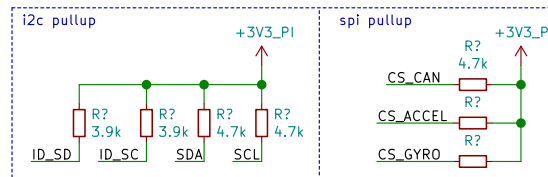
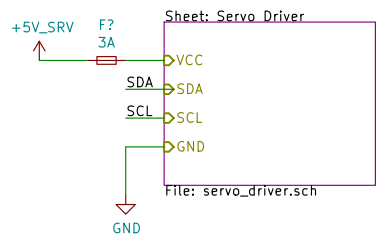
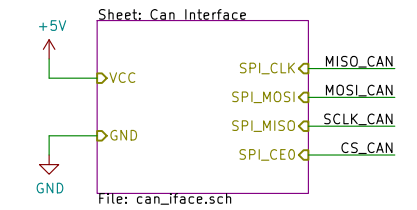
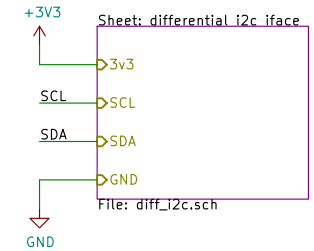
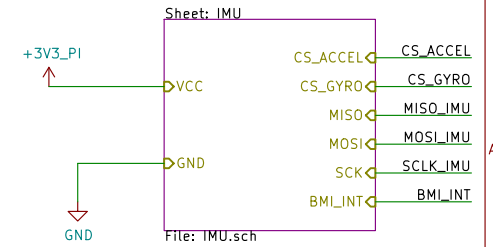
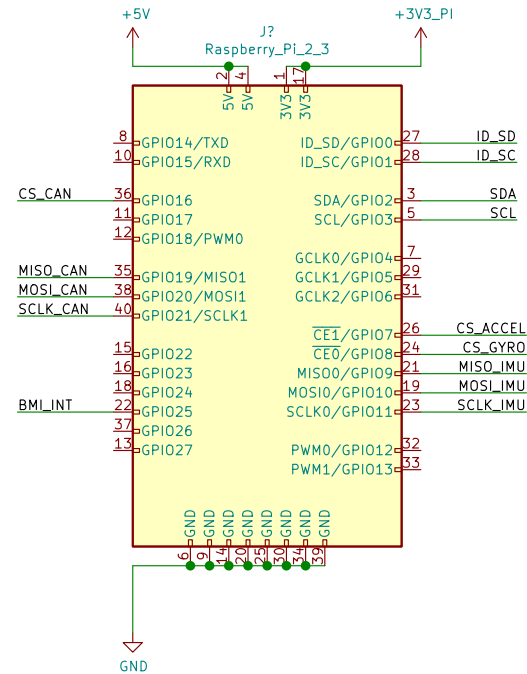
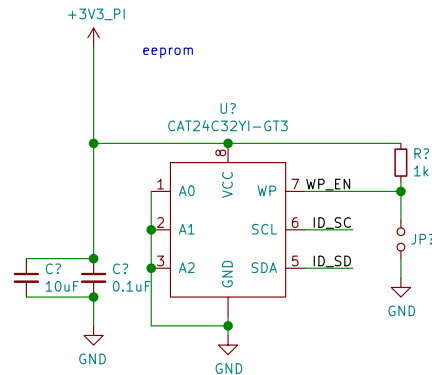
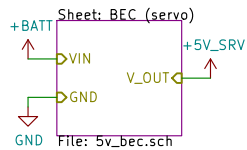
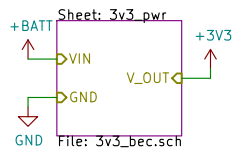
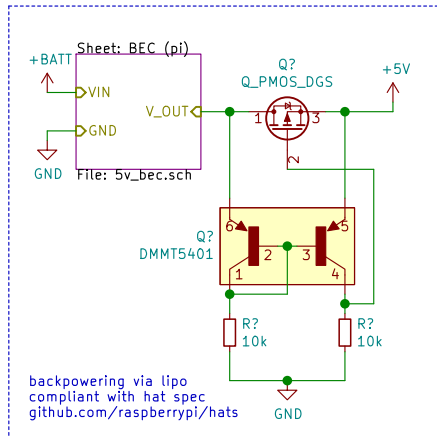


