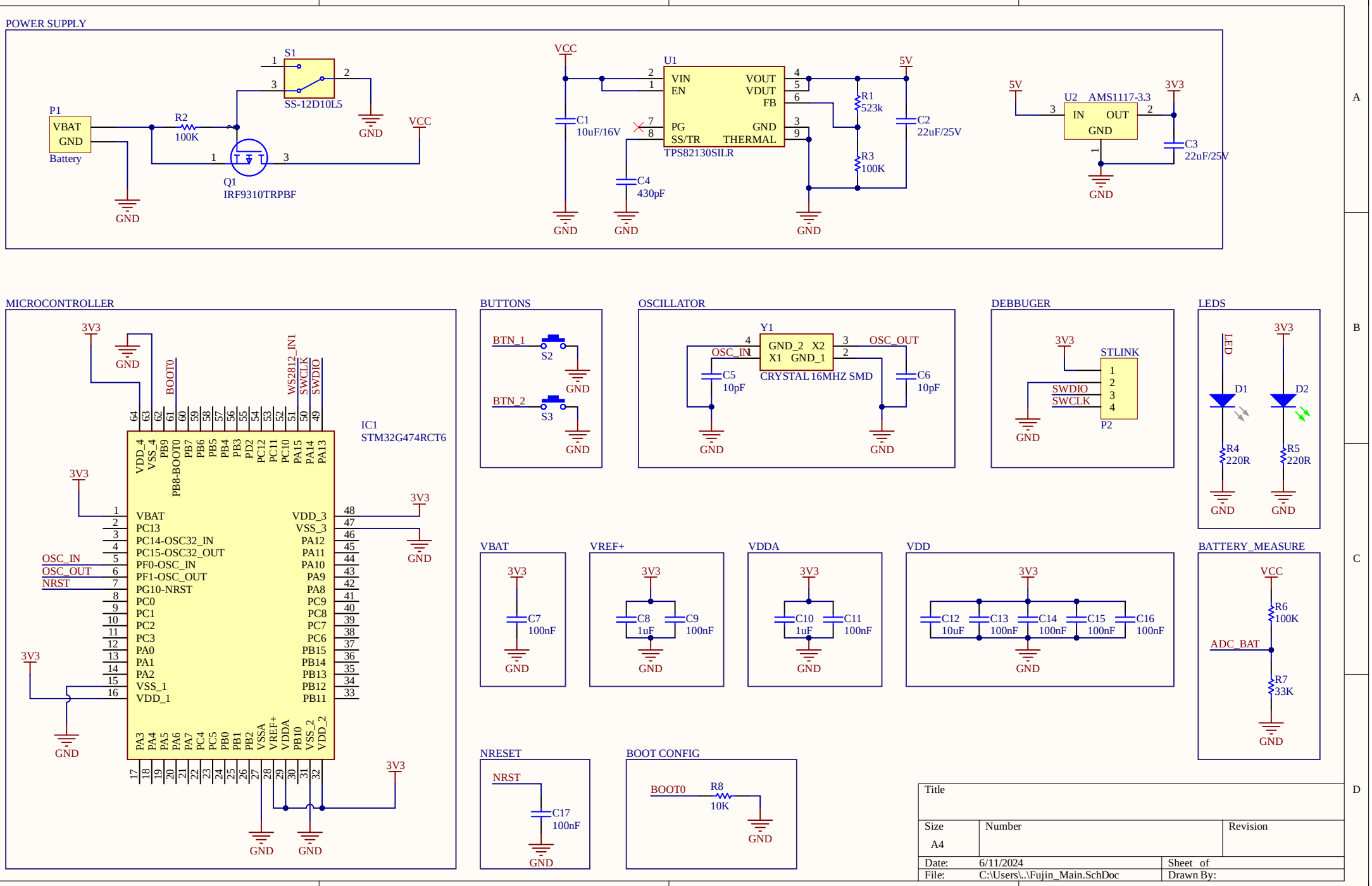
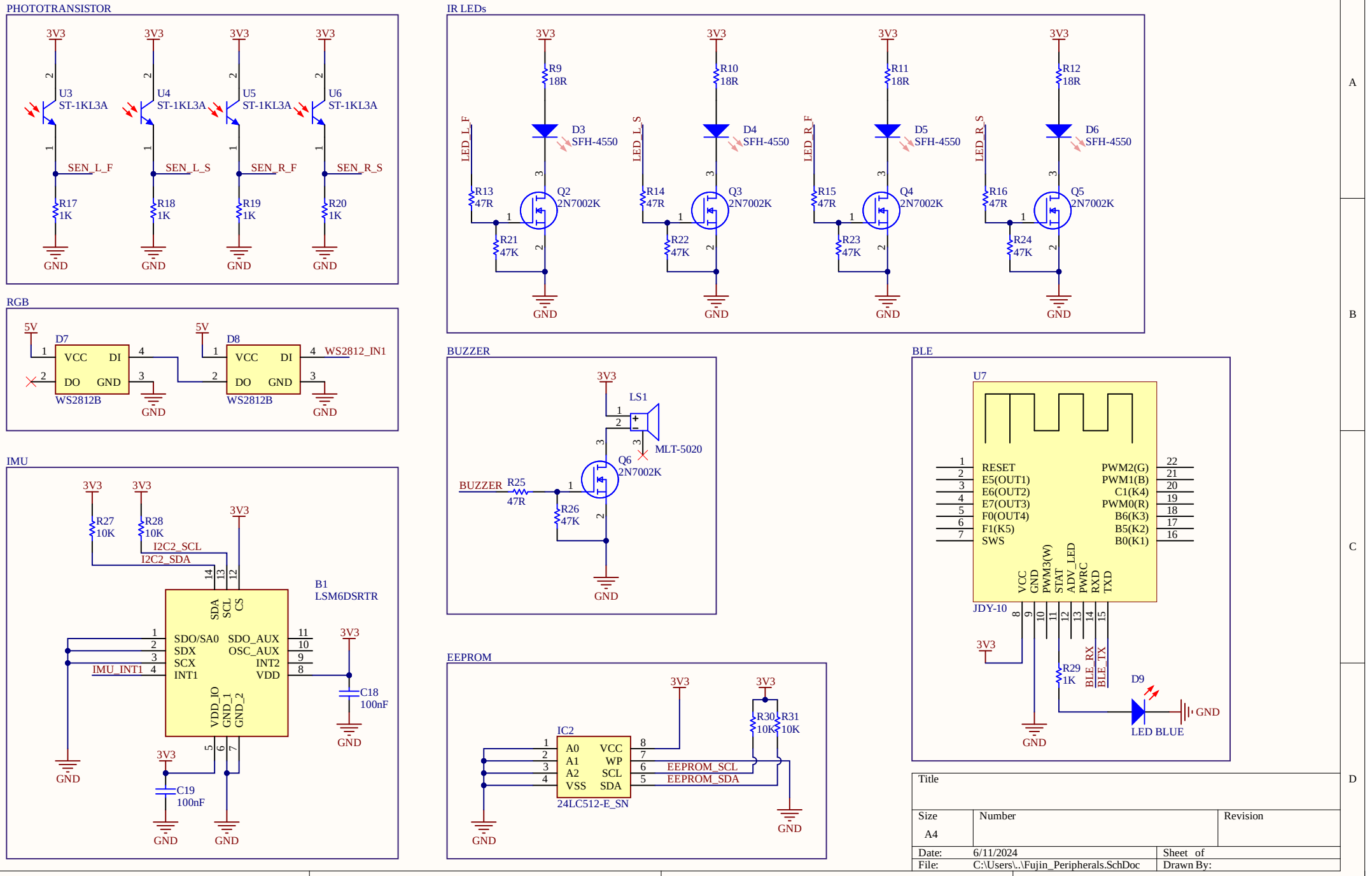

