LOGIC, MOTOR POWER AND DATA INPUT

File: lginput.kicad_sch

DATA TRANSMISSION

CAN Transciever

File: CANTransvcieverESP32.kicad_sch

CAN H

CAN L

CANP1

CANN1

J5

CAN Terminal

CAN TX

CAN RX

CAN STB

CAN SHDN

ESP32

Motor Driver

Phase-a

Phase-b

Phase-c

J4

Output To Motor

5V USB IN

3.3V IN

File: LDO.kicad_sch

Sheetfile: ESP32.kicad_sch

3.5V To ESP32

HALL A

HALL B

HALL C

HOTAUX

Sensored Control & Peripheral

File: hallio.kicad_sch

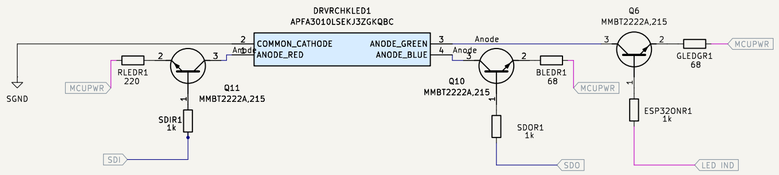
Malevolent MOSFET

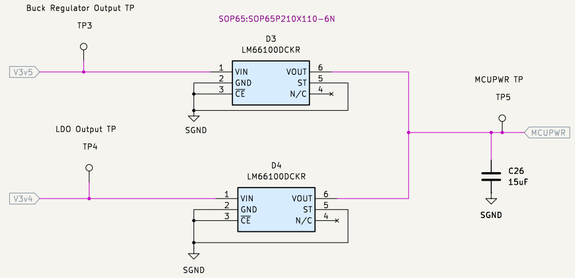
Sheet: /

File: ESP32ESC.kicad_sch

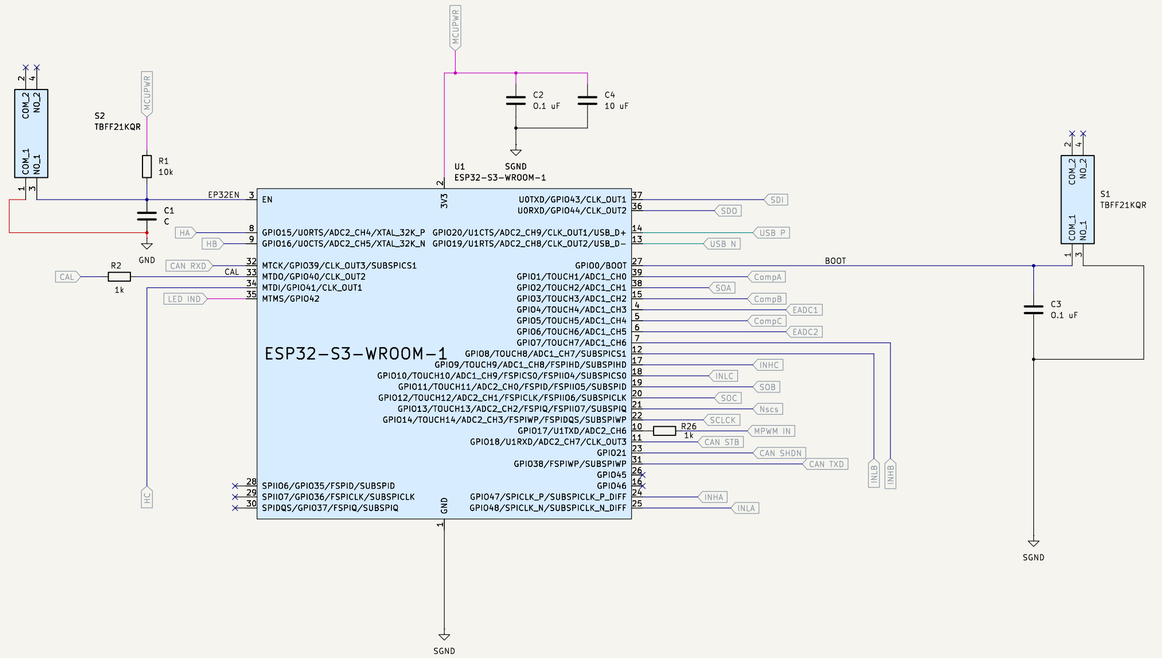
Title: CANDrive32 ESC Dev. Board

Size: A3	Date: 2024-06-27	**Rev: Rel 0.91**
KiCad E.D.A. 8.0.3		Id: 1/7





PowerORusing Ideal Diode



Considerations:

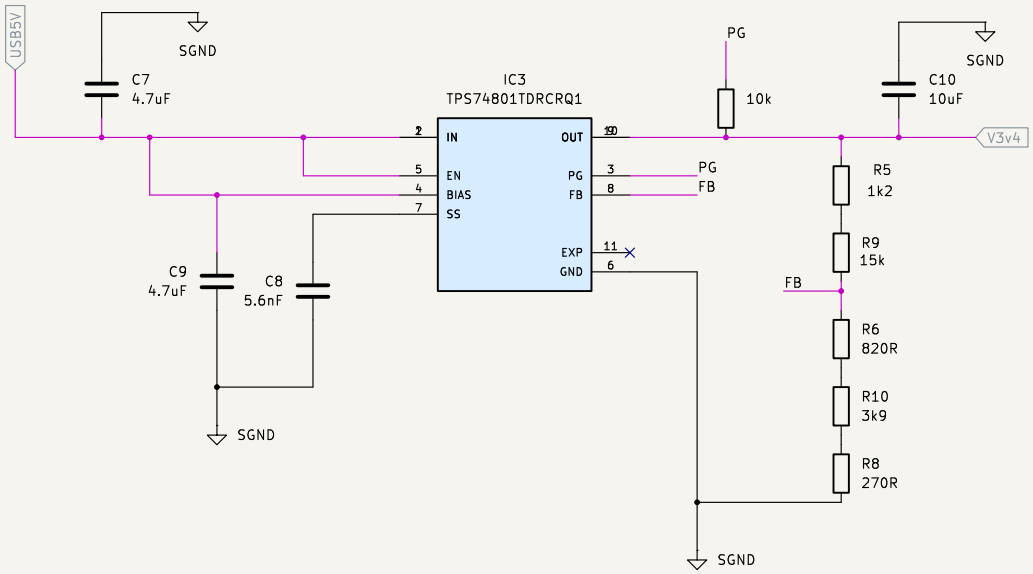
2.Current Capacity: Verify that the GPIO pins can handle the current required by the motor driver's input. If higher currents are needed, consider using a transistor or a driver chip to interface.
3.Check SPI interface 35.36.37 specially SDO connection to V3V6
4.Pin Optimisation needed

Verify if V3v3 and V3v6. entry path is valid
Malevolent MOSFET

Sheet: /ESP32/
File: ESP32.kicad_sch

Title: CANDrive32 ESC Dev. Board

Size: A2	Date: 2024-06-27	**Rev: Rel 0.91**
KiCad E.D.A. 8.0.3		Id: 2/7

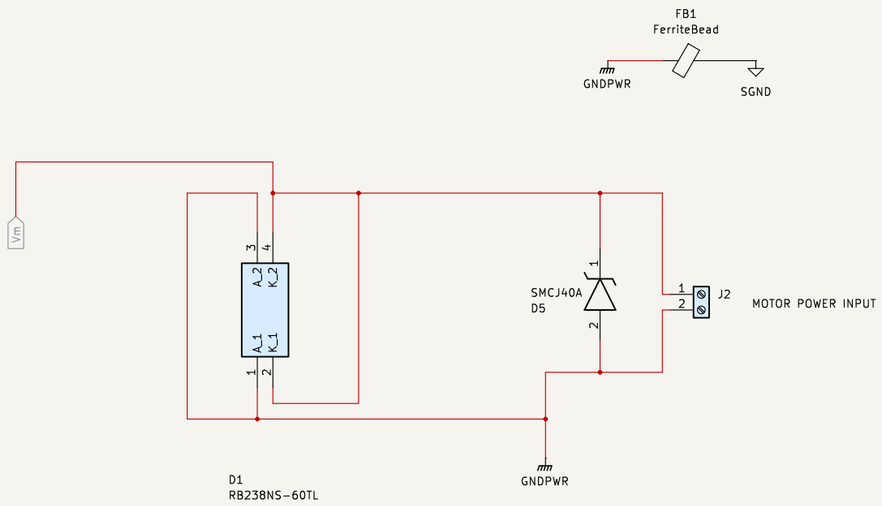


Does this design really need PG?
C8=Css, 5.6nF is 10ms of Soft Start Delay Check if OK for downstream
30th March: Set Output Resistors to 3.3V based on DS
Check EXP Pin
Malevolent MOSFET