NOTE: make sure diode/mosfet reverse breakdown voltage is >=40V  
max current draw is around 10A

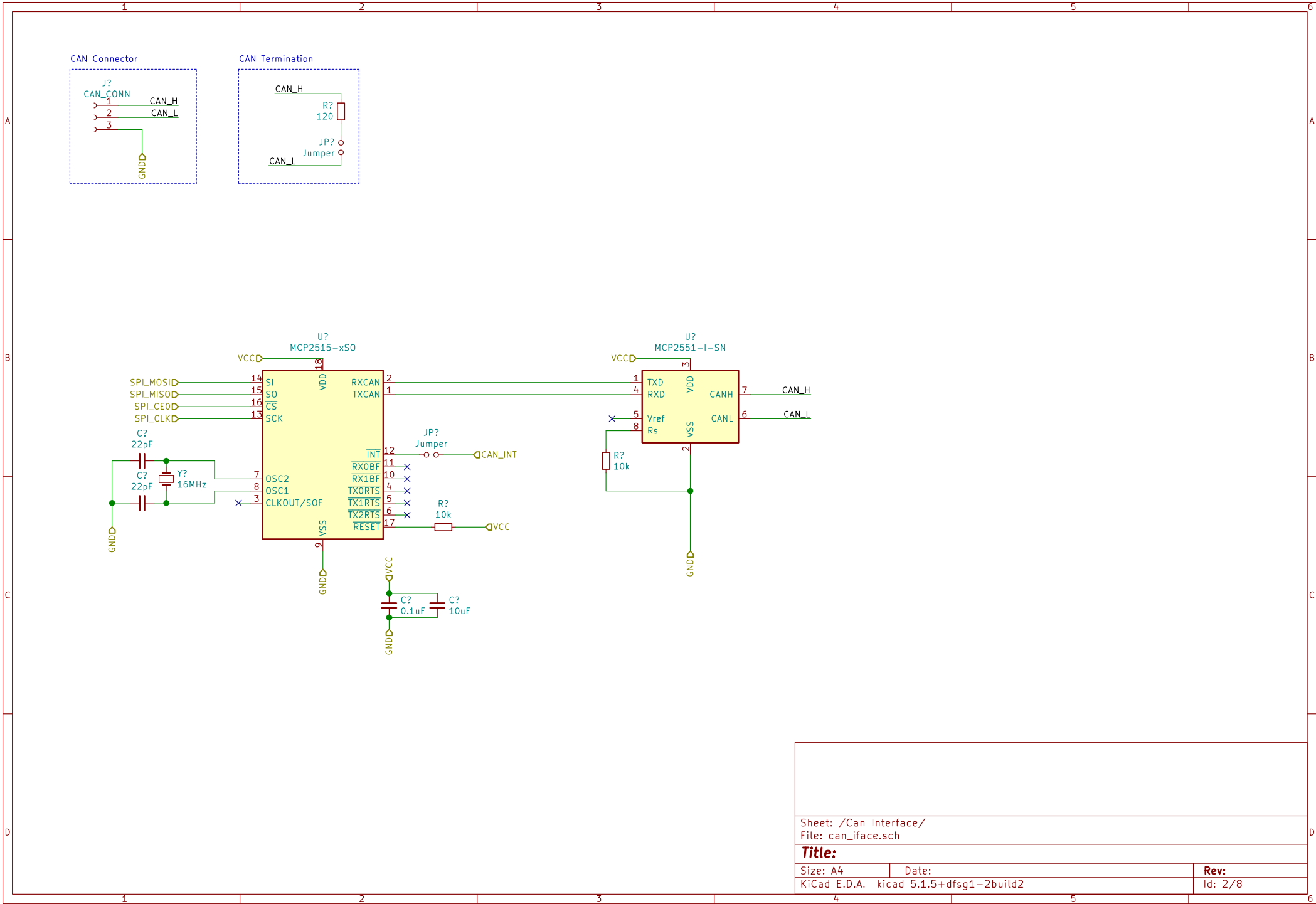


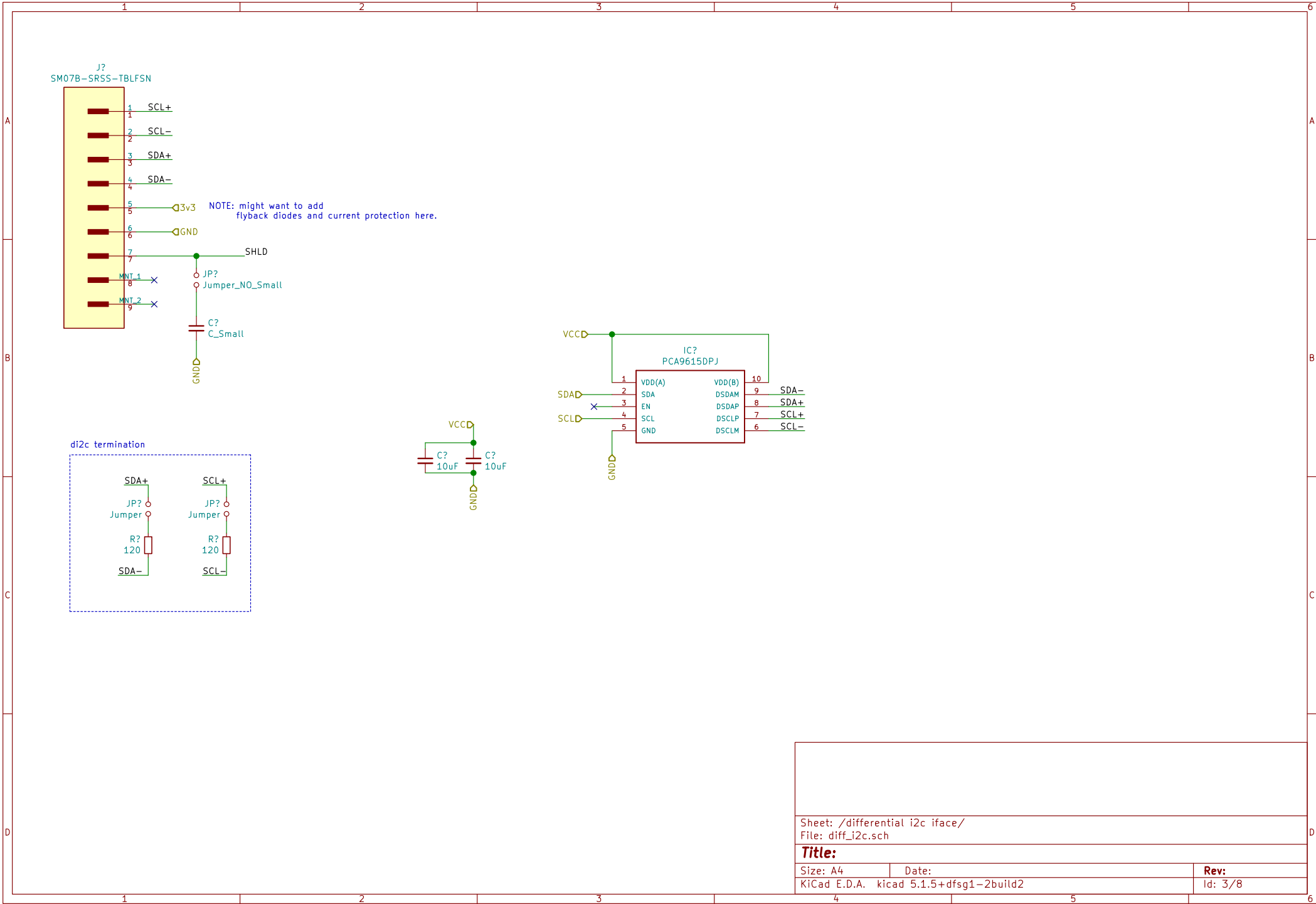
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**Rev:**  
Id: 1/8





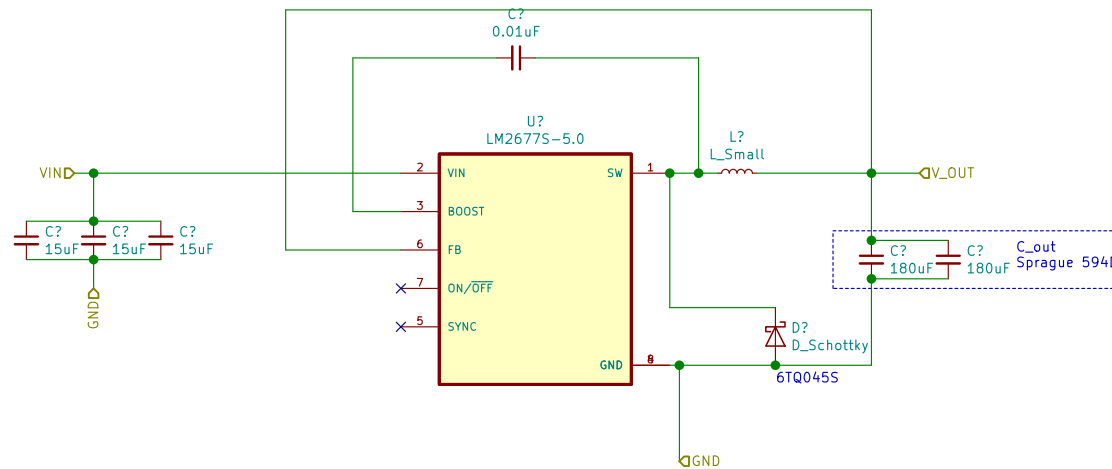
Inductors (L41, 22uH, 5.22A max)  
 - Pulse Engineering P0841

C<sub>out</sub>:  
 - 3xC2 (AVX), 2xC7 (Sprague), 3xC4 (kemet)

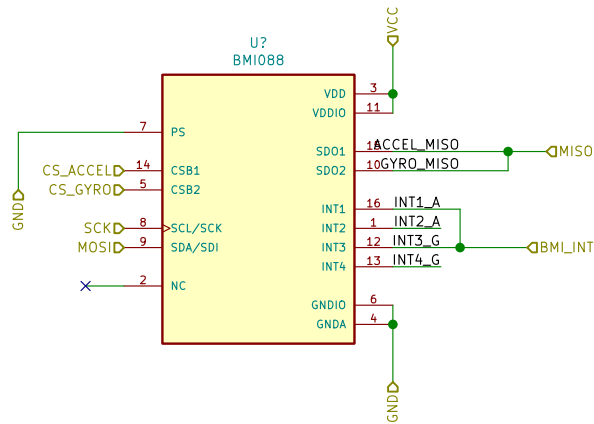
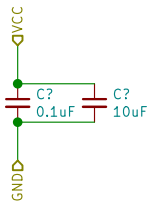
C<sub>in</sub>:  
 - 3xC13 (sprague), 4xC12(kemet)

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		
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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:**

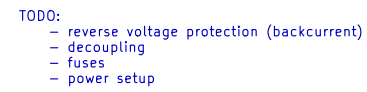
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**Rev:**

