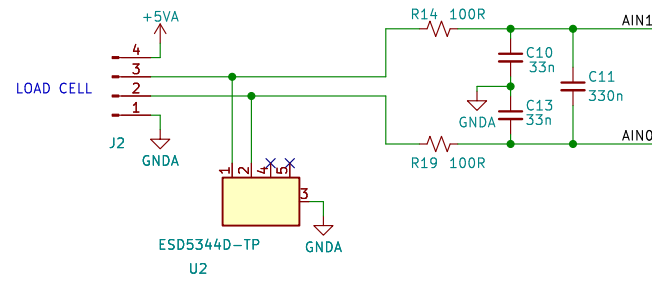NOTE: All sensor measurements are ratiometric, proportional to (5VA − GNDA).
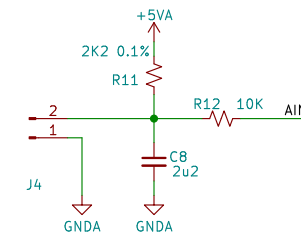
LOAD CELL

J2
GNDA
+5VA
R14 100R
C10 33n
C11 330n
AIN1
C13 33n
GNDA
R19 100R
AIN0

ESD5344D-TP
U2

LOAD CELL

THERMISTOR 1
+5VA
2K2 0.1%
R8
R3 10K AIN2
C6 2u2
J1
GNDA GNDA

THERMISTOR 2
+5VA
2K2 0.1%
R9
R10 10K AIN3
C7 2u2
J3
GNDA GNDA
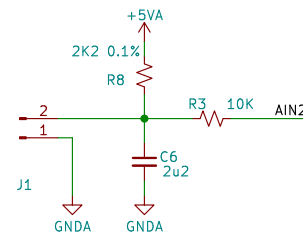
THERMISTOR 3
+5VA
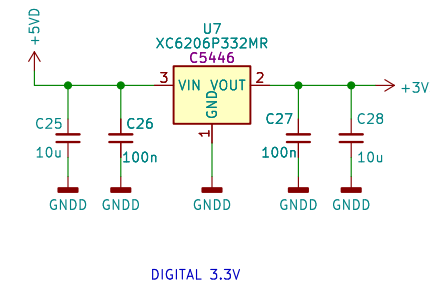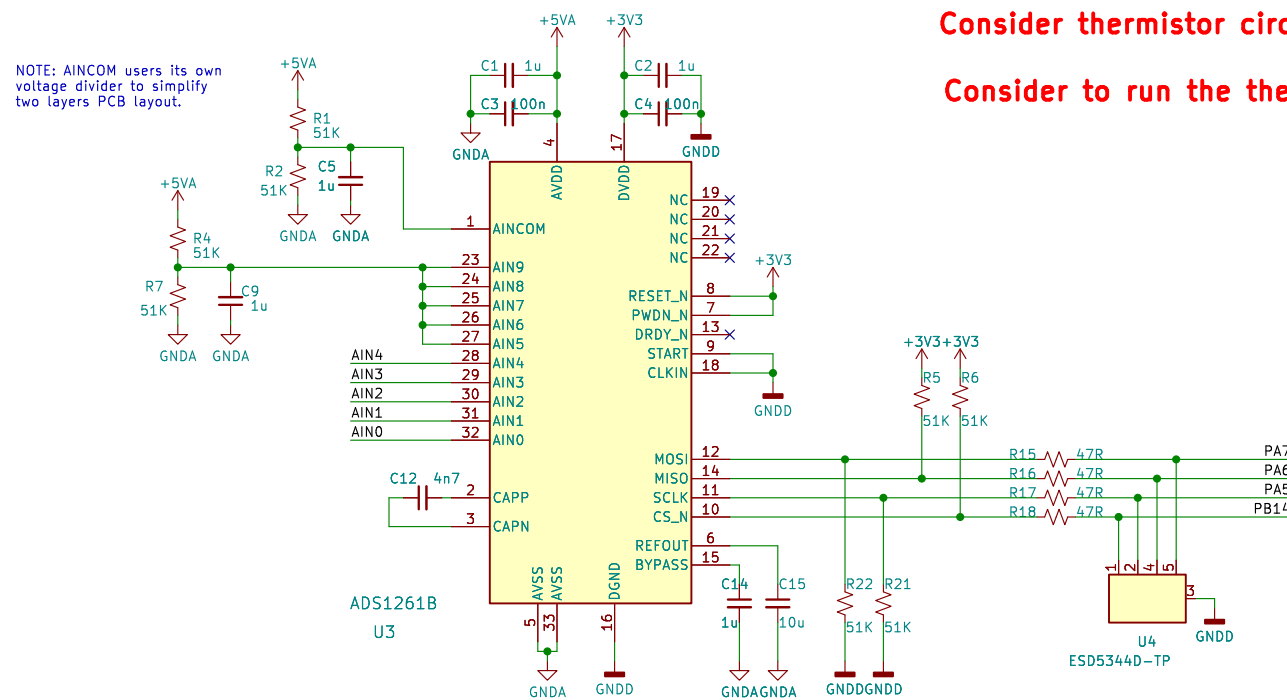2K2 0.1%
R11
R12 10K AIN4
C8 2u2
J4
GNDA GNDA
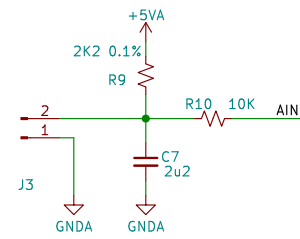
TODO: Should MOSI be pulled up or down?

