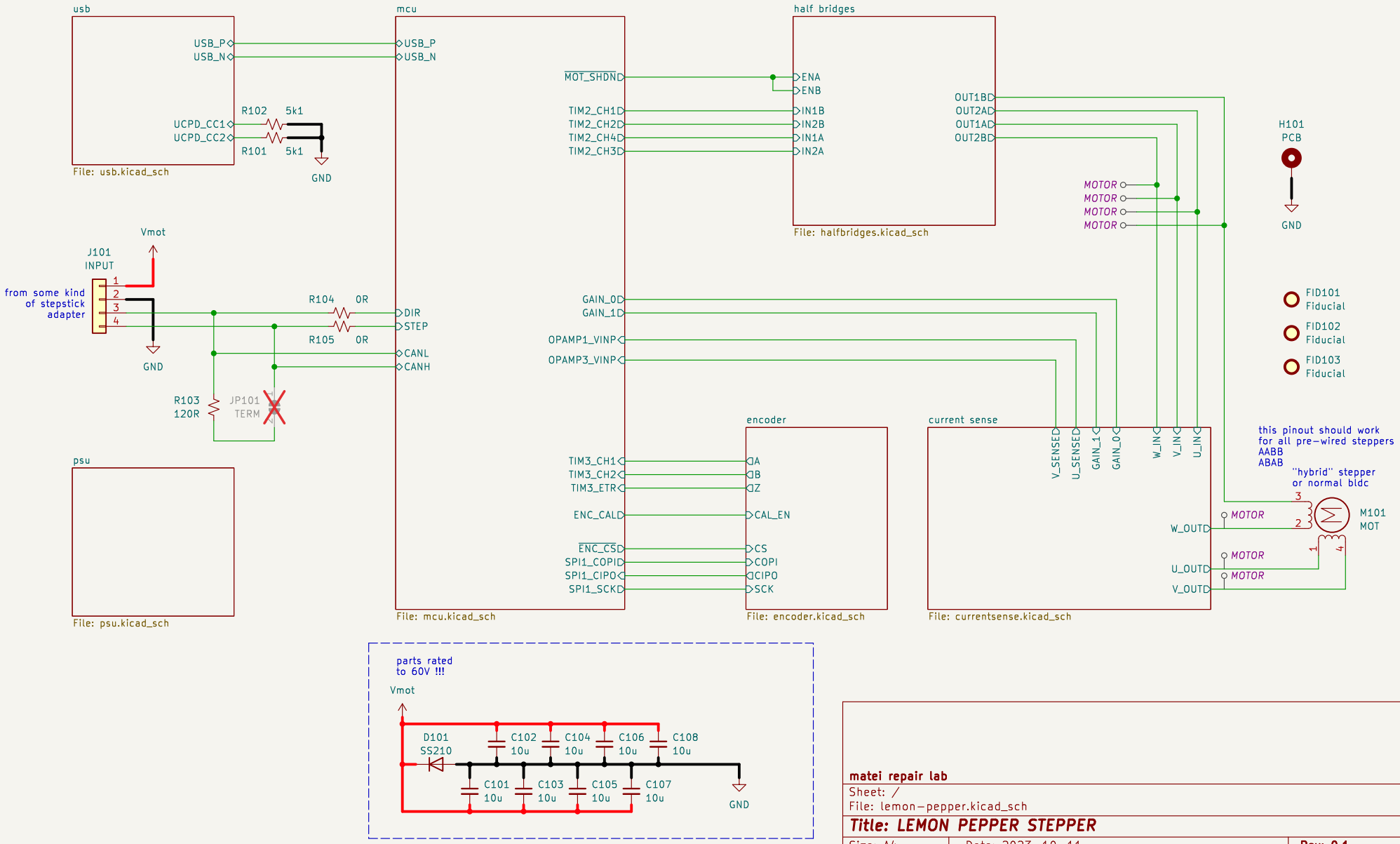
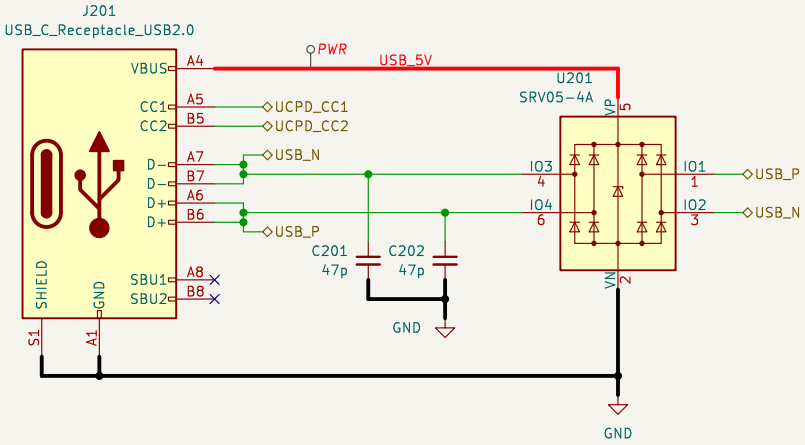