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Rev:  
Id: 6/8

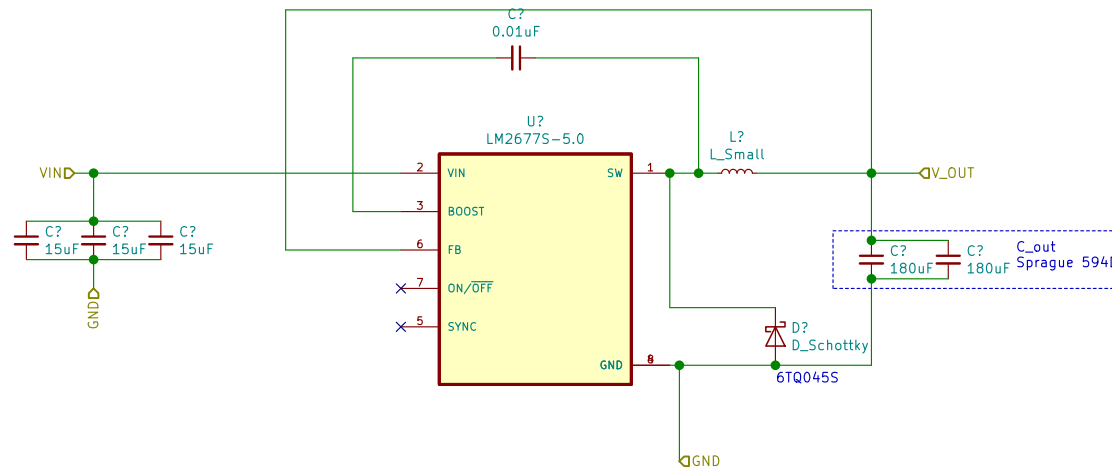
Inductors (L41, 22uH, 5.22A max)  
- Pulse Engineering P0841

C<sub>out</sub>:  
- 3xC2 (AVX), 2xC7 (Sprague), 3xC4 (kemet)

C<sub>in</sub>:  
- 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

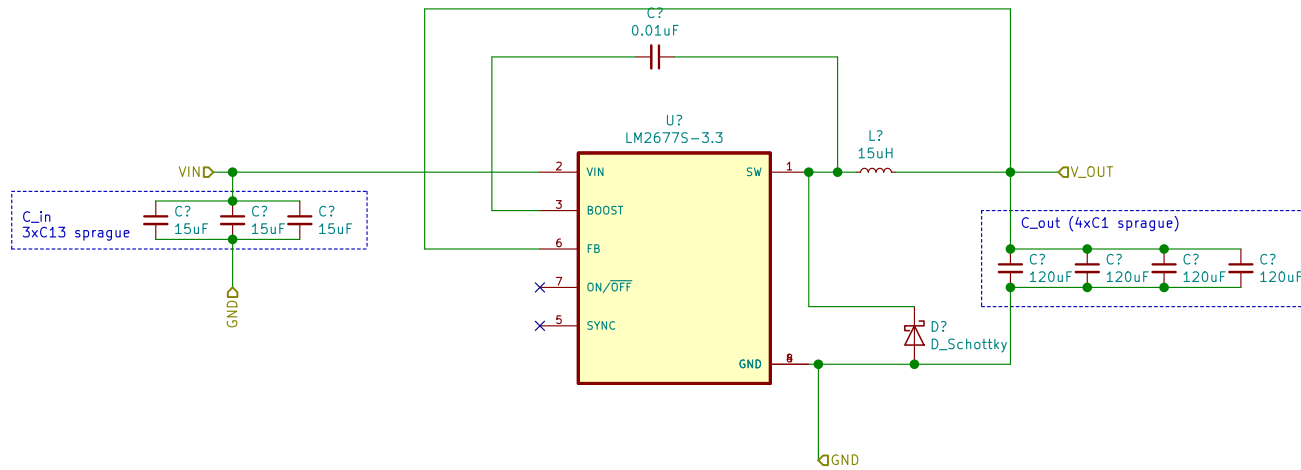
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**Rev:**

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