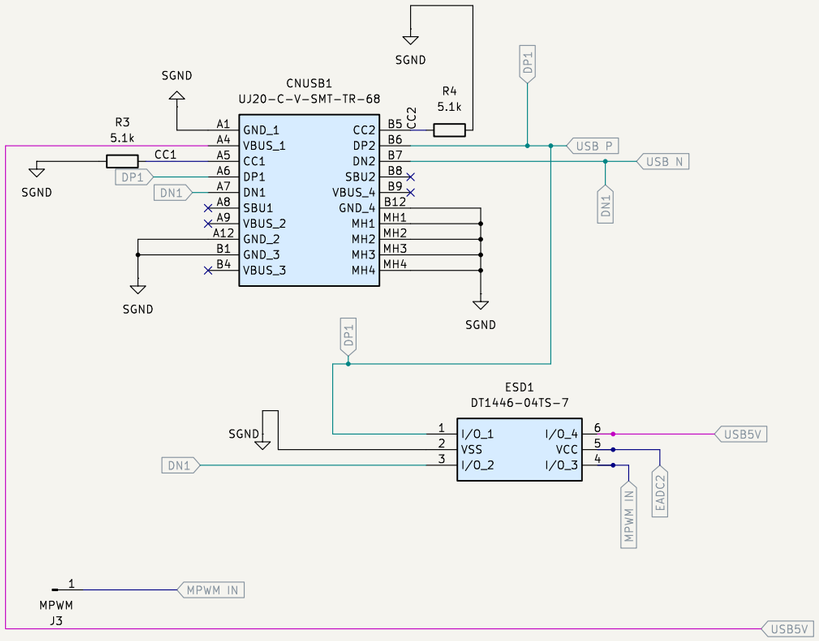
Sheet: /LDO/
File: LDO.kicad_sch

Title: CANDrive32 ESC Dev. Board

Size: A4	Date: 2024-06-27	**Rev: Rel 0.91**
KiCad E.D.A. 8.0.3		Id: 3/7



MOTOR POWER SUPPLY

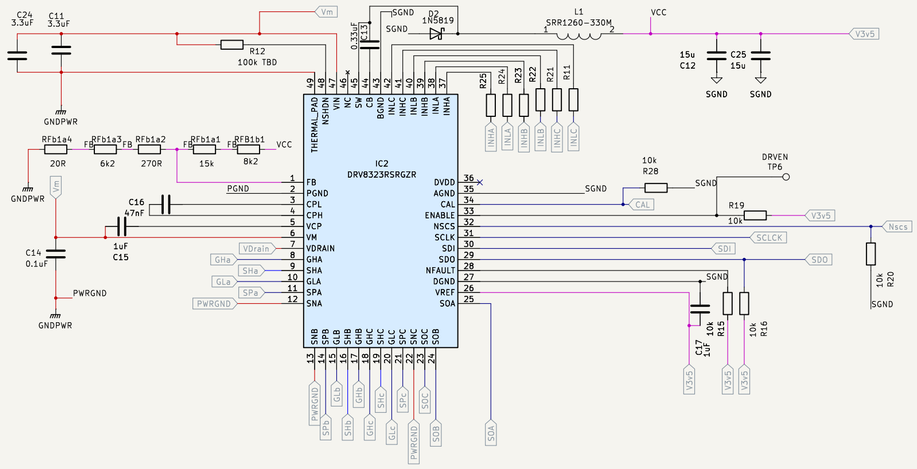


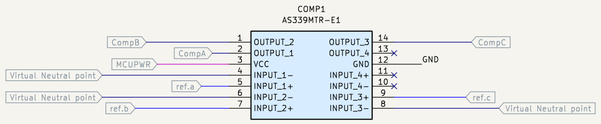
Read Datasheet on D3V3 and validate
Read Datasheet on UJ20 and validate
Malevolent MOSFET