POWER SUPPLY
P1
VBAT
GND
Battery
R2
100K
S1
SS-12D10L5
Q1
IRF9310TRPBF
GND
VCC
U1
VIN
EN
VOUT
VDUT
FB
PG
SS/TR
GND
THERMAL
TPS82130SILR
C1
10uF/16V
C2
22uF/25V
C3
22uF/25V
C4
430pF
R1
523k
R3
100K
5V
3V3
U2 AMS1117-3.3
IN
OUT
GND
MICROCONTROLLER
IC1
STM32G474RCT6
BUTTONS
BTN_1
BTN_2
S2
S3
OSCILLATOR
Y1
CRYSTAL 16MHZ SMD
OSC_IN
OSC_OUT
C5
10pF
C6
10pF
DEBBUGER
STLINK
SWDIO
SWCLK
P2
LEDS
LED
D1
D2
R4
220R
R5
220R
VBAT
C7
100nF
VREF+
C8
1uF
C9
100nF
VDDA
C10
1uF
C11
100nF
VDD
C12
10uF
C13
100nF
C14
100nF
C15
100nF
C16
100nF
BATTERY_MEASURE
R6
100K
ADC_BAT
R7
33K
NRESET
NRST
C17
100nF
BOOT CONFIG
BOOT0
R8
10K
Title
Size
A4
Number
Revision
Date:
6/11/2024
Sheet of
File:
C:\Users\..\Fujin_Main.SchDoc
Drawn By:


PHOTOTRANSISTOR
3V3
U3
ST-1KL3A
U4
ST-1KL3A
U5
ST-1KL3A
U6
ST-1KL3A
SEN_L_F
SEN_L_S
SEN_R_F
SEN_R_S
R17
1K
R18
1K
R19
1K
R20
1K
GND
IR LEDs
R9
18R
R10
18R
R11
18R
R12
18R
D3
SFH-4550
D4
SFH-4550
D5
SFH-4550
D6
SFH-4550
LED_L_F
LED_L_S
LED_R_F
LED_R_S
R13
47R
R14
47R
R15
47R
R16
47R
Q2
2N7002K
Q3
2N7002K
Q4
2N7002K
Q5
2N7002K
R21
47K
R22
47K
R23
47K
R24
47K
RGB
5V
D7
D8
VCC
DI
DO
GND
WS2812B
WS2812_IN1
BUZZER
LS1
MLT-5020
Q6
2N7002K
BUZZER
R25
47R
R26
47K
BLE
U7
RESET
E5(OUT1)
E6(OUT2)
E7(OUT3)
F0(OUT4)
F1(K5)
SWS
PWM2(G)
PWM1(B)
C1(K4)
PWM0(R)
B6(K3)
B5(K2)
B0(K1)
VCC
GND
PWM3(W)
STAT
ADV_LED
PWRC
RXD
TXD
JDY-10
R29
1K
BLE_RX
BLE_TX
D9
LED BLUE
IMU
R27
10K
R28
10K
I2C2_SCL
I2C2_SDA
B1
LSM6DSRTR
SDA
SCL
CS
SDO/SA0
SDX
SCX
INT1
SDO_AUX
OSC_AUX
INT2
VDD
VDD_IO
GND_1
GND_2
IMU_INT1
C18
100nF
C19
100nF
EEPROM
IC2
A0
A1
A2
VSS
VCC
WP
SCL
SDA
24LC512-E_SN
R30
10K
R31
10K
EEPROM_SCL
EEPROM_SDA
Title
Size
A4
Number
Revision
Date:
6/11/2024
Sheet of
File:
C:\Users\..\Fujin_Peripherals.SchDoc
Drawn By:

I_trip = Max Driver Current

I_trip = Vref / (R_irop * 0.000455)

Using R = 2K and VREF = 3.3
I_trip = 3.626A

MOT1_ADC cannot be larger than adc max value.

So:

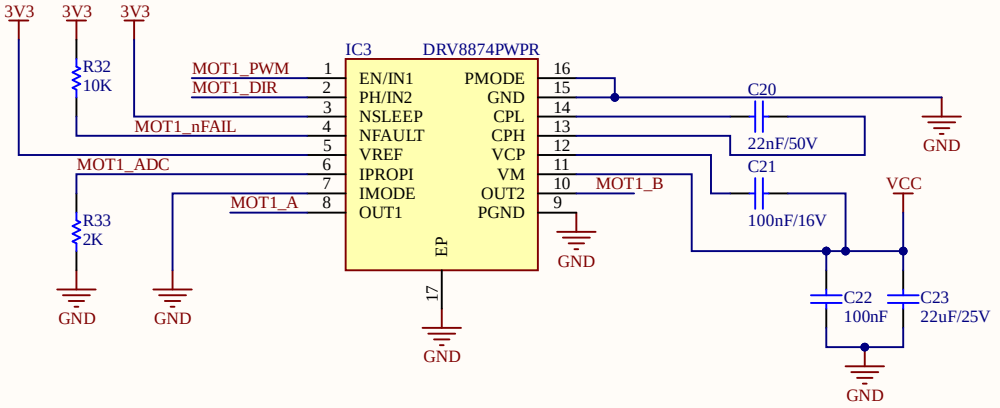
V = R*I = R * Aipropi * i =>

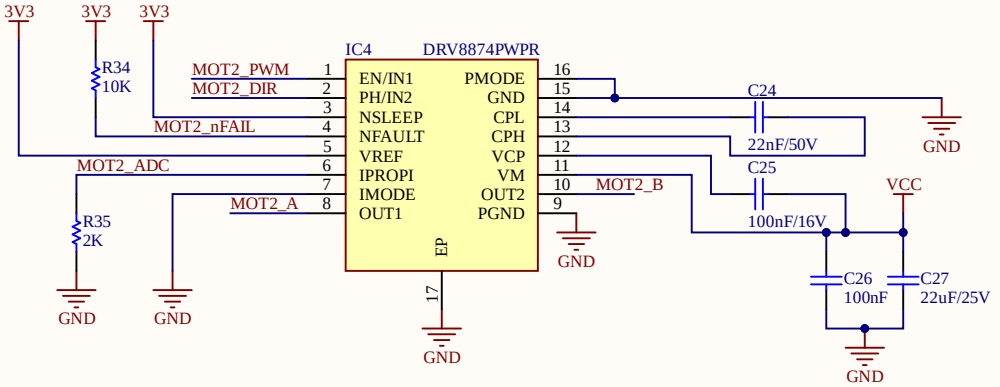
V = 2000 * 0.000455 * i

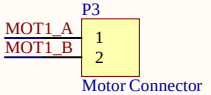
Para V = 3.3, I = 3.62

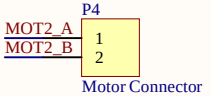
Precisão do ADC:
3.3/4096 -> 0.000805664mV

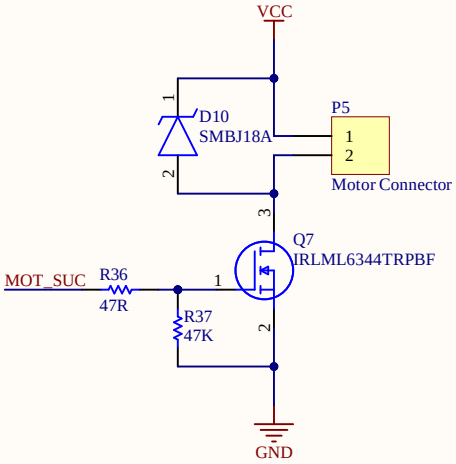
Precisão da corrente:
V = R*I = R * Aipropi * i
i = 0.000805664 / (2000 * 0.000455) = 0.88mA

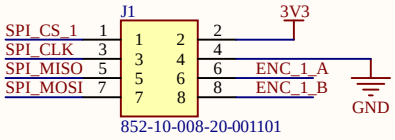


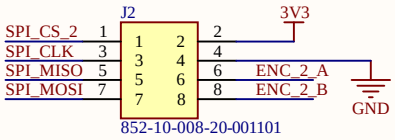




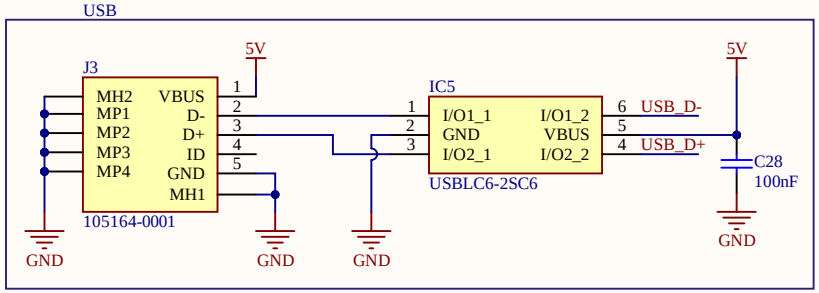








Title		
Size: A4	Number	Revision
Date: 6/11/2024		Sheet of
File: C:\Users\..\Fujin_Motors.SchDoc		Drawn By:



Title		
Size: A4	Number	Revision
Date: 6/11/2024		Sheet of
File: C:\Users\..\Fujin_Connectors.SchDoc		Drawn By: