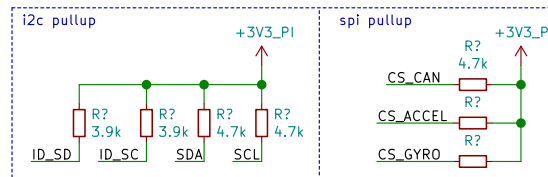
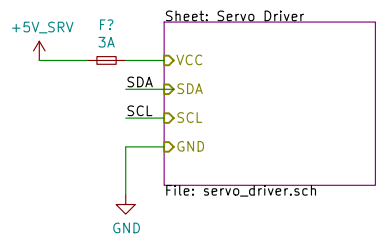
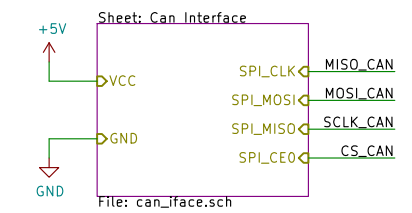
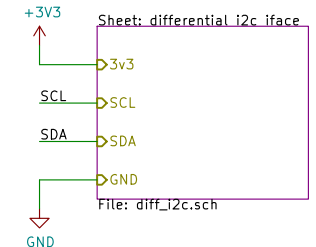
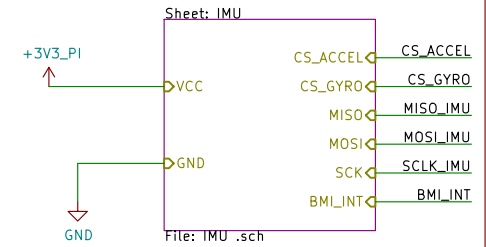
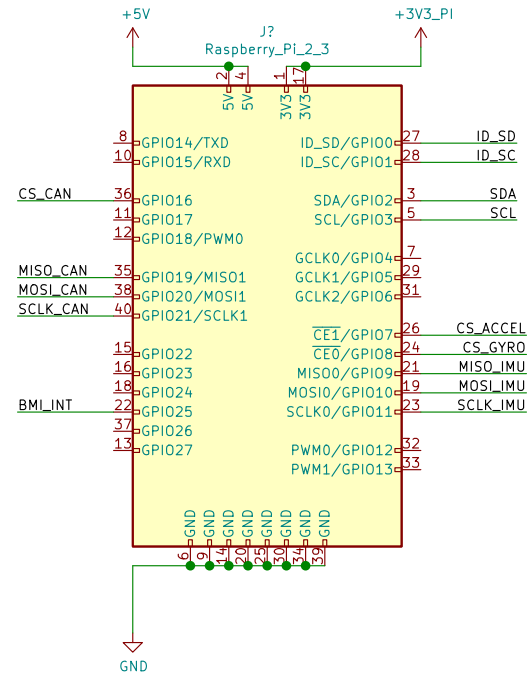
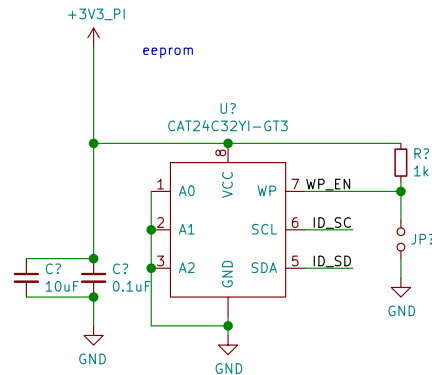
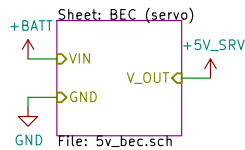
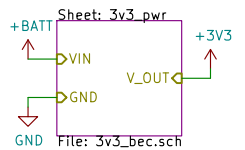
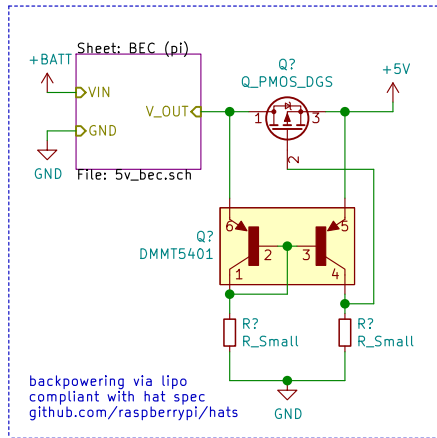


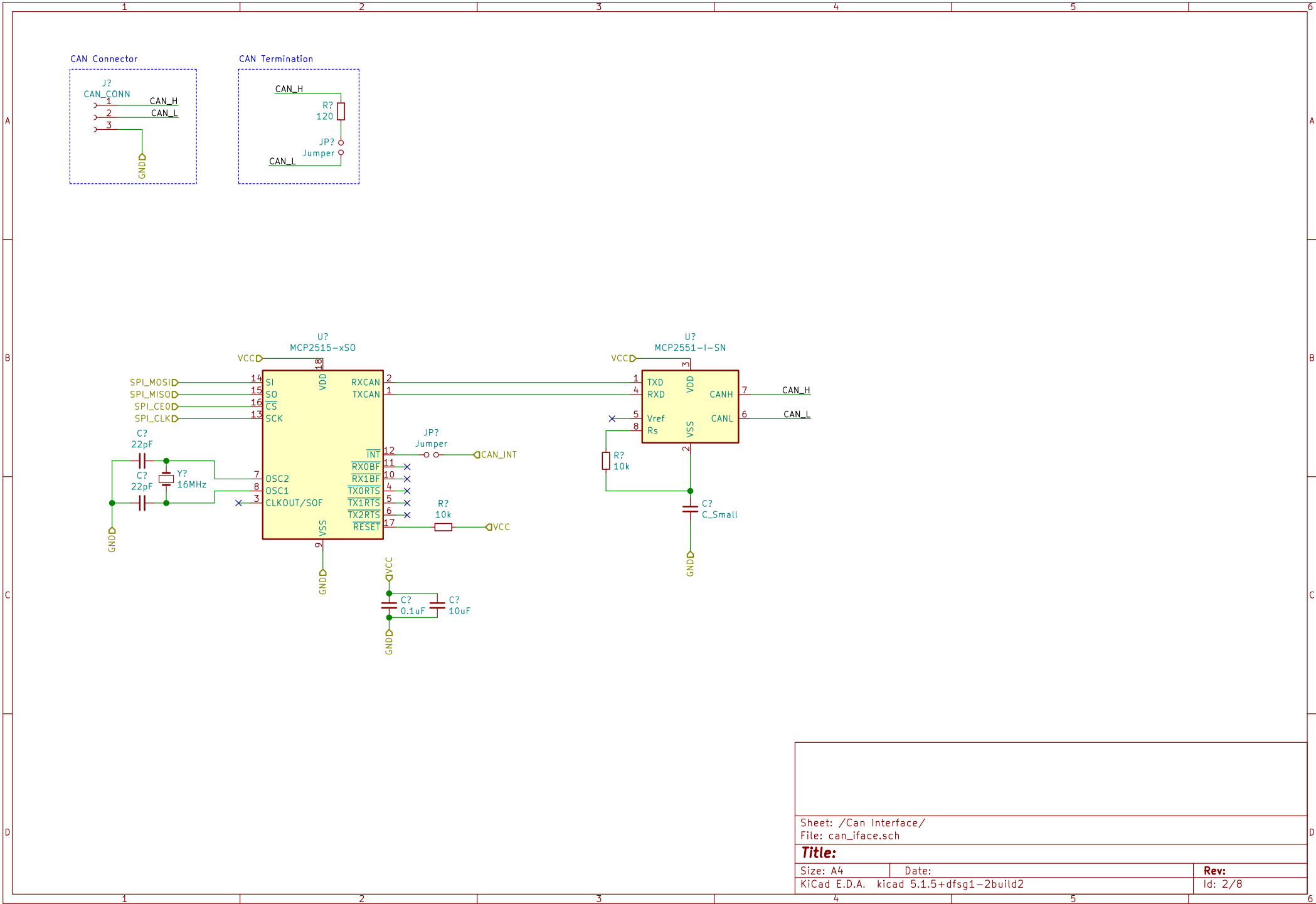
NOTE: make sure diode/mosfet reverse breakdown voltage is >=40V
max current draw is around 10A

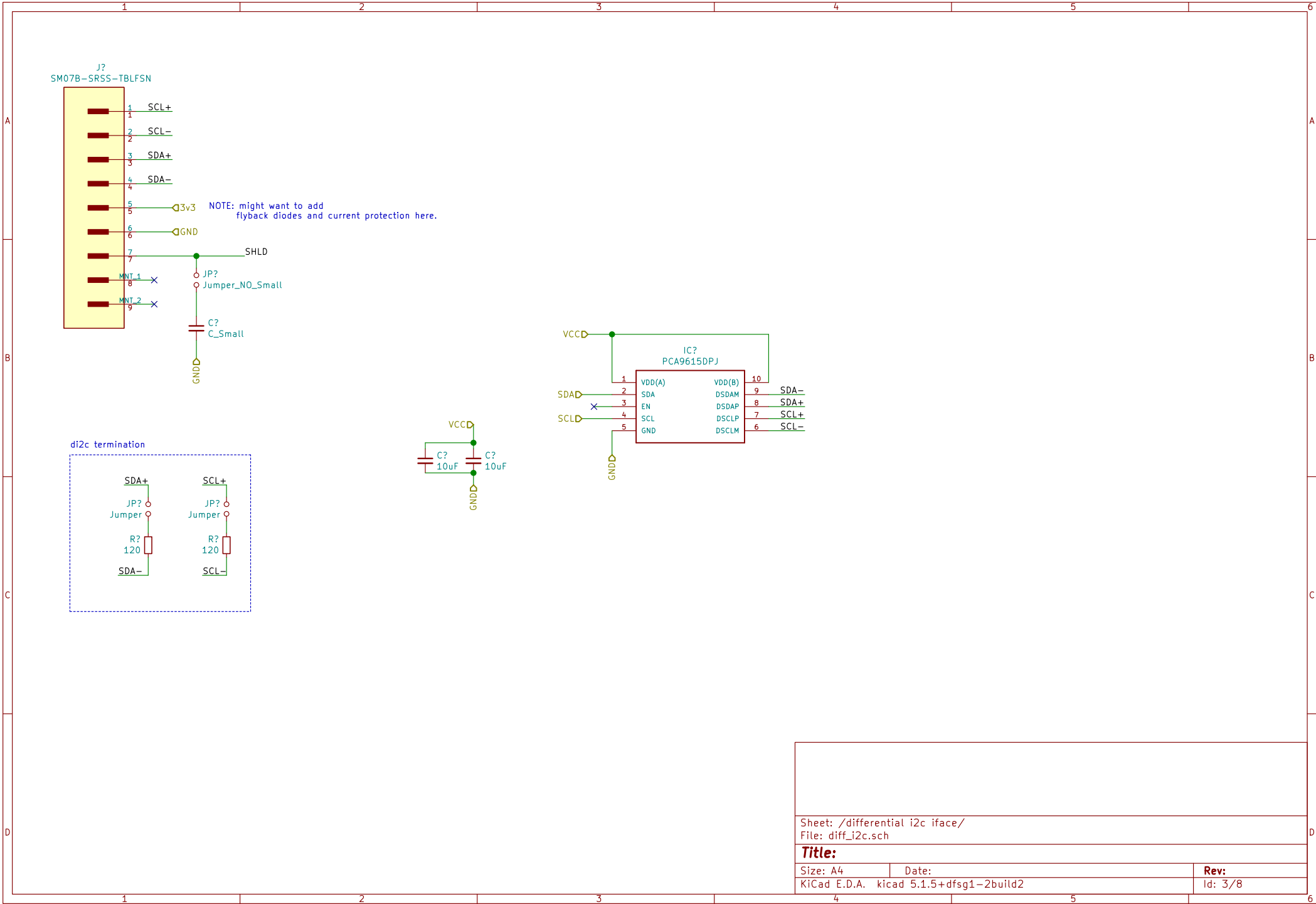


Sheet: /
File: dart-hat.sch

Title:

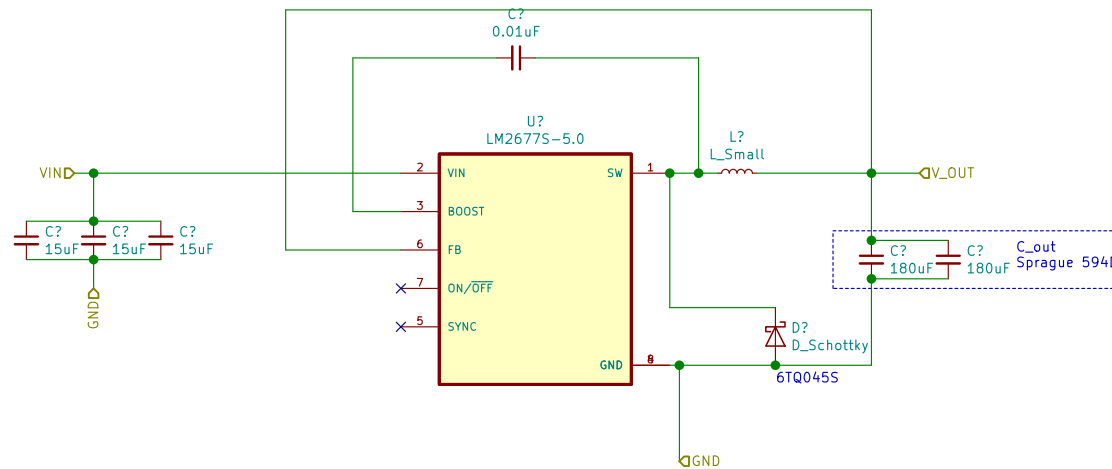
Size: A4 Date: Rev:
KiCad E.D.A. kicad 5.1.5+dfsg1-2build2 Id: 1/8





- Inductors (L41, 22uH, 5.22A max)
- Pulse Engineering P0841
- C_{out}:
- 3xC2 (AVX), 2xC7 (Sprague), 3xC4 (kemet)
- C_{in}:
- 3xC13 (sprague), 4xC12(kemet)
- Diode:
- MBRB1545CT
- 6TQ045S

TODO: reread the datasheet and get the right specs.
At the moment i do not have the time nor patience to
complete the power side of things so i'm gonna move
this into a hierarchical sheet and forget about it for now



Sheet: /BEC (pi)/
File: 5v_bec.sch

Title:

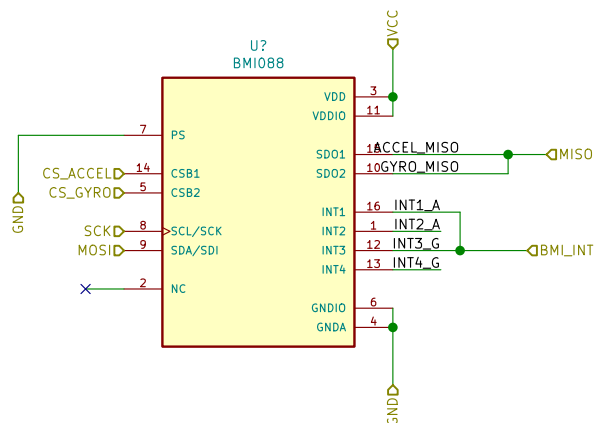
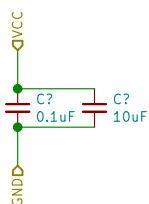
Size: A4

Date:

KiCad E.D.A. kicad 5.1.5+dfsg1-2build2

Rev:

Id: 4/8



NOTES: bmi088 driver has DRDY wired to gpio26 (pin 6 on wiringpi)
 - i2c should be easier but i'm going for SPI since the old implementation works
 - shuttle has interrupt pin jumper
 - might want to not only expose the jumper for this, but also tie in 2 separate GPIO pins with the 2.54mm headers on each interrupt so i can manually connect interrupt pins?