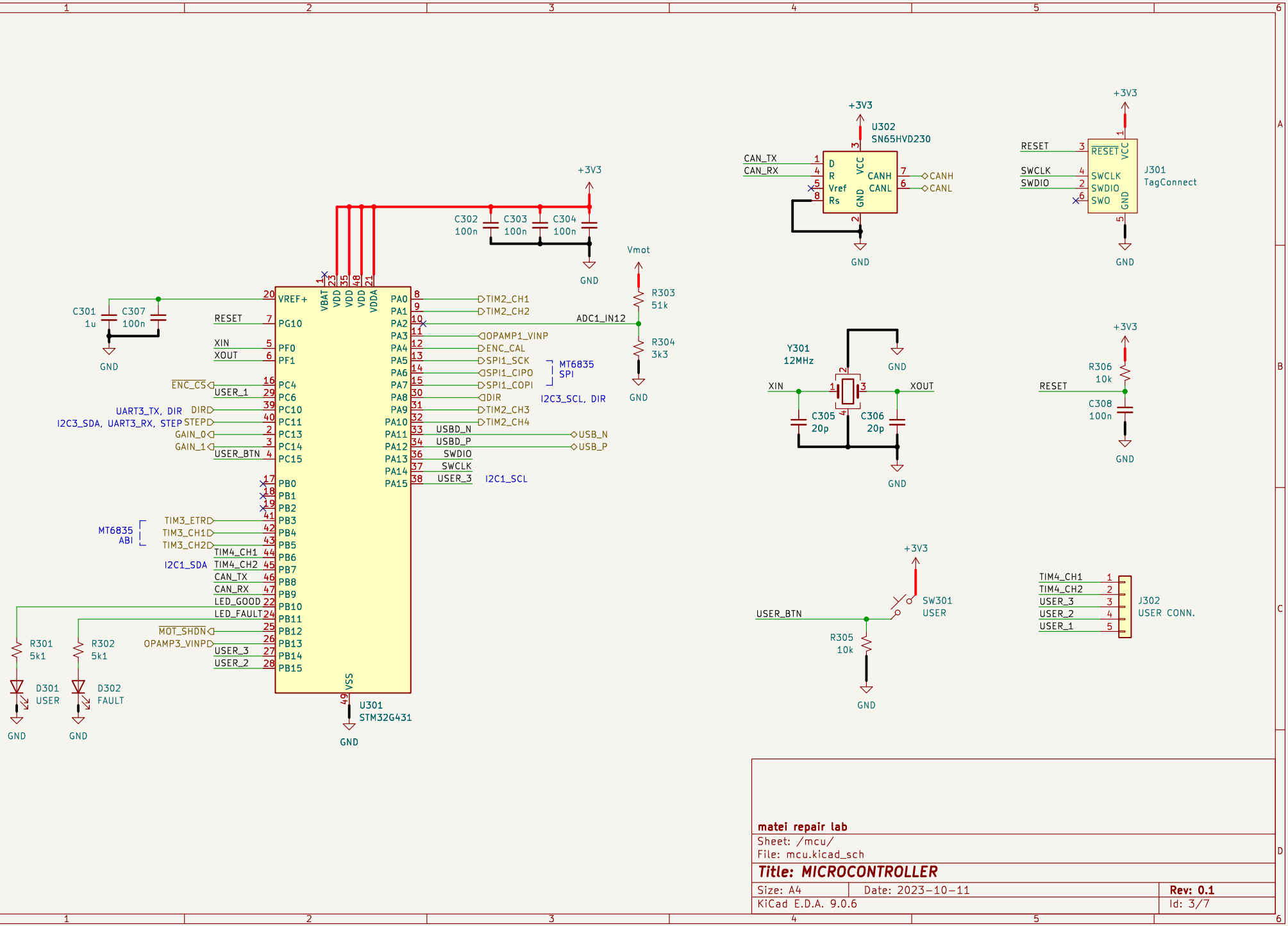
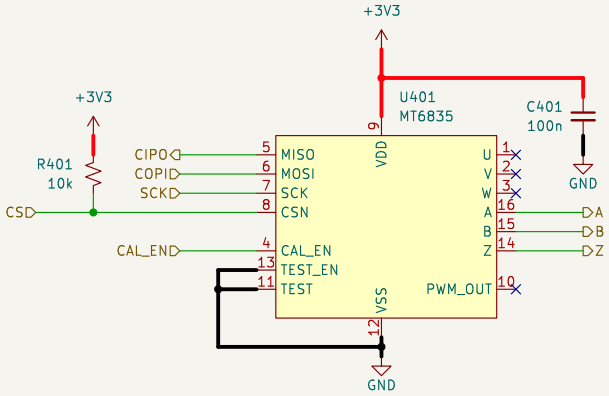

