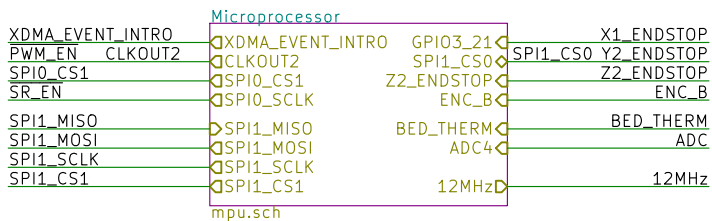
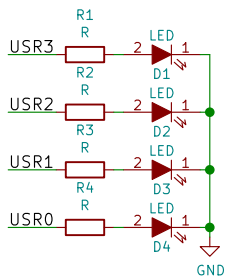
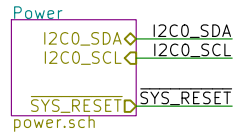
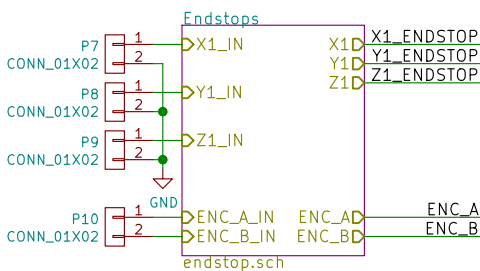
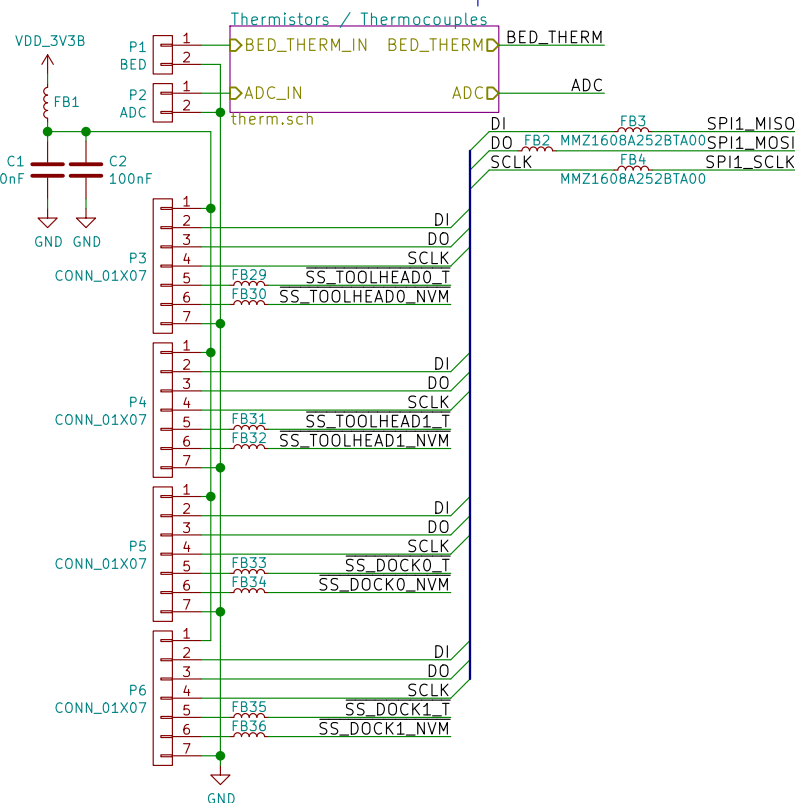


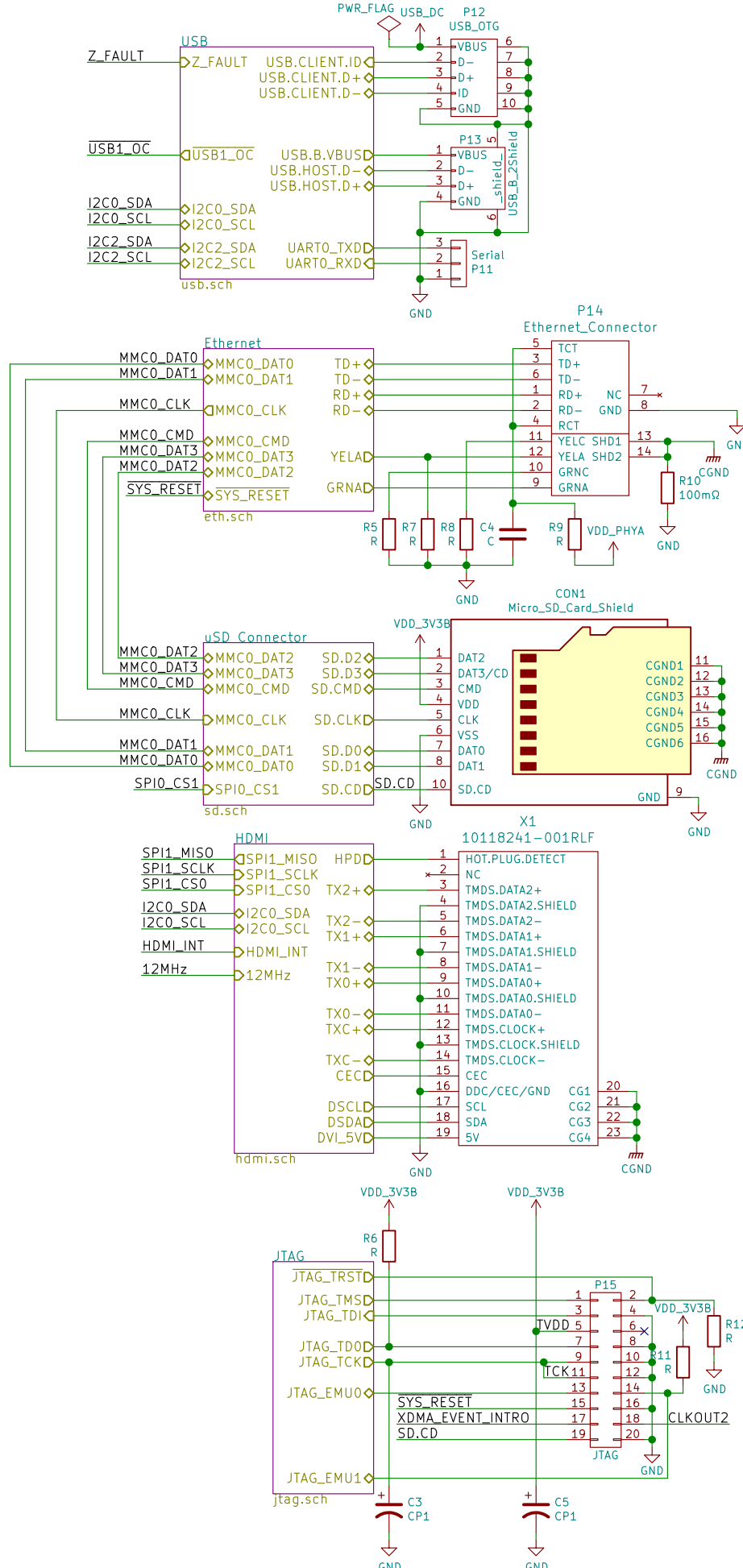
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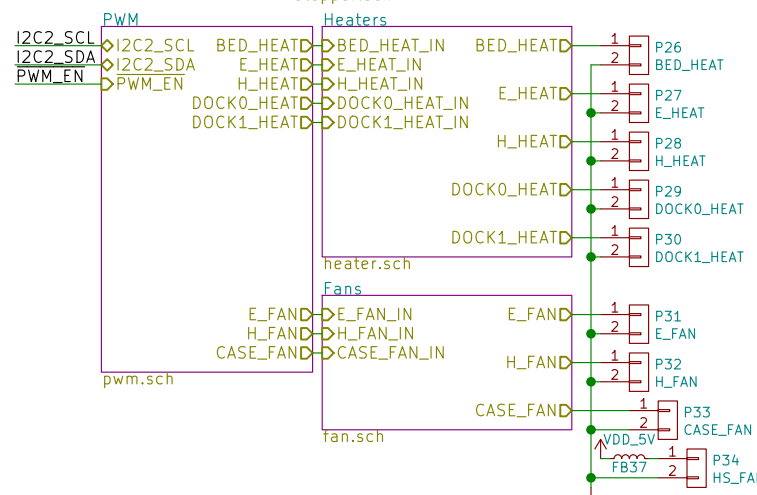
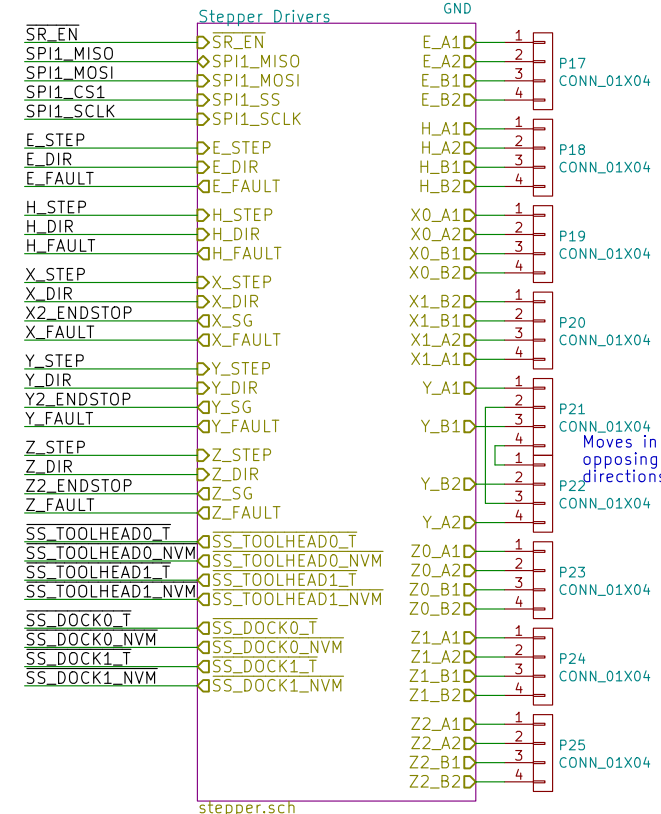
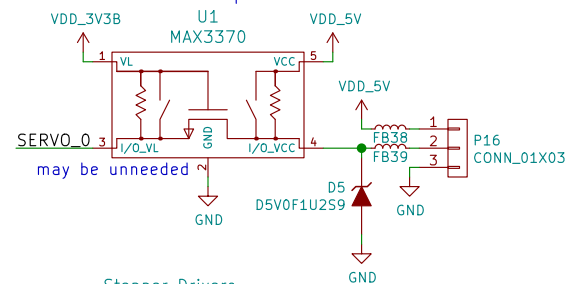
Feedback Input



Interfaces



Output



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Aleph Objects Inc.

