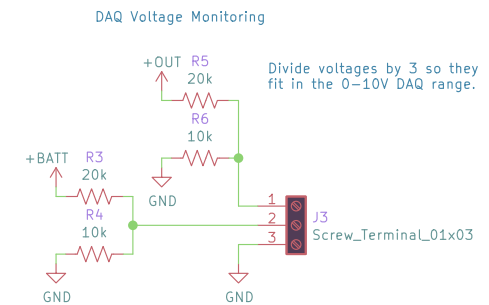


Resistor values...

for 12V:
 $SETFS(k\Omega) = 442 / (12 \times 3 - 1) = 12.63k$
 $SET(k\Omega) = 5 \times 12 = 60k$

for 10V:
 $SETFS(k\Omega) = 442 / (10 \times 3 - 1) = 15.24k$
 $SET(k\Omega) = 5 \times 10 = 50k$

for 5V:
 $SETFS(k\Omega) = 442 / (5 \times 3 - 1) = 31.57k$
 $SET(k\Omega) = 5 \times 5 = 25k$



All resistors/capacitors are 0603/1% unless otherwise specified.

Sheet: /
File: power_board.sch

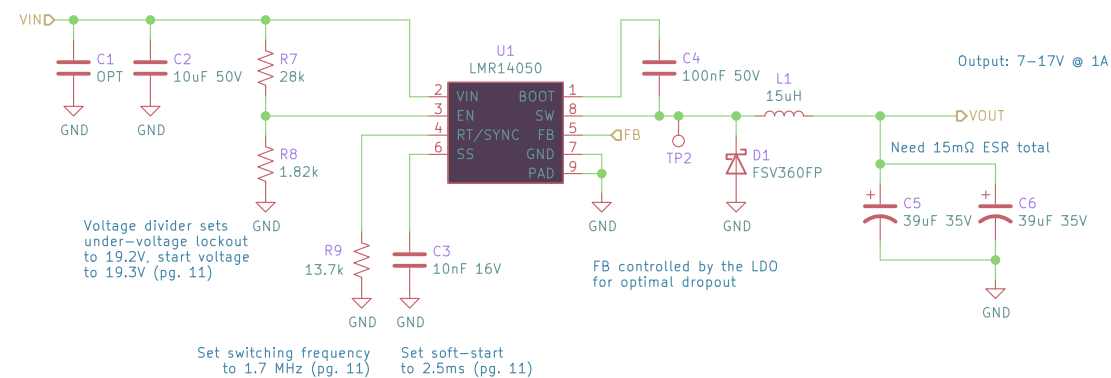
Title: DAQ Power Board

Size: A4 Date:
KiCad E.D.A. kicad 5.1.10

Rev:
Id: 1/3

Variable buck regulator. Most values taken from [webench.ti.com](https://www.ti.com/lit/ds/symlink/lmr14050.pdf) for 17V 1A out.
<https://www.ti.com/lit/ds/symlink/lmr14050.pdf>

Input: 19.2–25.2V or 24V from wall



Sheet: /buck/
File: buck_fb.sch

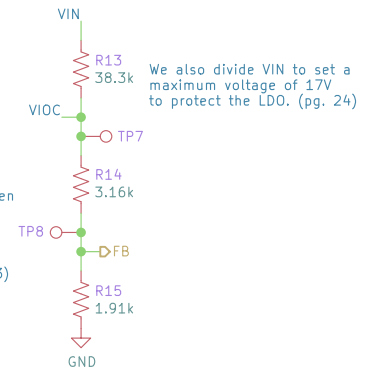
Title:

Size: A4
KiCad E.D.A. kicad 5.1.10

Date:

Rev:

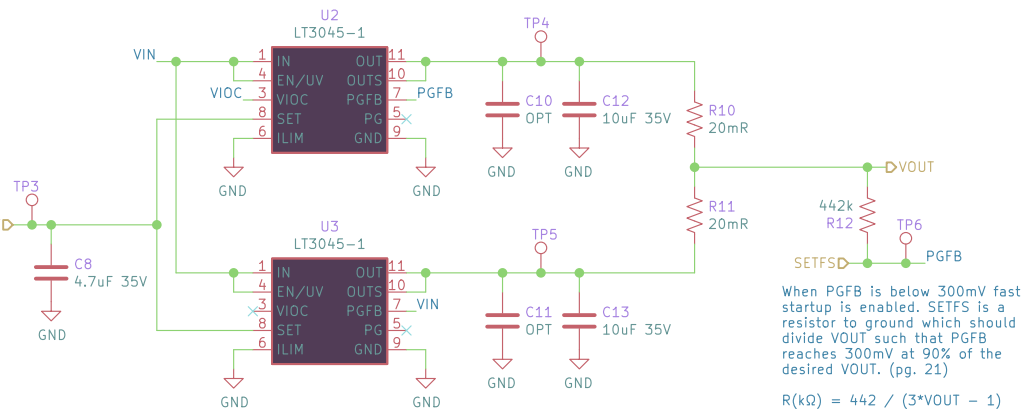
Id: 2/3



Parallel two LDOs for 1A output. (pg. 22)

A resistor between SET and GND sets the output voltage based on a 200uA current source (two LDOs).

$$R(k\Omega) = 5 \cdot V_{OUT}$$



When PGFB is below 300mV fast startup is enabled. SETFS is a resistor to ground which should divide VOUT such that PGFB reaches 300mV at 90% of the desired VOUT. (pg. 21)

$$R(k\Omega) = 442 / (3 \cdot V_{OUT} - 1)$$