usb
USB_P
USB_N
UCPD_CC1
UCPD_CC2
R102 5k1
R101 5k1
GND
File: usb.kicad_sch
mcu
USB_P
USB_N
MOT_SHDN
TIM2_CH1
TIM2_CH2
TIM2_CH4
TIM2_CH3
GAIN_0
GAIN_1
OPAMP1_VINP
OPAMP3_VINP
TIM3_CH1
TIM3_CH2
TIM3_ETR
ENC_CAL
ENC_CS
SPI1_COPI
SPI1_CIPO
SPI1_SCK
File: mcu.kicad_sch
half bridges
ENA
ENB
IN1B
IN2B
IN1A
IN2A
OUT1B
OUT2A
OUT1A
OUT2B
File: halfbridges.kicad_sch
MOTOR
H101
PCB
GND
FID101
Fiducial
FID102
Fiducial
FID103
Fiducial
Vmot
J101
INPUT
from some kind
of stepstick
adapter
R104 0R
R105 0R
DIR
STEP
CANL
CANH
R103
120R
JP101
TERM
psu
File: psu.kicad_sch
encoder
A
B
Z
CAL_EN
CS
COPI
CIPO
SCK
File: encoder.kicad_sch
current sense
V_SENSED
U_SENSED
GAIN_1
GAIN_0
W_IN
V_IN
U_IN
W_OUT
U_OUT
V_OUT
File: currentsense.kicad_sch
this pinout should work
for all pre-wired steppers
AABB
ABAB
"hybrid" stepper
or normal bldc
M101
MOT
parts rated
to 60V !!!
Vmot
D101
SS210
C101 10u
C102 10u
C103 10u
C104 10u
C105 10u
C106 10u
C107 10u
C108 10u
GND
matei repair lab
Sheet: /
File: lemon-pepper.kicad_sch
Title: LEMON PEPPER STEPPER
Size: A4
Date: 2023-10-11
Rev: 0.1
KiCad E.D.A. 9.0.6
Id: 1/7



