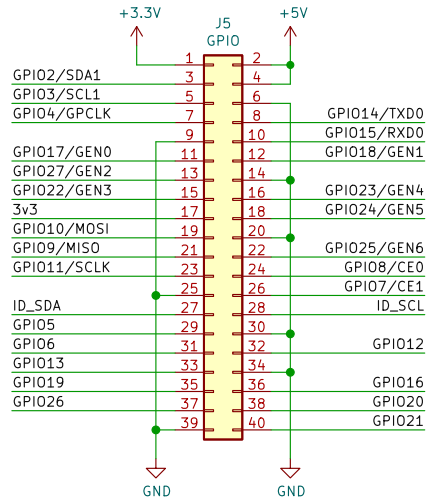
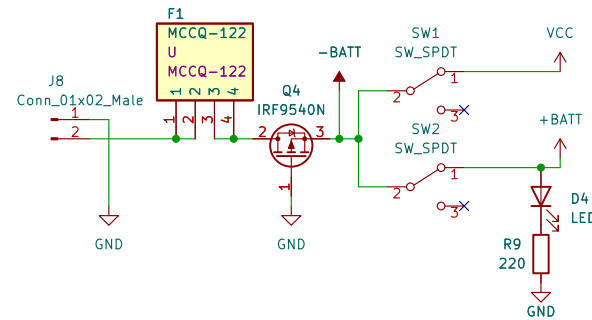


Raspberry Pi Header

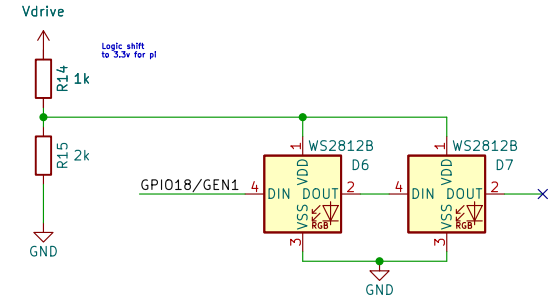


Power Supply

PMOS Reverse Polarity Protection (Hsieh, 2019)

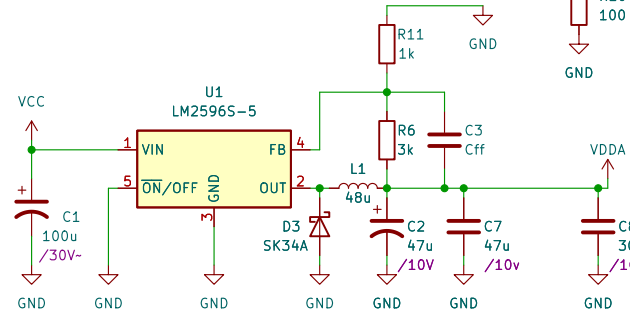


NEO-PIXELS



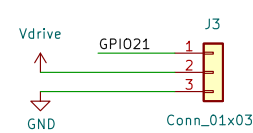
Voltage Regulators

Raspberry Pi Voltage Regulator (ST, 2018)

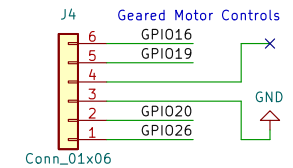


Pinouts

Servo Motor Output



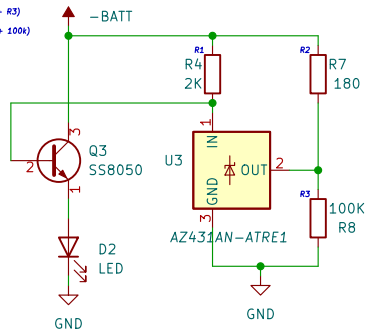
Motor Controller



Battery Low Voltage Indicator

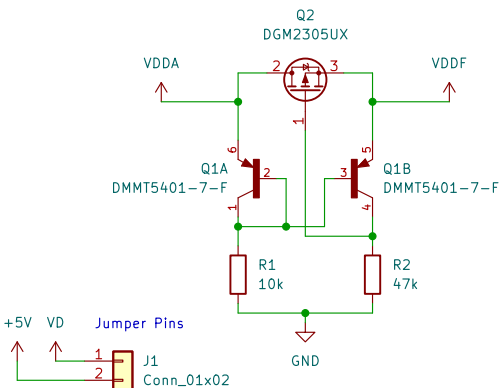
$$V_{light} = 2.5/R3 * (R2 + R3)$$

$$7v = 2.5/100k * (180k + 100k)$$



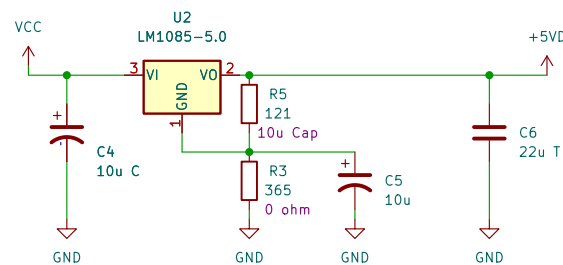
REF: https://www.pcbway.com/project/shareproject/Lithium_battery_low_battery_indicator_module.html

Back Power Protection – 'Ideal Diode'



REF: <https://github.com/raspberrypi/hats/blob/master/designguide.md>

Servo Voltage Regulator (ST, 2018)



ROBOTS101 PI-HAT

By Phoenix Seybold & Stephen Wardle
QUT Robotics Club

Additional pin functions:
<https://pinout.xyz/>

Sheet: /
File: RPI.kicad_sch

Title: Robots101 Pi-Hat

Size: A4 Date: 06 / 08 / 2023

KiCad E.D.A. eeschema (6.0.7)

Rev: 2.12

Id: 1/1