Sheet: /

File: KiMBo.sch

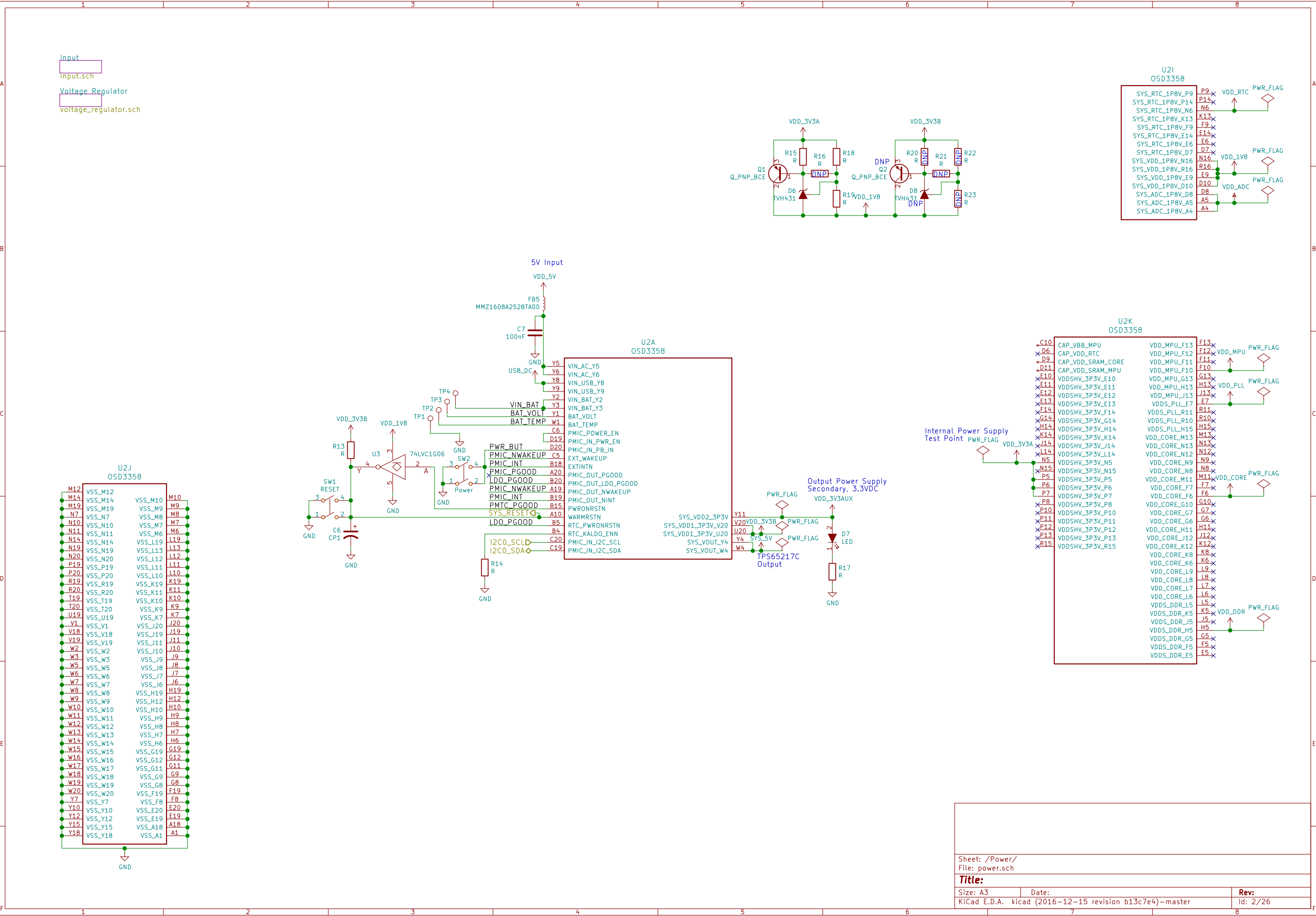
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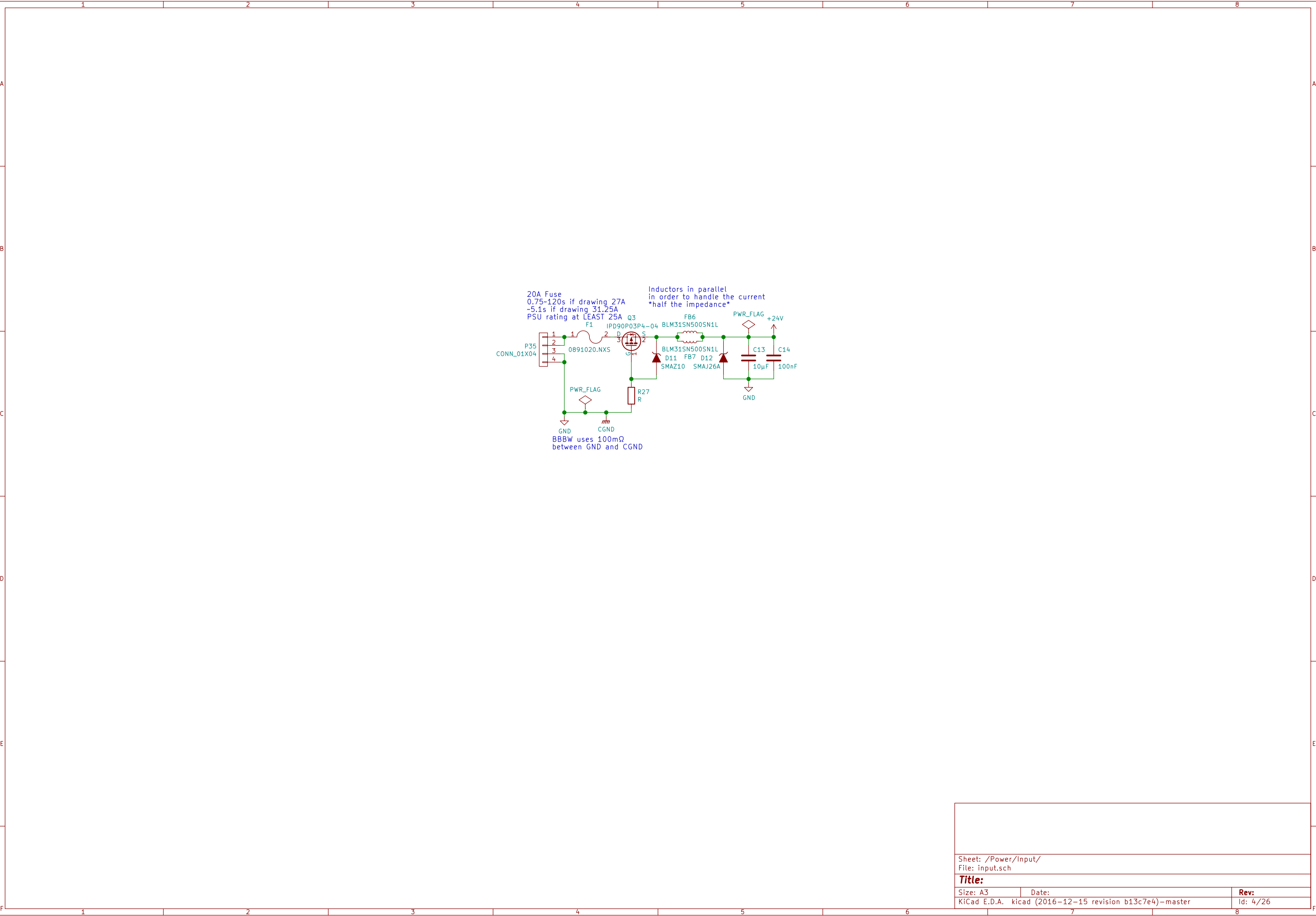
Size: A3 Date: 2017-03-03

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Rev:

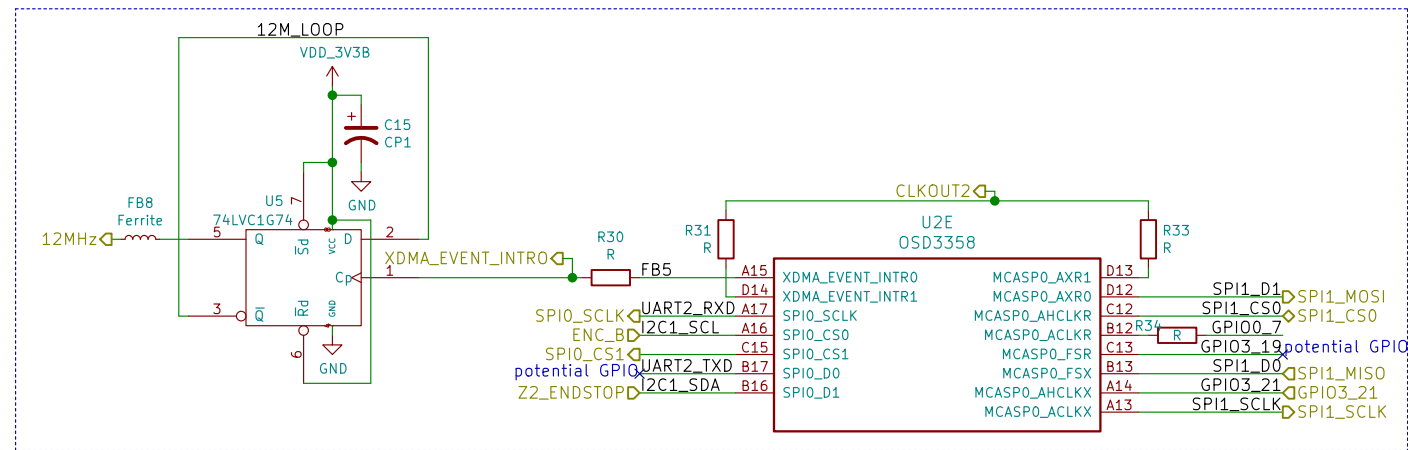
Id: 1/26



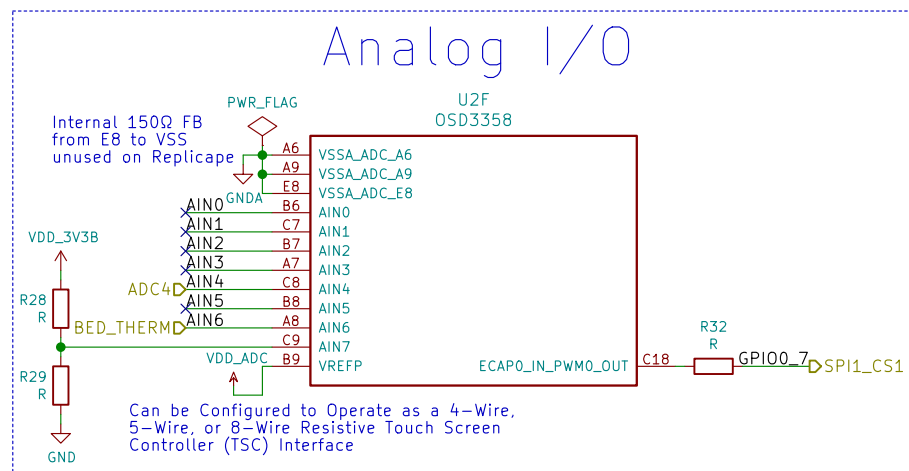


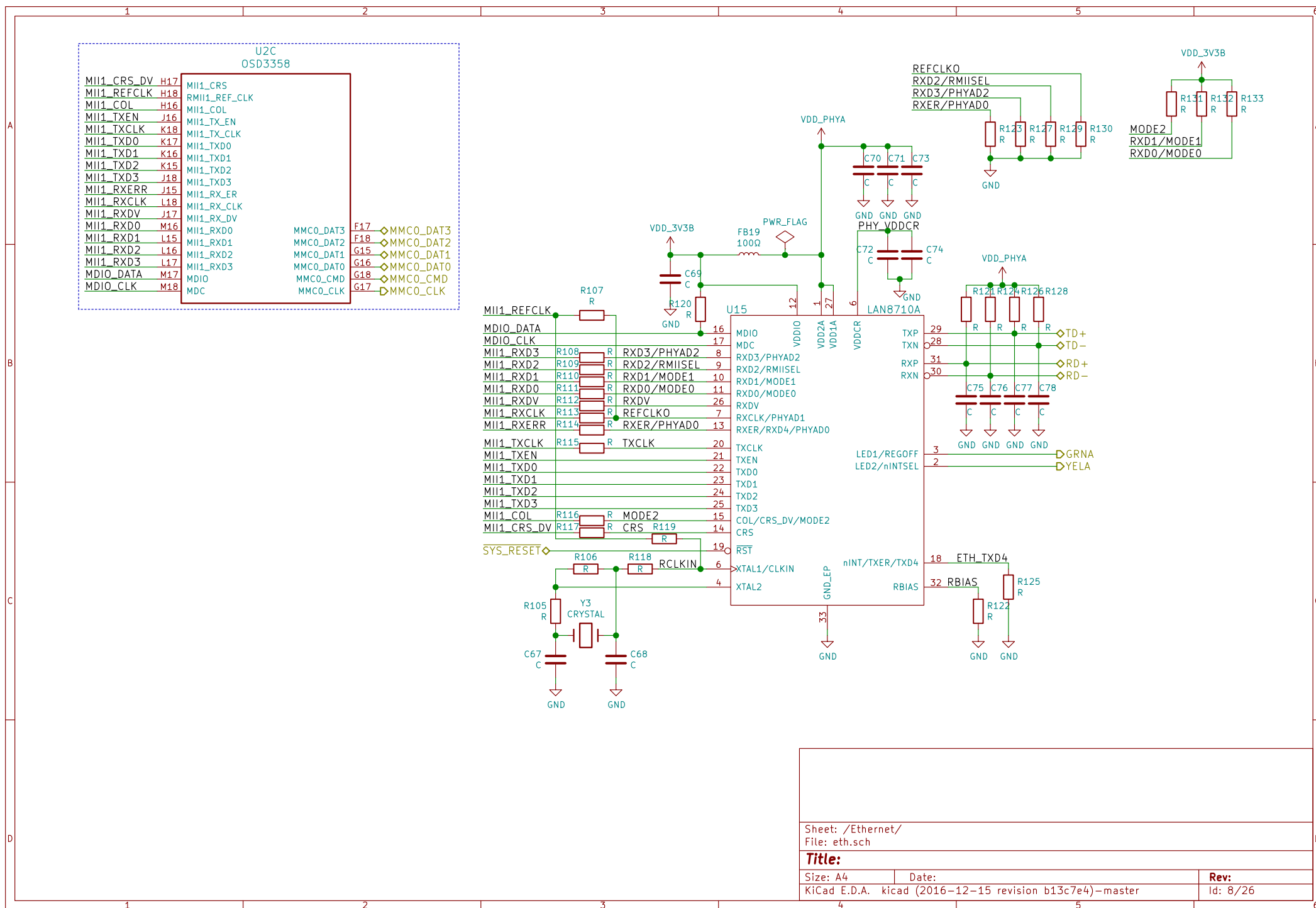
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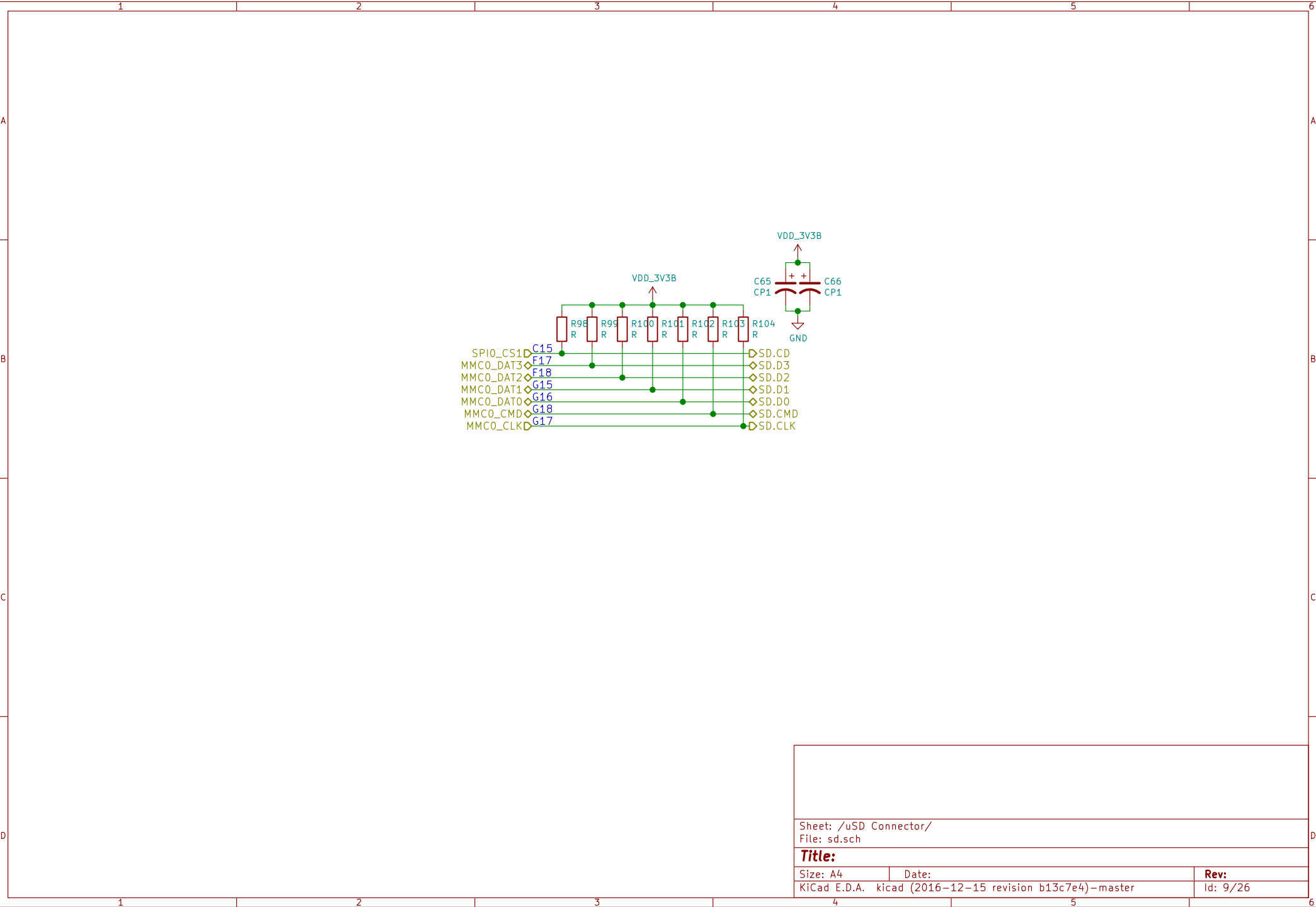
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B2	NC_B2	EXTL3A Y19
B3	NC_B3	EXTL2B Y17
C1	NC_C1	EXTL2A Y16
C2	NC_C2	EXTL1B Y14
C3	NC_C3	EXTL1A Y13
C4	NC_C4	NC_V11 Y11
D1	NC_D1	NC_V10 V10
D2	NC_D2	NC_U11 U11
D3	NC_D3	NC_P4 P4
D4	NC_D4	NC_P3 P3
D5	NC_D5	NC_P2 P2
E1	NC_E1	NC_P1 P1
E2	NC_E2	NC_N4 N4
E3	NC_E3	NC_N3 N3
E4	NC_E4	NC_N2 N2
F1	NC_F1	NC_N1 N1
F2	NC_F2	NC_M4 M4
F3	NC_F3	NC_M3 M3
F4	NC_F4	NC_M2 M2
G1	NC_G1	NC_M1 M1
G2	NC_G2	NC_L4 L4
G3	NC_G3	NC_L3 L3
G4	NC_G4	NC_L2 L2
H1	NC_H1	NC_L1 L1
H2	NC_H2	NC_K4 K4
H3	NC_H3	NC_K3 K3
H4	NC_H4	NC_K2 K2
J1	NC_J1	NC_K1 K1
J2	NC_J2	NC_J4 J4
		NC_J3 J3
		TESTOUT A3

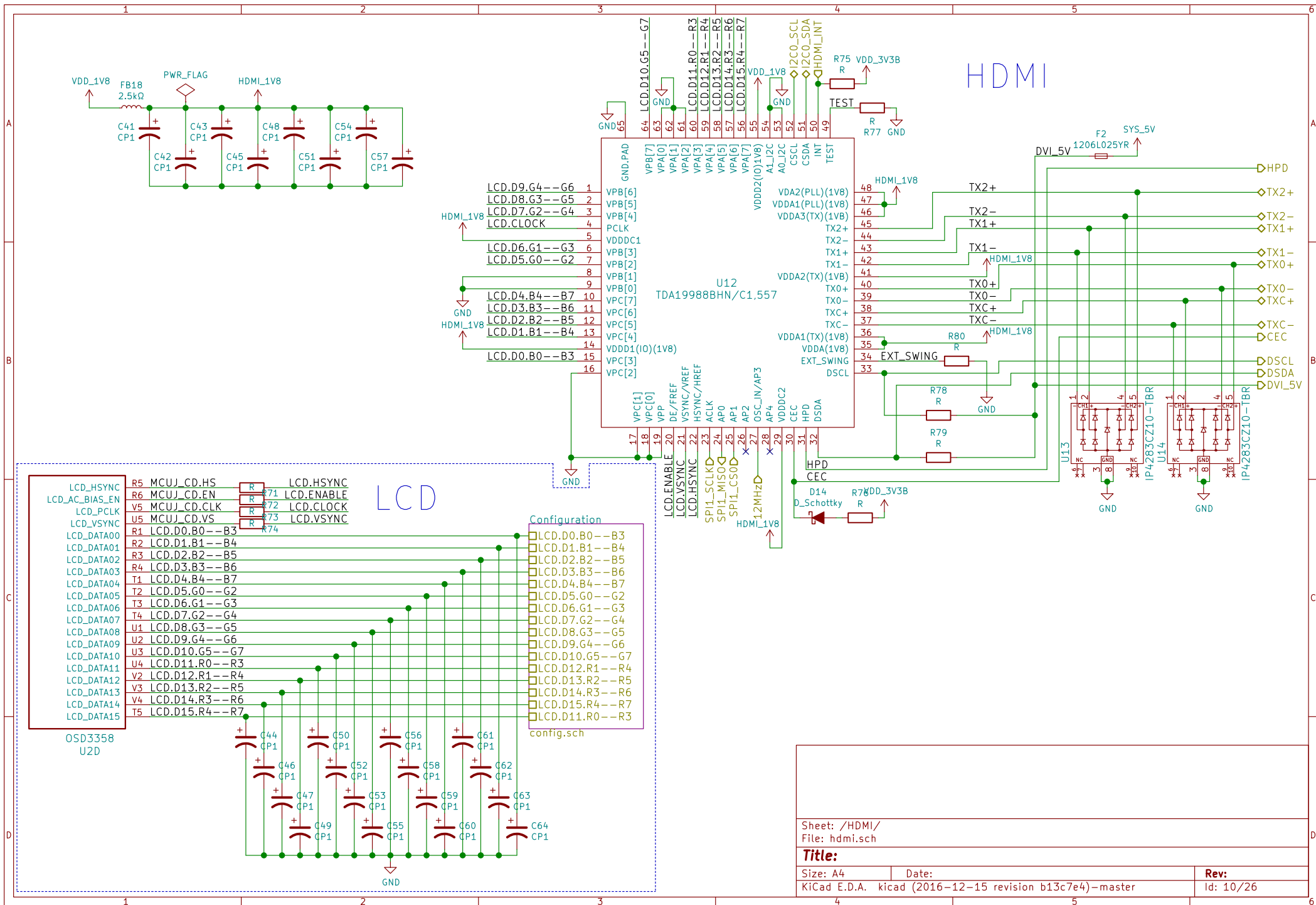


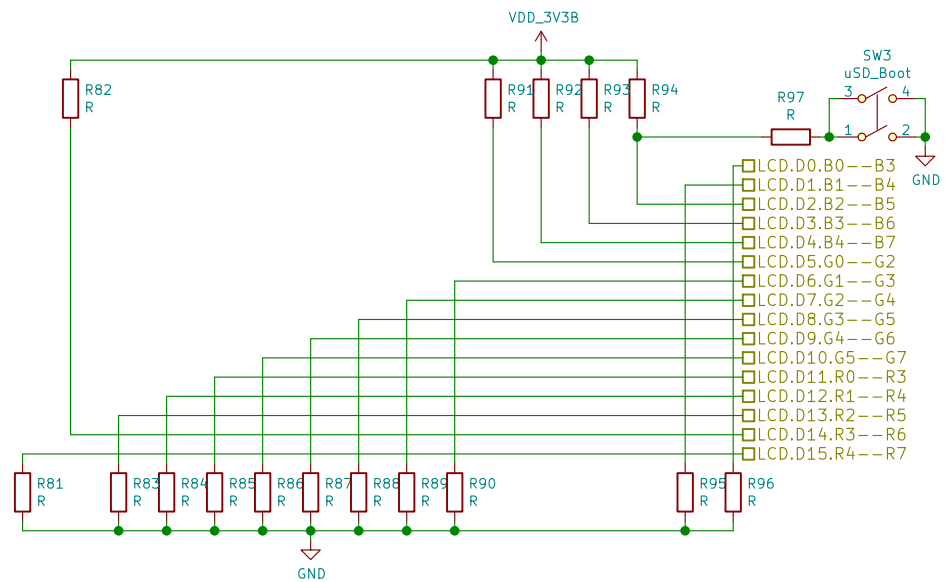
Analog I/O









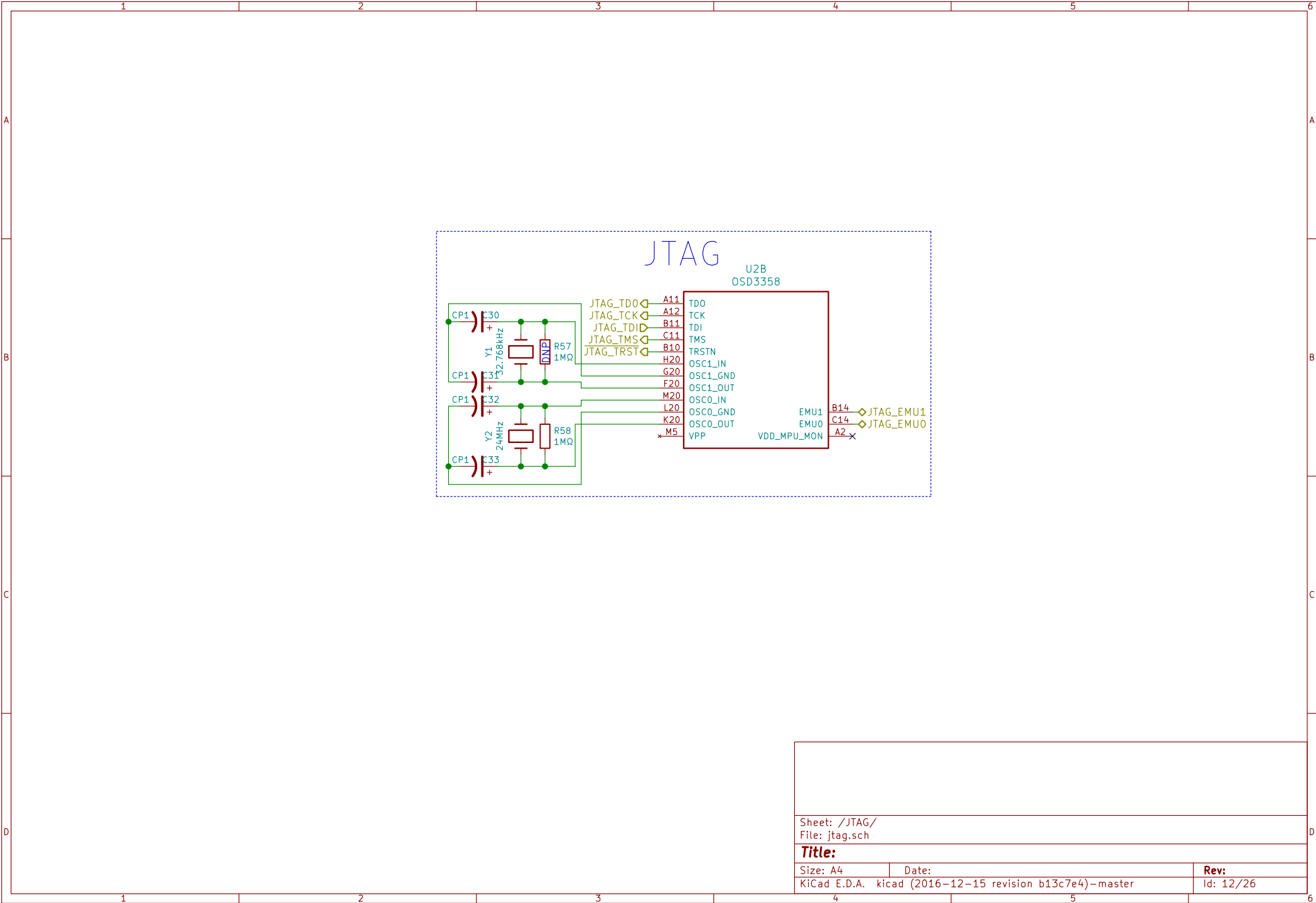


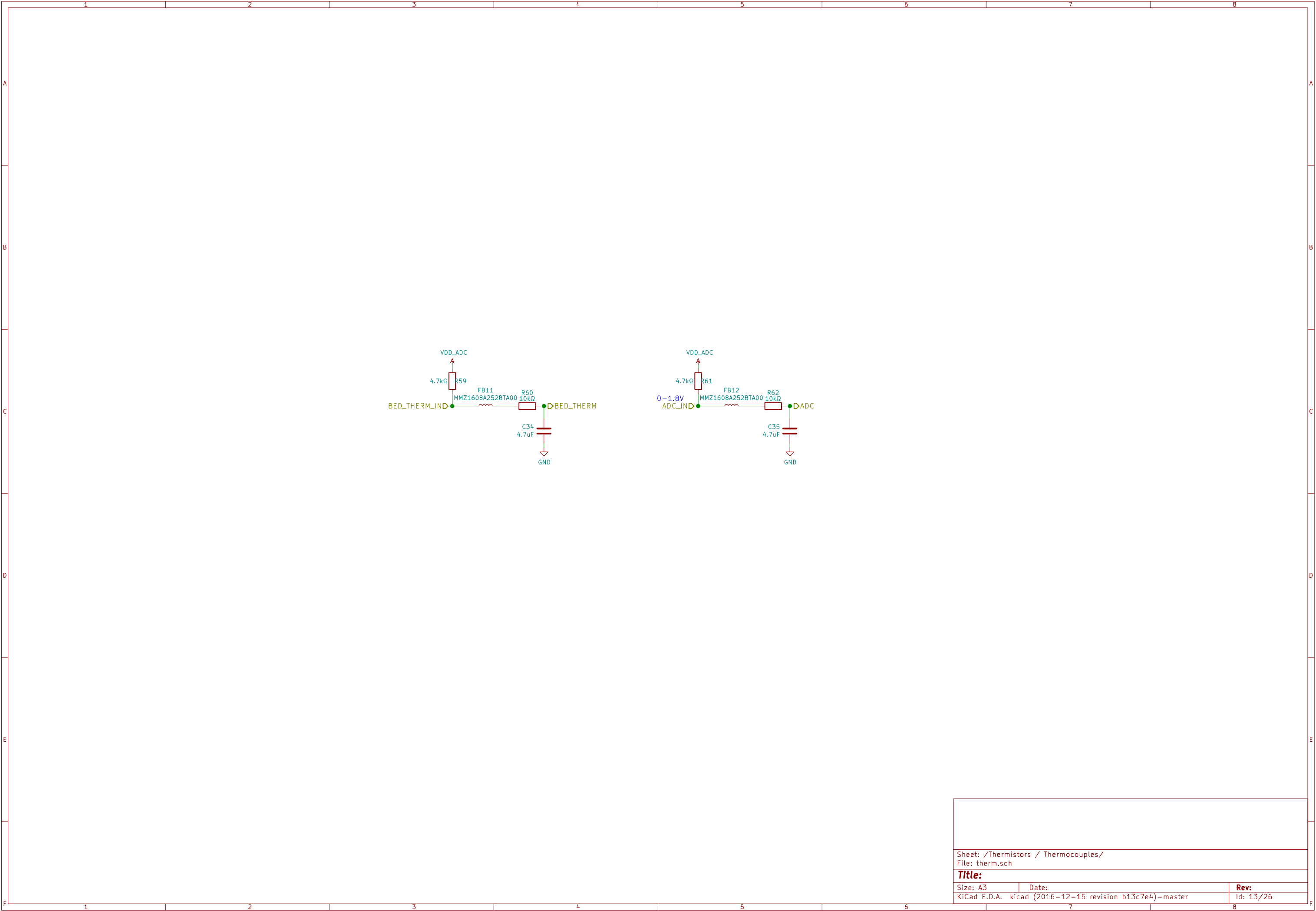
Sheet: /HDMI/Configuration/
File: config.sch

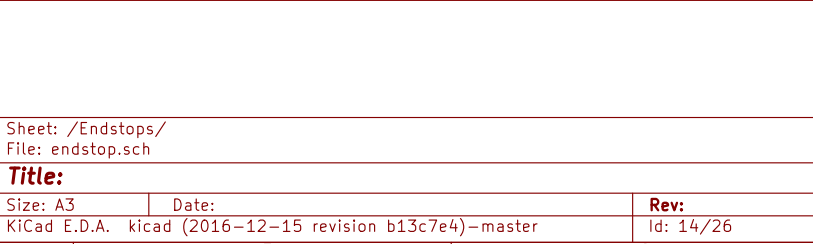
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Size: A4 Date: KiCad E.D.A. kicad (2016-12-15 revision b13c7e4)-master

Rev: Id: 11/26

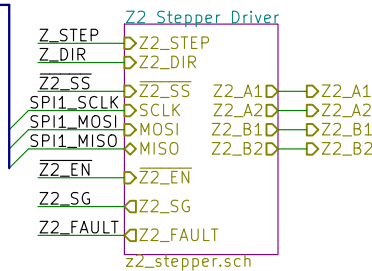