IMPORTANT: review the SPI initialization behavior (6.1, p45, bmi088 datasheet)
 - looks like GND on PS sets gyro to SPI mode
 - giving a rising edge on the CS pin for the accel switches it to spi mode. this can be done via a dummy read/write operation

Sheet: /IMU/
 File: IMU .sch

Title:

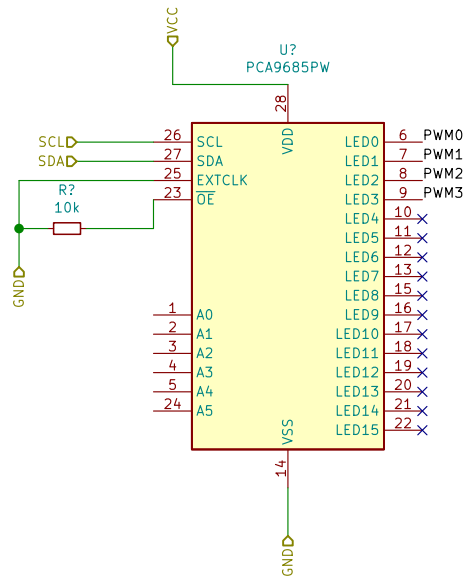
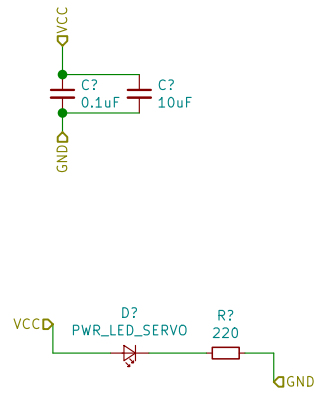
Size: A4

Date:

KiCad E.D.A. kicad 5.1.5+dfsg1-2build2

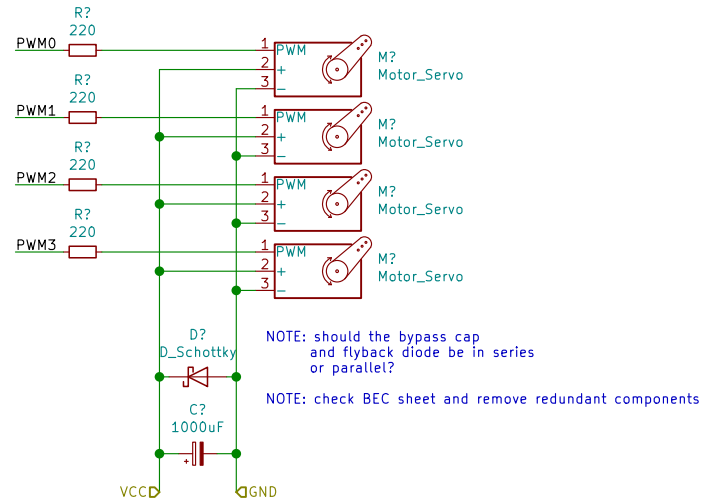
Rev:

Id: 5/8



TODO:

- reverse voltage protection (backcurrent)
- decoupling
- fuses
- power setup



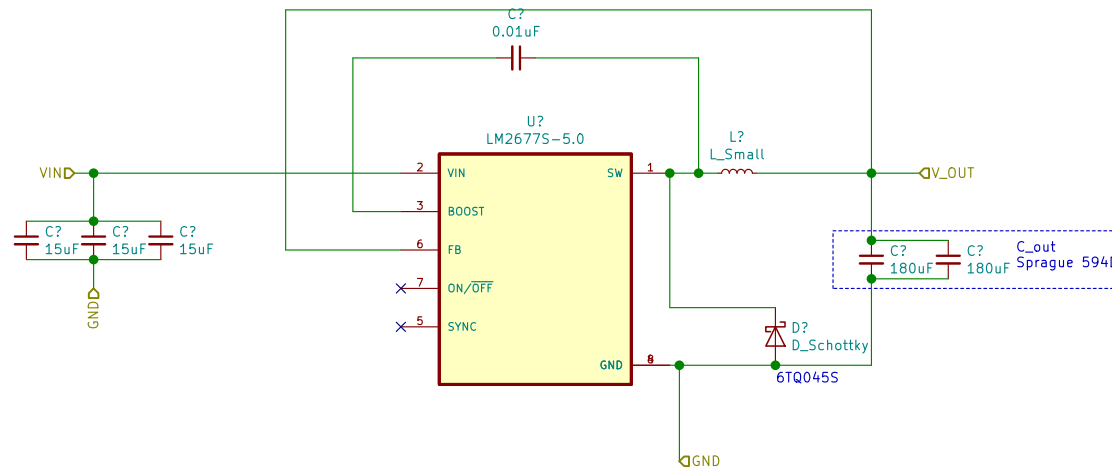
Inductors (L41, 22uH, 5.22A max)
 - Pulse Engineering P0841