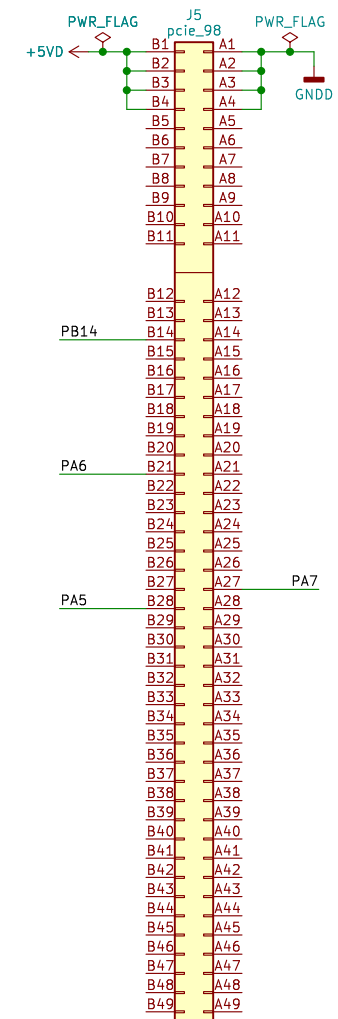TODO: Add jumpers for two SPI channels.

TODO: Consider to add constant current NTC 50K thermistor inputs.

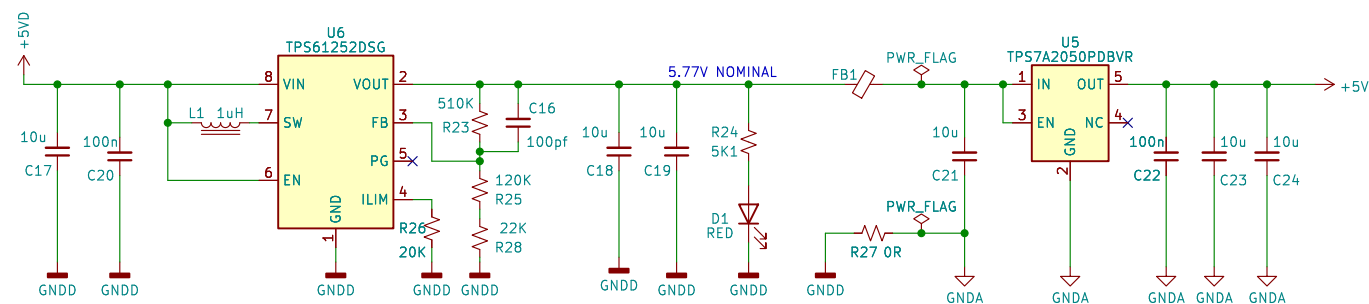Consider thermistor circuit from the ADS1120 datasheet.

Consider to run the thermistors on 3.3 volt to reduce power disspation.

NOTE: AINCOM users its own voltage divider to simplify two layers PCB layout.

+5VA +3V3
C1 1u   C2 1u
C3 100n C4 100n
GNDA   GNDD

R1 51K
R2 51K
C5 1u
GNDA GNDA

+5VA
R4 51K
R7 51K
C9 1u
GNDA GNDA

AVDD   DVDD
AINCOM   1
AIN9   23
AIN8   24
AIN7   25
AIN6   26
AIN5   27
AIN4   28 AIN4
AIN3   29 AIN3
AIN2   30 AIN2
AIN1   31 AIN1
AIN0   32 AIN0

NC 19
NC 20
NC 21
NC 22

RESET_N 8
PWDN_N   7
DRDY_N 13
START   9
CLKIN   18
+3V3
GNDD

C12 4n7
CAPP 2
CAPN 3

MOSI   12 PA7
MISO   14 PA6
SCLK   11 PA5
CS_N   10 PB14

REFOUT 6
BYPASS 15

AVSS   DGND

ADS1261B
U3

GNDA GNDD

+3V3 +3V3
R5 R6
51K 51K

R15 47R PA7
R16 47R PA6
R17 47R PA5
R18 47R PB14

C14 1u C15 10u
R22 51K R21 51K
GNDA GNDA GNDD GNDD

U4
ESD5344D-TP
GNDD

+5VD
U7
XC6206P332MR
C5446
VIN VOUT +3V3
GND
C25 10u C26 100n C27 100n C28 10u
GNDD GNDD GNDD GNDD GNDD

DIGITAL 3.3V

J5
pcie_98
PWR_FLAG   PWR_FLAG
+5VD   B1 A1
B2 A2
B3 A3   GNDD
B4 A4
B5 A5
B6 A6
B7 A7
B8 A8
B9 A9
B10 A10
B11 A11
B12 A12
B13 A13
PB14 B14 A14
B15 A15
B16 A16
B17 A17
B18 A18
B19 A19
B20 A20
PA6 B21 A21
B22 A22
B23 A23
B24 A24
B25 A25
B26 A26
B27 A27
PA5 B28 A28 PA7
B29 A29
B30 A30
B31 A31
B32 A32
B33 A33
B34 A34
B35 A35
B36 A36
B37 A37
B38 A38
B39 A39
B40 A40
B41 A41
B42 A42
B43 A43
B44 A44
B45 A45
B46 A46
B47 A47
B48 A48
B49 A49

BUS

+5VD
U6
TPS61252DSG
VIN 8   VOUT 2
SW   7
EN   6
GND 1
FB   3
PG   5
ILIM 4
L1 1uH
510K R23
C16 100pf
120K R25
22K R28
R26 20K
C17 10u C20 100n
GNDD GNDD GNDD GNDD

5.77V NOMINAL
C18 10u C19 10u
R24 5K1
D1 RED
FB1
PWR_FLAG
GNDD GNDD GNDD

PWR_FLAG
R27 0R

U5
TPS7A2050PDBVR
IN   OUT 5
EN   3
GND 2
NC   4
C21 10u
C22 100n C23 10u C24 10u
GNDA GNDA GNDA GNDA

+5VA

ANALOG 5V