matei repair lab		
Sheet: /usb/		
File: usb.kicad_sch		
Title: USB & ESD		
Size: A4	Date: 2023-10-11	**Rev: 0.1**
KiCad E.D.A. 9.0.6		Id: 2/7


+3V3
C302 100n
C303 100n
C304 100n
GND
Vmot
R303 51k
R304 3k3
GND
C301 1u
C307 100n
GND
VREF+
VBAT
VDD
VDD
VDD
VDDA
RESET
PG10
XIN
PF0
XOUT
PF1
ENC_CS
USER_1
UART3_TX, DIR
DIR
I2C3_SDA, UART3_RX, STEP
STEP
GAIN_0
GAIN_1
USER_BTN
PC4
PC6
PC10
PC11
PC13
PC14
PC15
PA0
PA1
PA2
PA3
PA4
PA5
PA6
PA7
PA8
PA9
PA10
PA11
PA12
PA13
PA14
PA15
TIM2_CH1
TIM2_CH2
ADC1_IN12
OPAMP1_VINP
ENC_CAL
SPI1_SCK
SPI1_CIPO
SPI1_COPI
MT6835 SPI
DIR
I2C3_SCL, DIR
TIM2_CH3
TIM2_CH4
USBD_N
USBD_P
USB_N
USB_P
SWDIO
SWCLK
USER_3
I2C1_SCL
MT6835 ABI
TIM3_ETR
TIM3_CH1
TIM3_CH2
I2C1_SDA
TIM4_CH1
TIM4_CH2
CAN_TX
CAN_RX
LED_GOOD
LED_FAULT
MOT_SHDN
OPAMP3_VINP
USER_3
USER_2
PB0
PB1
PB2
PB3
PB4
PB5
PB6
PB7
PB8
PB9
PB10
PB11
PB12
PB13
PB14
PB15
VSS
U301
STM32G431
GND
R301 5k1
R302 5k1
D301 USER
D302 FAULT
GND
GND
+3V3
U302
SN65HVD230
CAN_TX
CAN_RX
D
R
Vref
Rs
VCC
GND
CANH
CANL
CANH
CANL
GND
+3V3
RESET
SWCLK
SWDIO
RESET
SWCLK
SWDIO
SWO
VCC
GND
J301
TagConnect
GND
Y301
12MHz
XIN
XOUT
C305 20p
C306 20p
GND
GND
+3V3
R306 10k
RESET
C308 100n
GND
+3V3
USER_BTN
SW301
USER
R305 10k
GND
TIM4_CH1
TIM4_CH2
USER_3
USER_2
USER_1
J302
USER CONN.
matei repair lab
Sheet: /mcu/
File: mcu.kicad_sch
Title: MICROCONTROLLER
Size: A4
Date: 2023-10-11
Rev: 0.1
KiCad E.D.A. 9.0.6
Id: 3/7



