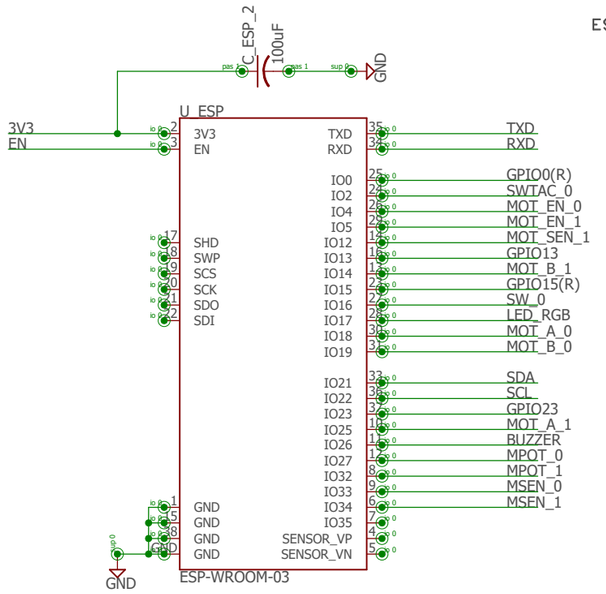
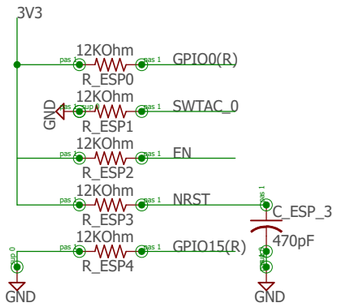
ESP32



This Schematic is heavily based on:

https://dl.espressif.com/dl/schematics/ESP32-Core-Board-V2_sch.pdf

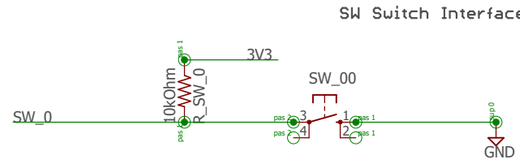
ESP32 Pin Settings



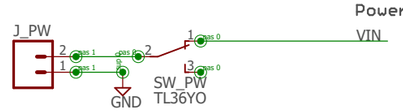
Board Glossary

GPIO/PIN:	Signal:
GPIO4	MOT_EN_0
GPIO18	MOT_A_0
GPIO19	MOT_B_0
GPIO27	MPOT_0
GPIO5	MOT_EN_1
GPIO25	MOT_A_1
GPIO14	MOT_B_1
GPIO32	MPOT_1
GPIO12	MSEN_0
GPIO33	MSEN_1
GPIO17	LED_RGB
GPIO16	SW_0
GPIO21	SDA
GPIO22	SCL

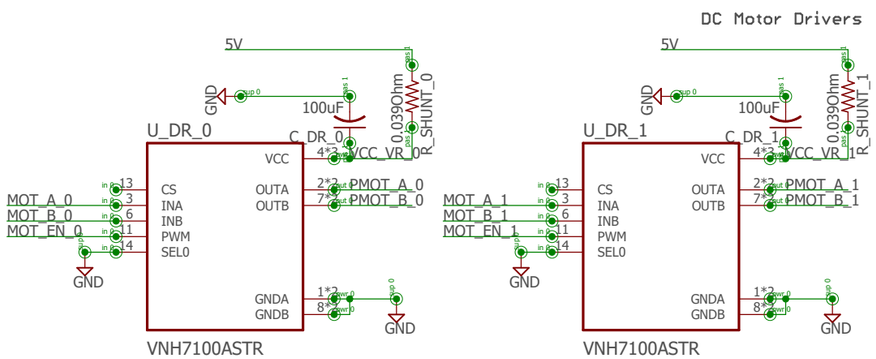
SW Switch Interface



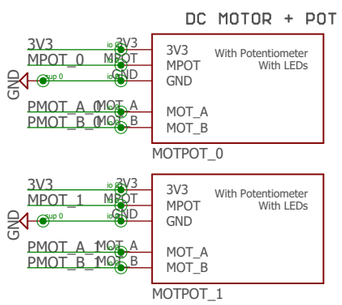
Power Connector



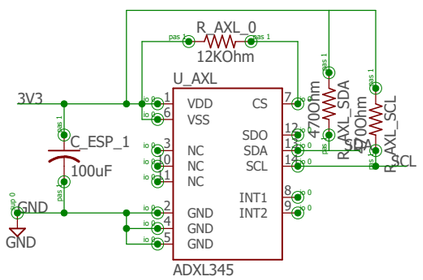
DC Motor Drivers



DC MOTOR + POT



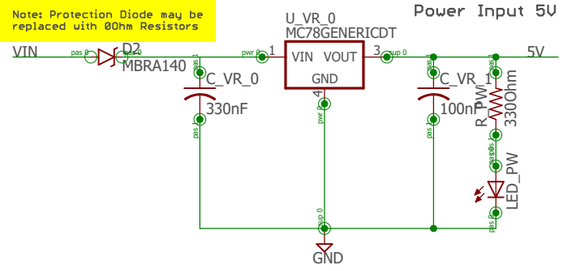
ADXL245 ACC Circuit



Note: The ACC circuit may not be mounted due to it's footprint

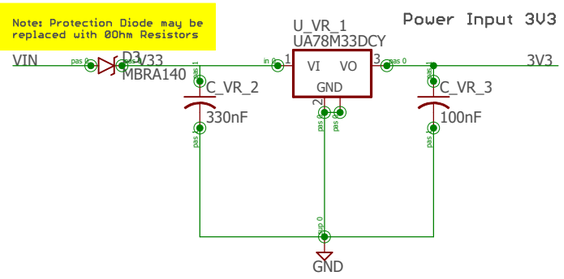
Power Input 5V

Note: Protection Diode may be replaced with 0Ohm Resistors

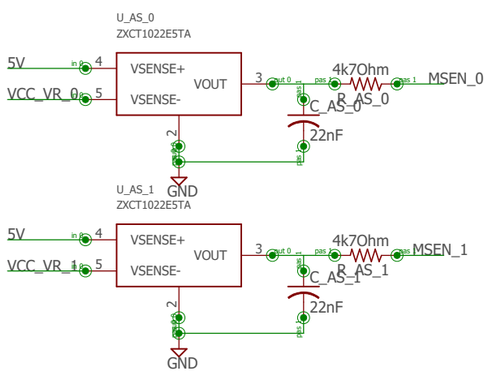


Power Input 3V3

Note: Protection Diode may be replaced with 0Ohm Resistors



Motor Current Sensors



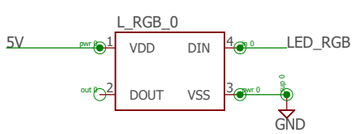
CURRENT SENSOR:
Linear Operation up to:
Vsense = (Vin - 2)/100 = 30mV

Vout = 100 x Vsense
Vout MAX = 4V @Vin=5V
Vsense max) = 40mV @Vin=5V

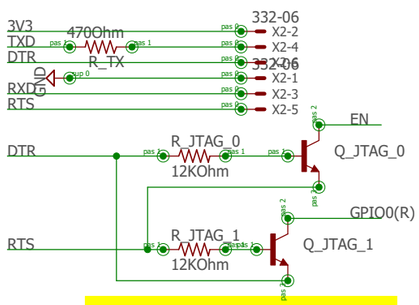
R SHUNT CALCULATION:
Vsense = 40mV @Isense = 1A
Rshunt = Vsense * Isense = 0.040R

Max Motor Current = 1.6A
Absolute maz Vsense = 500mV
Max Power dissipated by Rshunt = 100mW

WS2812B RGB LEDs



UART Serial Adapter



Note: I really have no idea if this will work

MYO-HAND PROJECT
AUTOFABRICANTES
www.autofabricantes.org

PCB Name: MYO_ESPControlBoard_Rev_1

Designer: Pablo dMM (PablodMM.isp@gmail.com)

REV: 1

Date: 04/02/2021 1:22