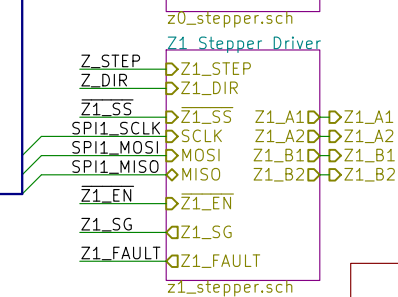
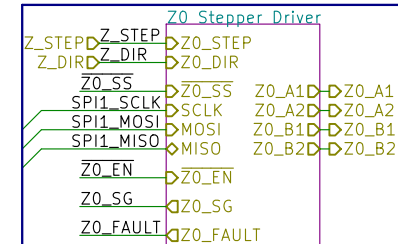
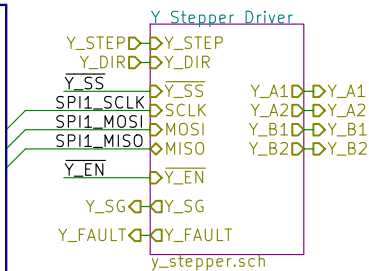
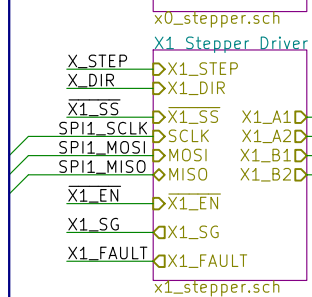
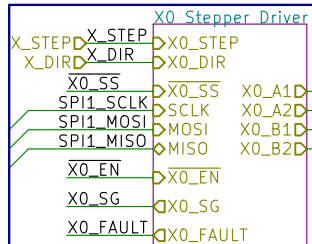
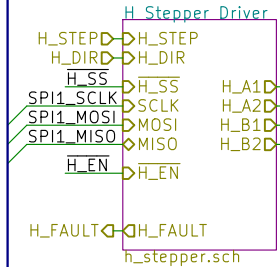
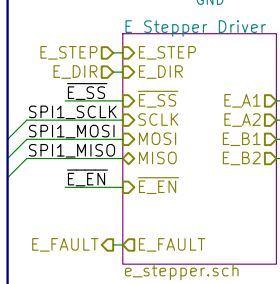
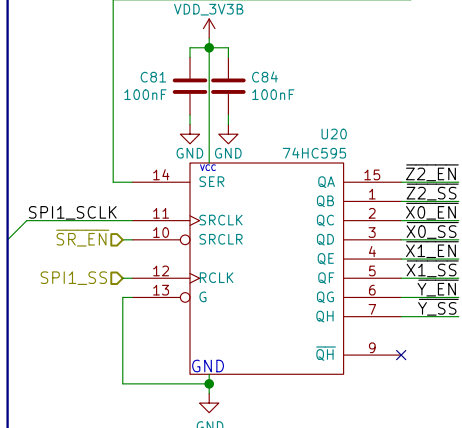
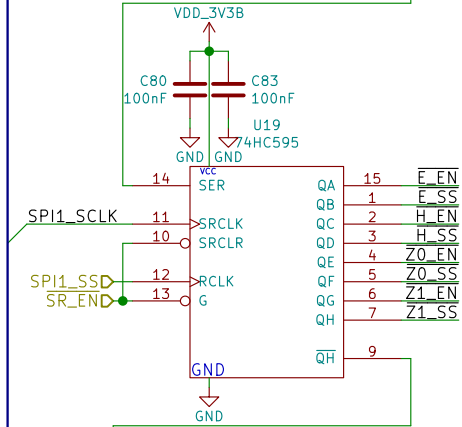
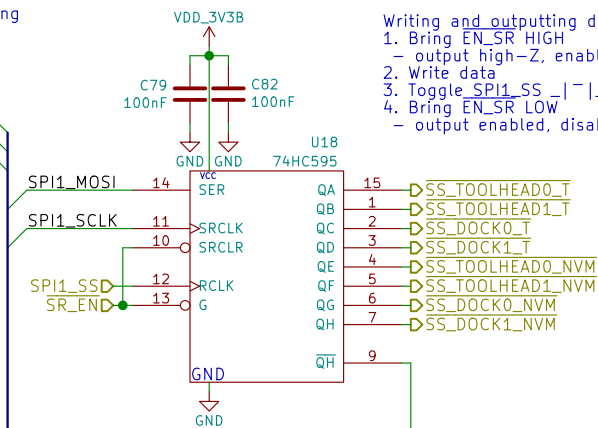
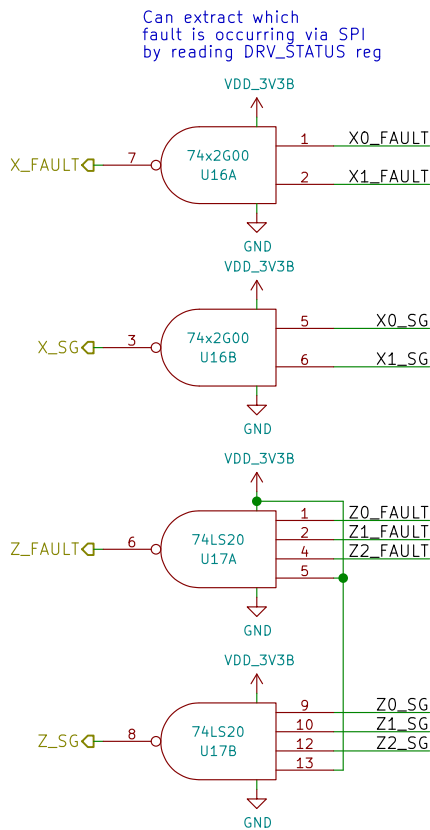


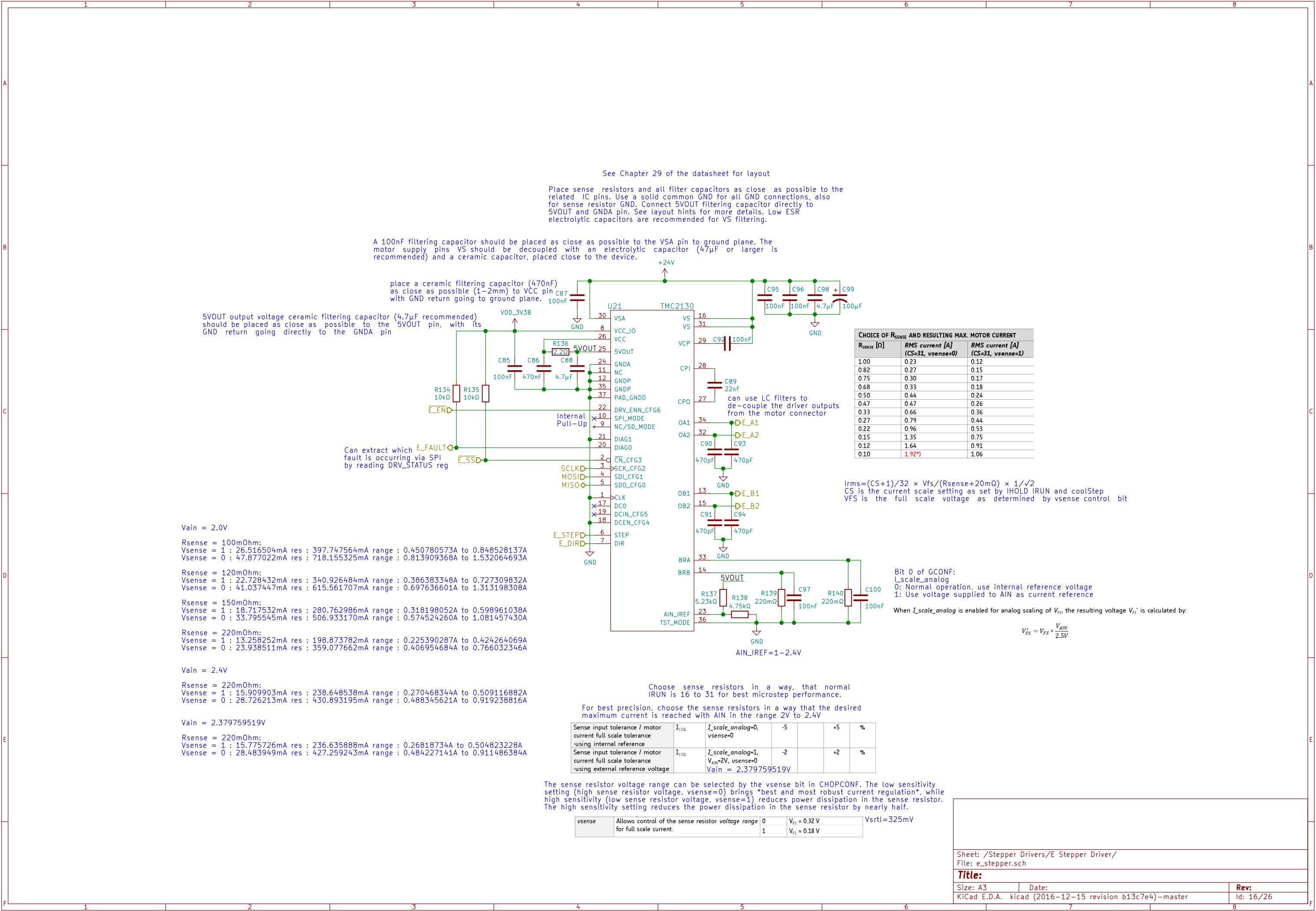


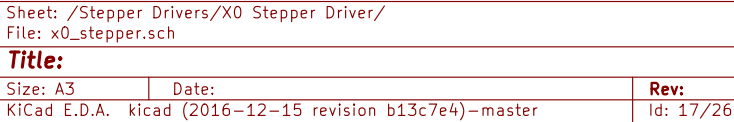


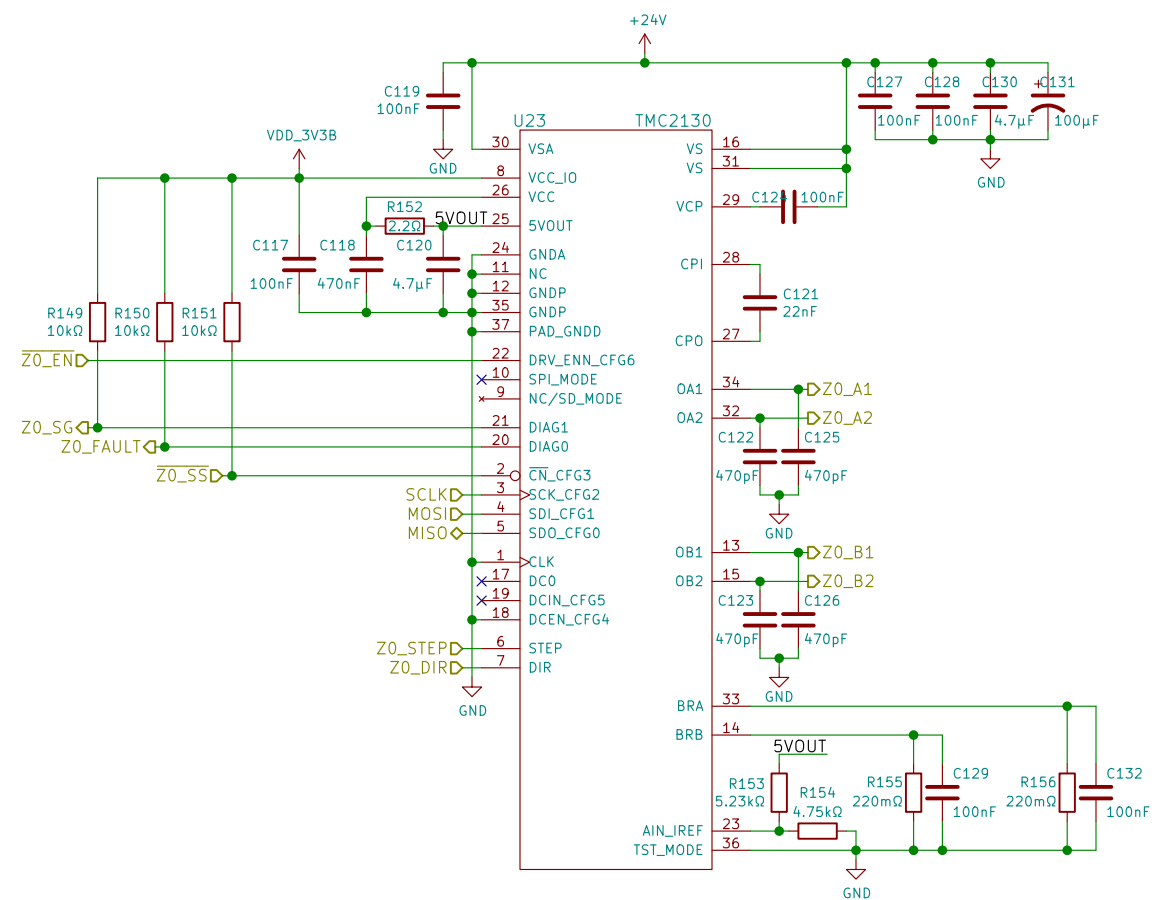
When EN_SR transitions from LOW to HIGH each D-FF of the shift-register come out of their reset states and the output is set to high-Z, ready for writing
When EN_SR transitions from HIGH to LOW each D-FF of the shift-register goes into their reset states and the output is enabled, SS/EN selected
SPI1_SS captures the data in the shift register and is ready to be driven by the second stage of D-FFs

Writing and outputting data:
1. Bring EN_SR HIGH
- output high-Z, enables all motors
2. Write data
3. Toggle SPI1_SS -|_|-
4. Bring EN_SR LOW
- output enabled, disable specific motors/ready to configure









Sheet: /Stepper Drivers/Z0 Stepper Driver/
File: z0_stepper.sch

Title:

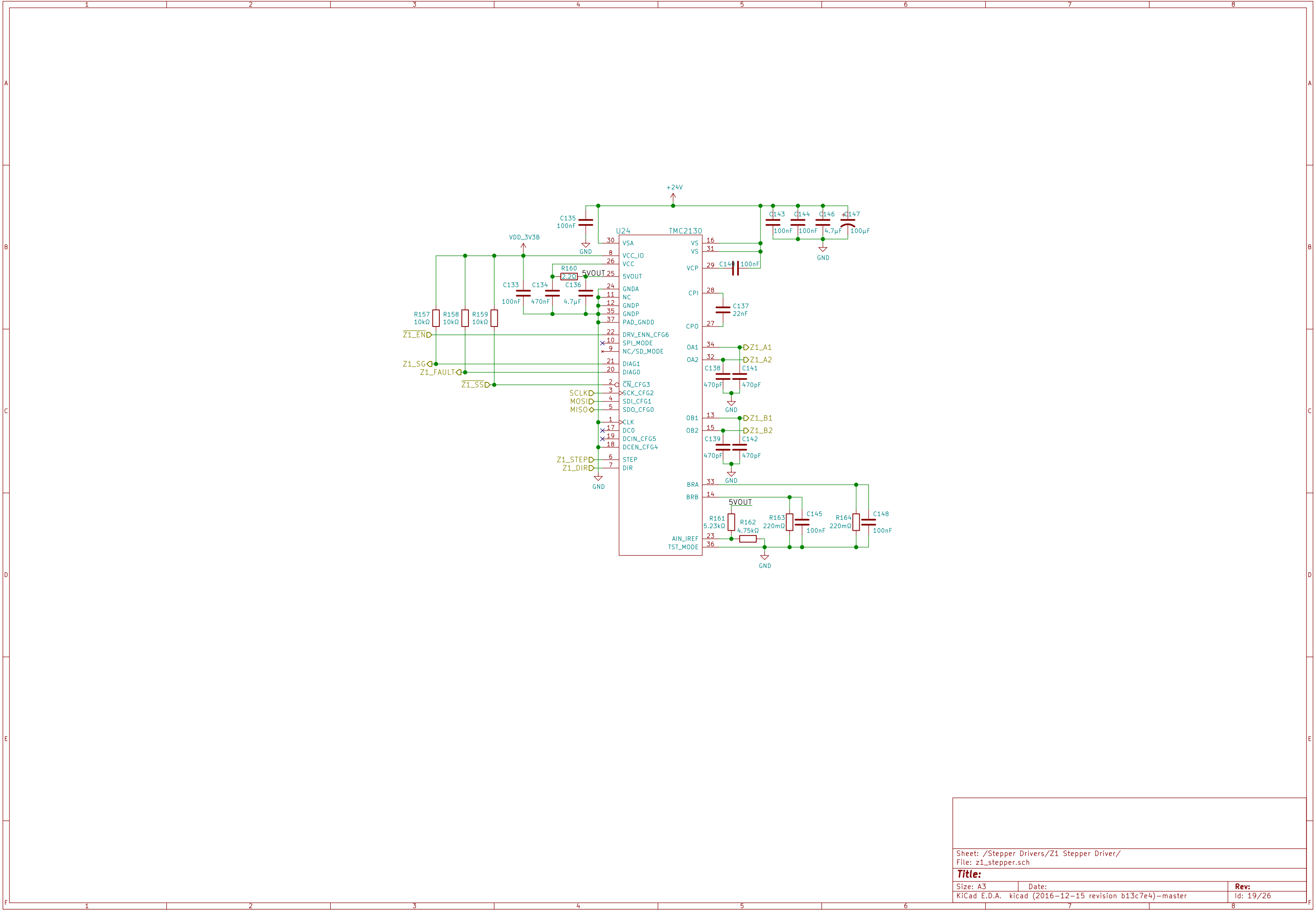
Size: A3

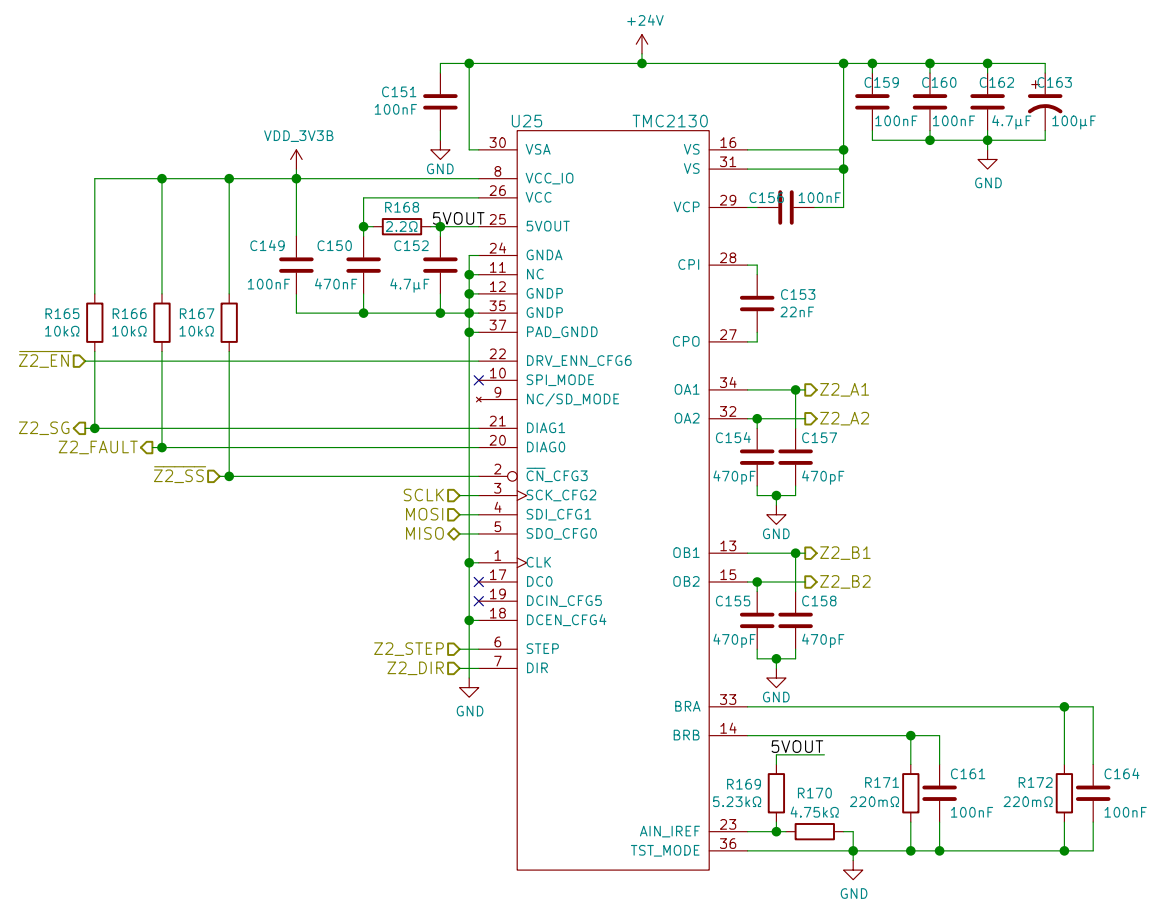
Date:

Size: A5	Date:
KiCad E.D.A. kicad (2016-12-15 revision b13c7e4)-master	

Rev:

Id: 18/26





Sheet: /Stepper Drivers/Z2 Stepper Driver/
File: z2_stepper.sch

Title:

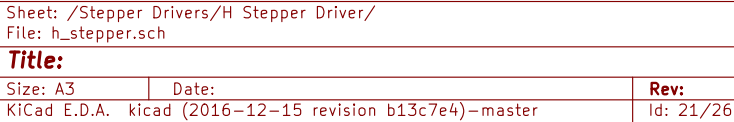
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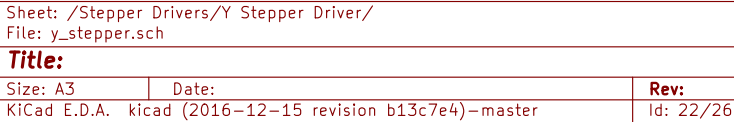
Date:

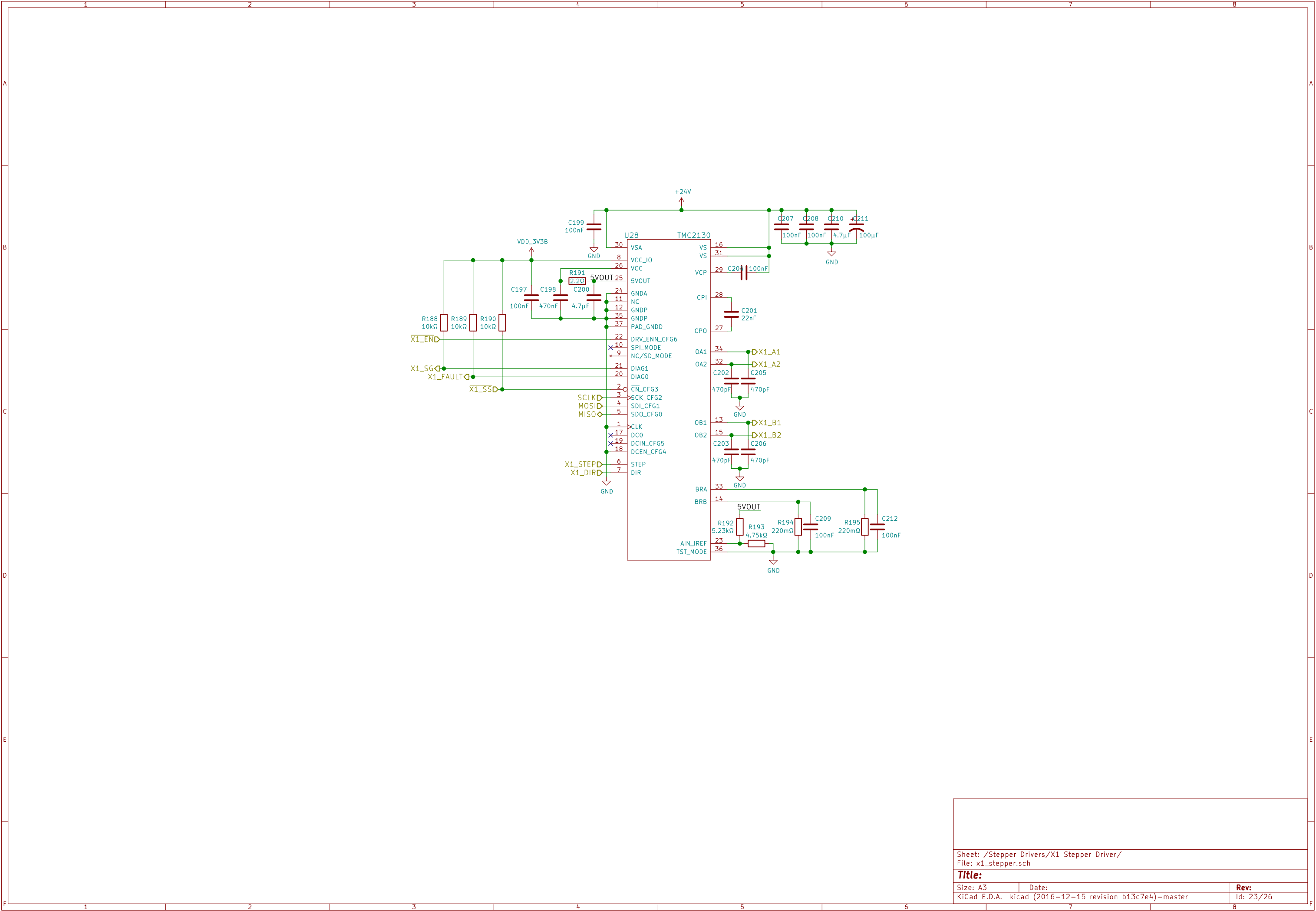
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KiCad E.D.A. kicad (2016-12-15 revision b13c7e4)-master	

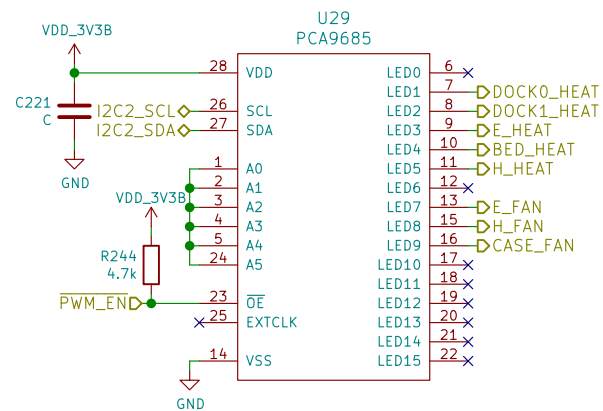
Rev:

Id: 20/26







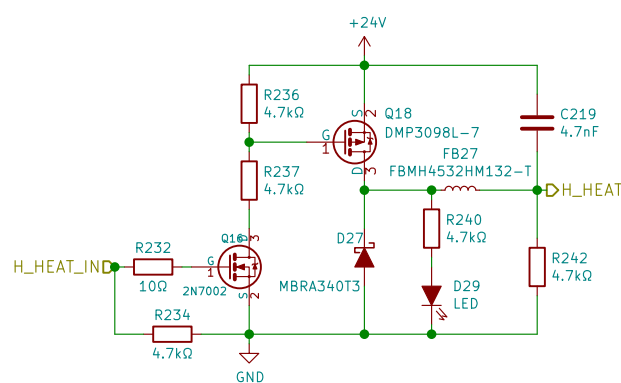
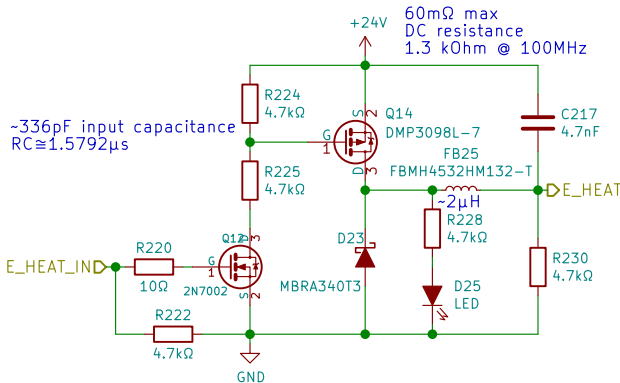
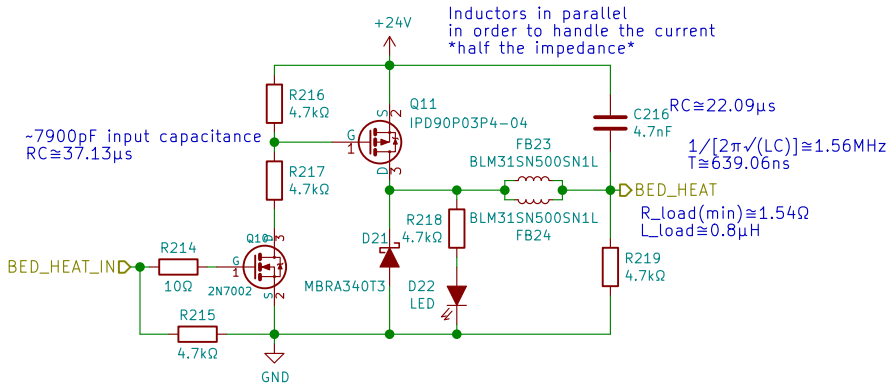


Sheet: /PWM/
File: pwm.sch

Title:

Size: A4 Date:
KiCad E.D.A. kicad (2016-12-15 revision b13c7e4)-master

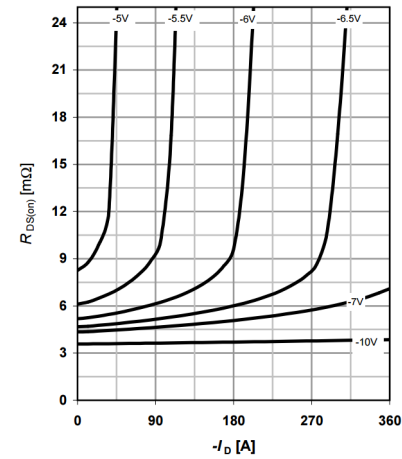
Rev:
Id: 24/26



6 Typ. drain-source on-state resistance

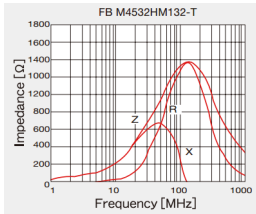
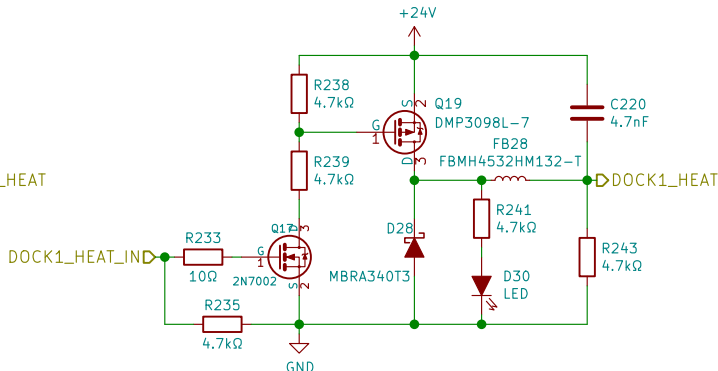
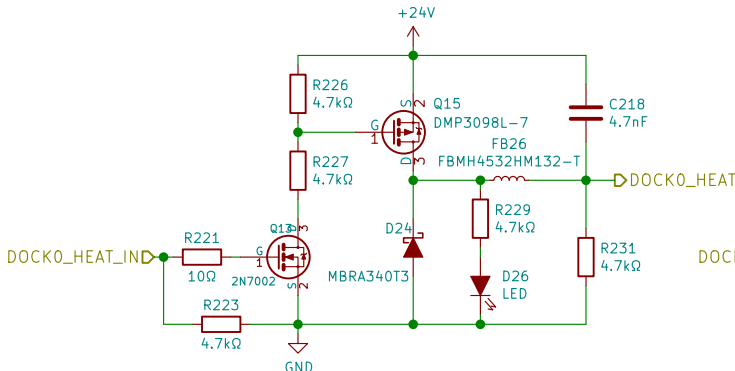
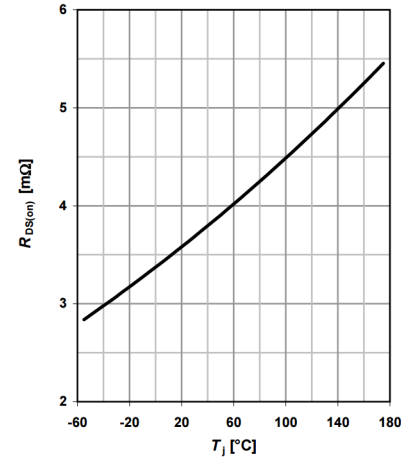
$$R_{DS(on)} = (I_D); T_J = 25^\circ\text{C}$$

parameter: V_{GS}



8 Typ. drain-source on-state resistance

$$R_{DS(on)} = f(T_J); I_D = -90\text{ A}; V_{GS} = -10\text{ V}$$



Sheet: /Heaters/
File: heater.sch

Title:

Size: A3

Date:

Rev:

KiCad E.D.A. kicad (2016-12-15 revision b13c7e4)-master

Id: 25/26