C_{out}:
 - 3xC2 (AVX), 2xC7 (Sprague), 3xC4 (kemet)

C_{in}:
 - 3xC13 (sprague), 4xC12(kemet)

Diode:
 - MBRB1545CT
 - 6TQ045S

TODO: reread the datasheet and get the right specs.
 At the moment i do not have the time nor patience to
 complete the power side of things so i'm gonna move
 this into a hierarchical sheet and forget about it for now



Sheet: /BEC (servo)/
 File: 5v_bec.sch

Title:

Size: A4

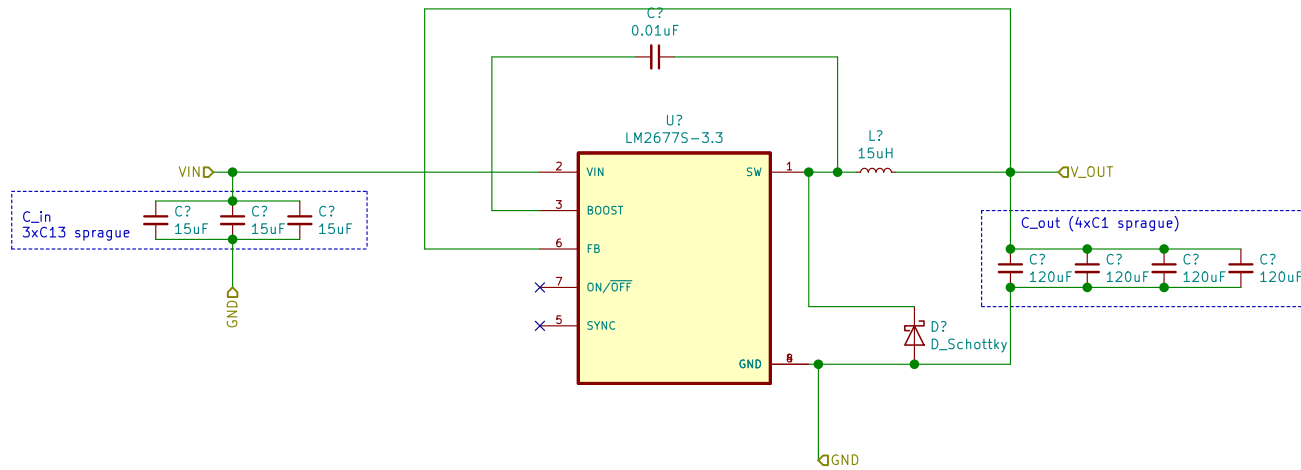
Date:

KiCad E.D.A. kicad 5.1.5+dfsg1-2build2

Rev:

Id: 7/8

TODO: reread the datasheet and get the right specs.
At the moment i do not have the time nor patience to
complete the power side of things so i'm gonna move
this into a hierarchical sheet and forget about it for now



Inductors (L46, 15uH, 5.6A max)
- Pulse Engineering P0846
- Coilcraft D05022P-153HC

C_out:
- 4xC1(avx tps), 4xC1 (sprague), 4xC3 (kemet)

C_in:
- 3xC13 (sprague), 4xC12(kemet)

Diode:
- 6TQ045S

Sheet: /3v3_pwr/
File: 3v3_bec.sch

Title:

Size: A4

Date:

KiCad E.D.A. kicad 5.1.5+dfsg1-2build2

Rev:

Id: 8/8