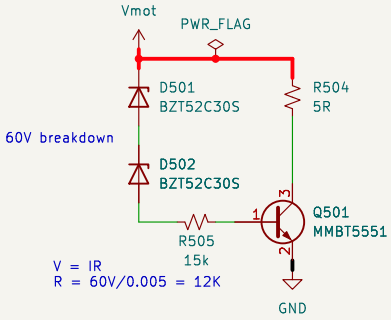
matei repair lab

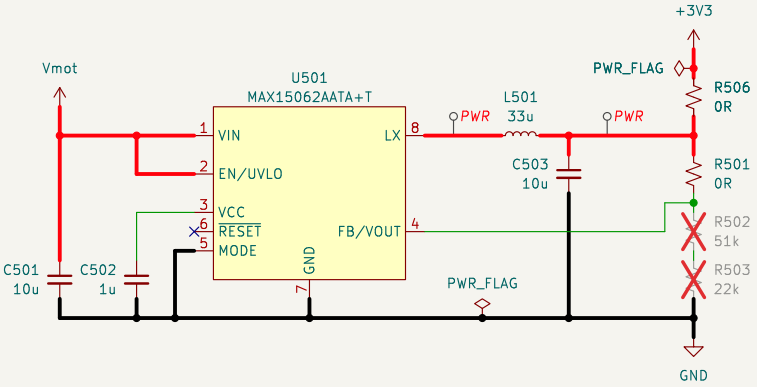
Sheet: /encoder/

File: encoder.kicad_sch

Title: MAGNETIC ENCODER 14 BIT

Size: A4	Date: 2023-10-11	**Rev: 0.1**
KiCad E.D.A. 9.0.6		Id: 4/7



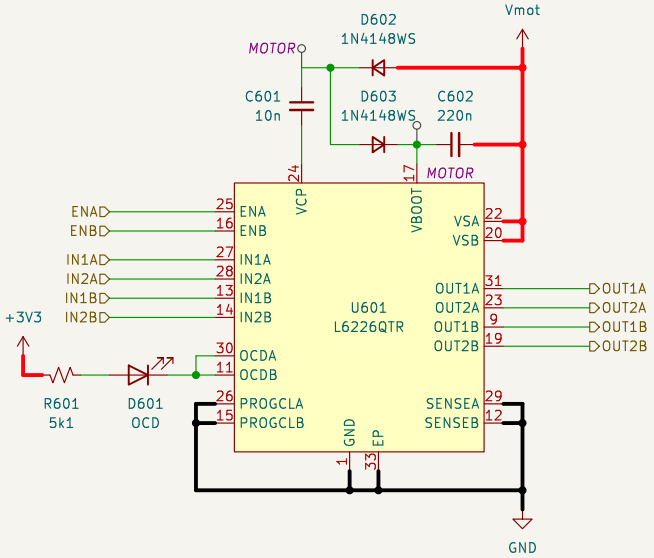


For MAX15062AATA+T (C2846801):
R501: 0R
R502, R503: DNP

For MAX15062CATA+T (C1121853):
R501: 200k
R502, R503: 51k, 22k

Ra = Rb(Vout/0.9 − 1)
3.36V (closest to 3v3 with basic parts)

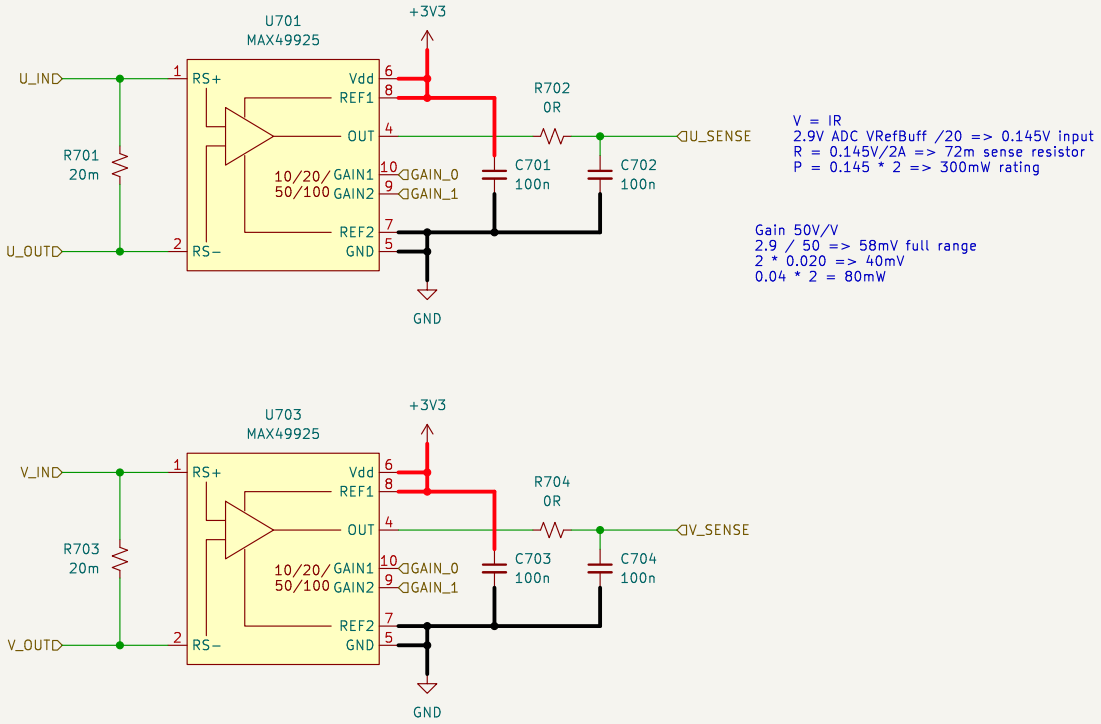
matei repair lab		
Sheet: /psu/ File: psu.kicad_sch		
Title: POWER SUPPLY & FILTERING		
Size: A4	Date: 2023-10-11	**Rev: 0.1**
KiCad E.D.A. 9.0.6		Id: 6/7



Sheet: /half bridges/
File: halfbridges.kicad_sch

Title:

Size: A4	Date:	**Rev:**
KiCad E.D.A. 9.0.6		Id: 7/7



matei repair lab		
Sheet: /current sense/		
File: currentsense.kicad_sch		
Title: HALL CURRENT SENSING		
Size: A4	Date: 2023-10-11	**Rev: 0.1**
KiCad E.D.A. 9.0.6		Id: 8/7