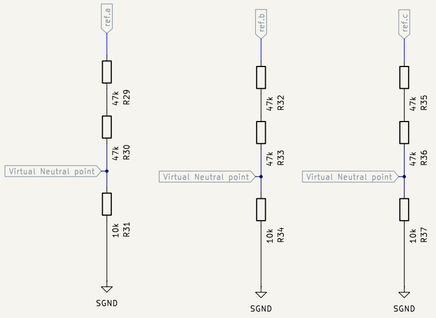
Sheet: /LOGIC, MOTOR POWER AND DATA INPUT /
File: lginput.kicad_sch

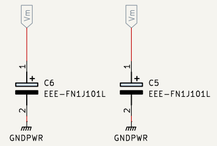
Title: CANDrive32 ESC Dev. Board

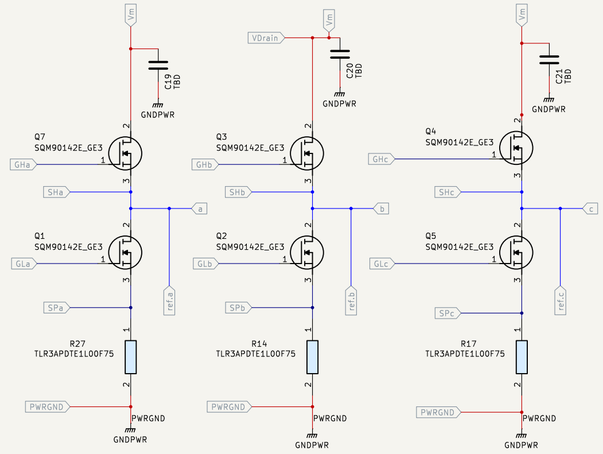
Size: A3	Date: 2024-06-27	**Rev: Rel 0.91**
KiCad E.D.A. 8.0.3		Id: 4/7











1.Check if R20 connected to Nscs is actually needed, the fucntional block diagram seems to imply there is pull down resistor inside
2.Verify Rsense Calculations, make sure Sensorless Commutation and Current sense can be implimented without burning ESP32
3.Rsense value needs to be ADJUSTED with reference to ESP32 ADC Tolerance, consider 2.8mOHM

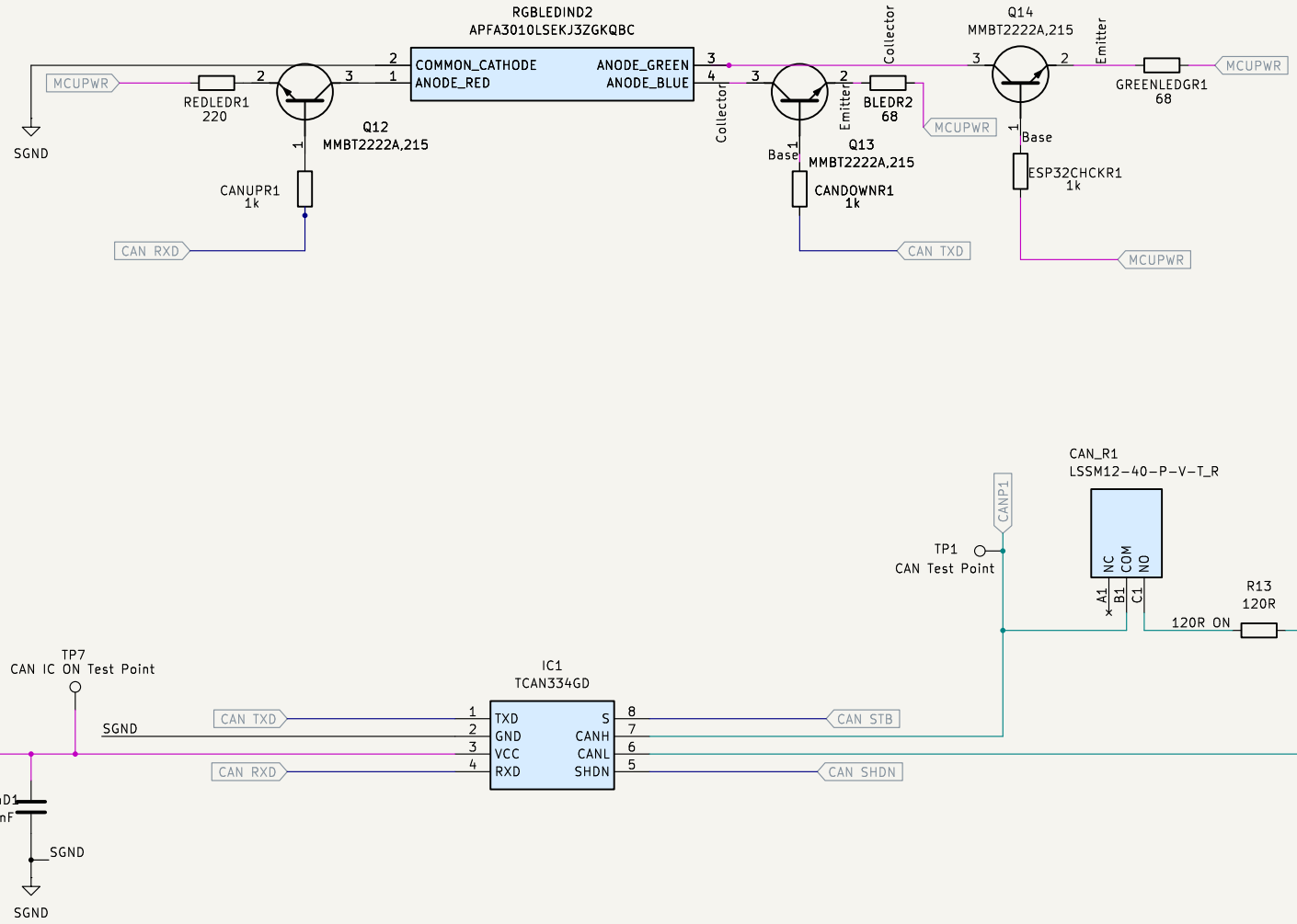
Validate DIODE OR Config
check resistors, target op is 3,6V
check 2.2uH inductor

Malevolent MOSFET

Sheet: /Motor Driver/
File: Motor Driver.kicad_sch

Title: CANDrive32 ESC Dev. Board

Size: A2	Date: 2024-06-27	**Rev: Rel 0.91**
KiCad E.D.A. 8.0.3		Id: 5/7



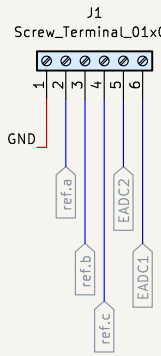
Verify if no other components needed between SHGN and STB

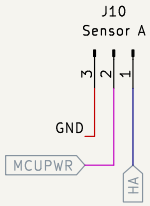
Malevolent MOSFET

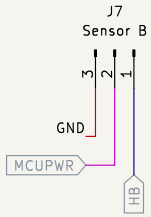
Sheet: /CAN Transciever/
File: CANTransvcieverESP32.kicad_sch

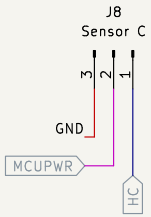
Title: CANDrive32 ESC Dev. Board

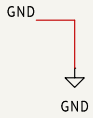
Size: A4	Date: 2024-06-27	**Rev: Rel 0.91**
KiCad E.D.A. 8.0.3		Id: 6/7



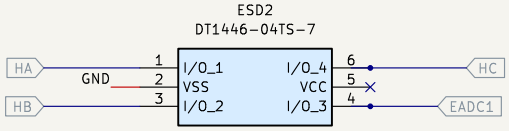








Check if power supply strat is OK



Malevolent MOSFET

Sheet: /Sensored Control & Peripheral/
File: hallio.kicad_sch

Title: CANDrive32 ESC Dev. Board

Size: A4	Date: 2024-06-27	**Rev: Rel 0.91**
KiCad E.D.A. 8.0.3		Id: 7/7