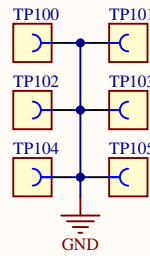
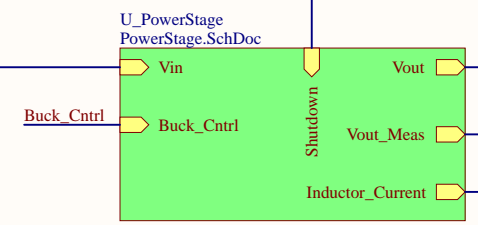
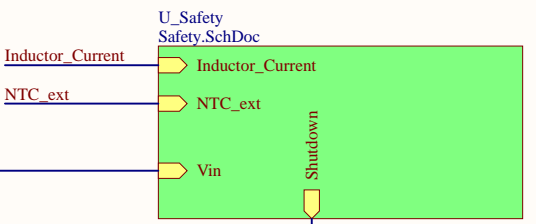
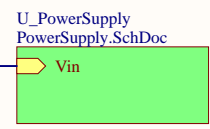


02\_Top\_Level.SchDoc



Jumper to select which NTC can be read by the Arduino

Nominal Input Voltage: 12 - 20 V  
Absolute Maximum: -60 V to +60 V

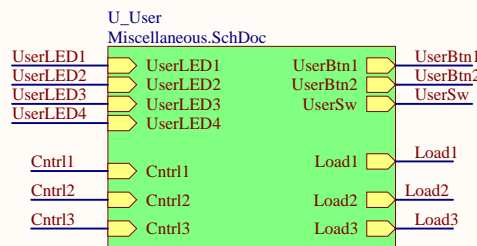
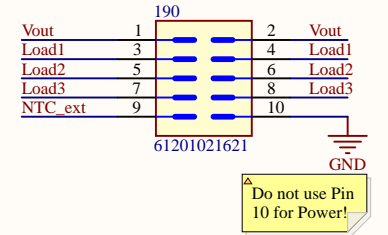


Nominal Output Voltage: 0 - 40 V  
(shutdown at 45 V, clamping at 50 V)

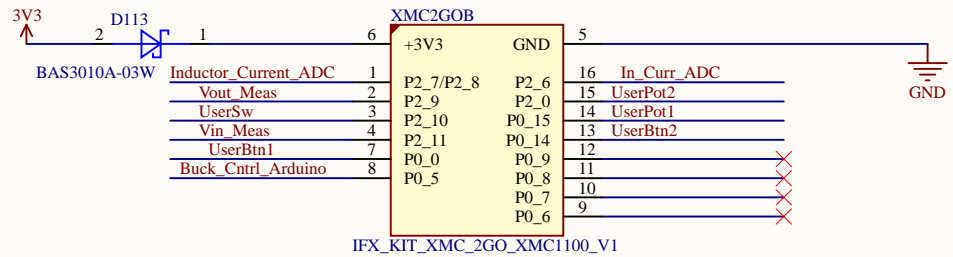


Load resistor connection

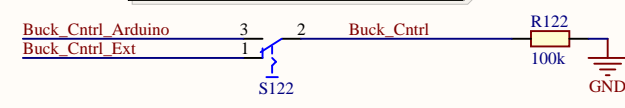
If no external NTC should be used, simply leave NTC\_ext open



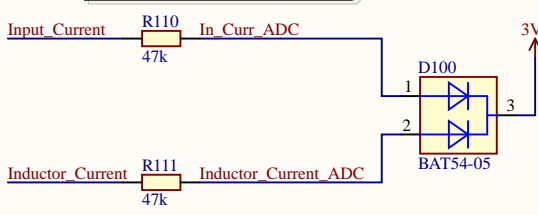
XMC2GO Pinheader



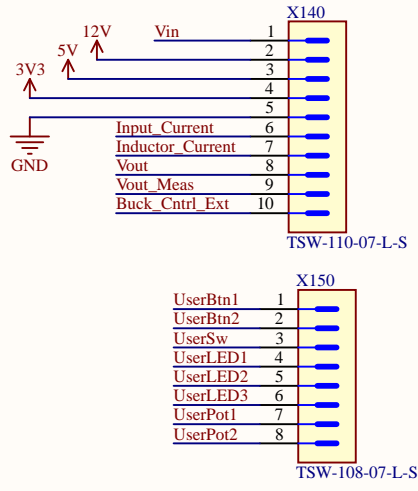
Switch determines the Buck Control



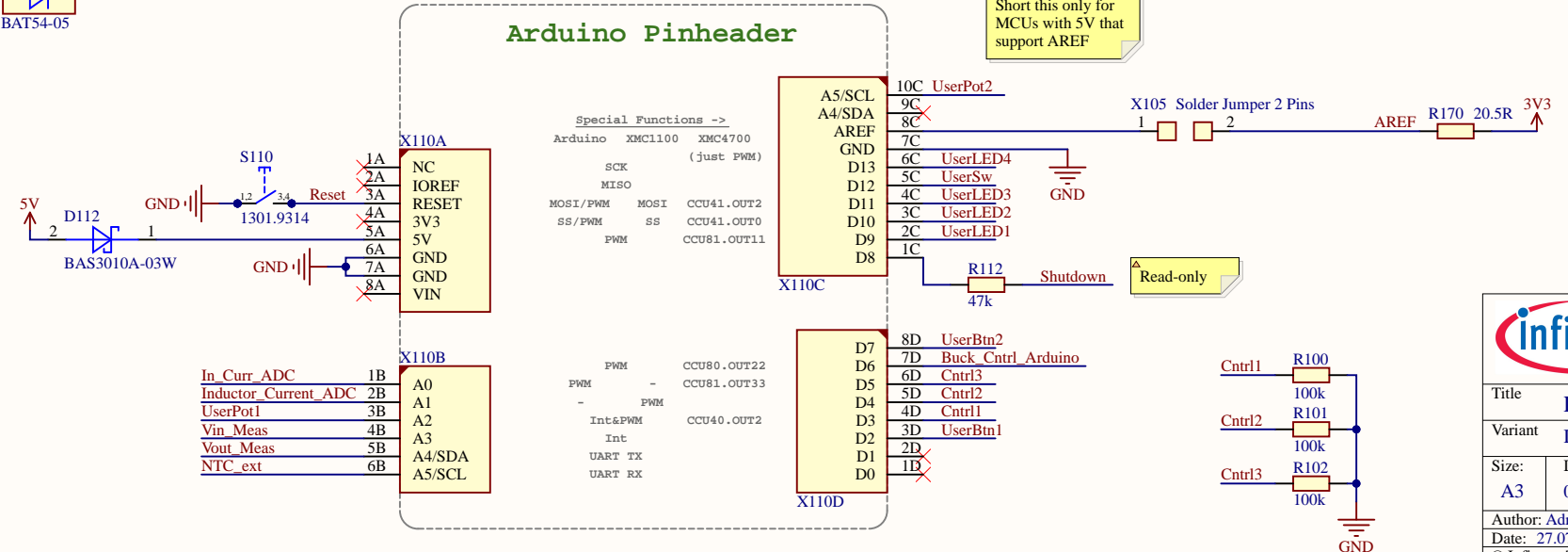
Clamp voltage for ADC. Max. 3.5 V



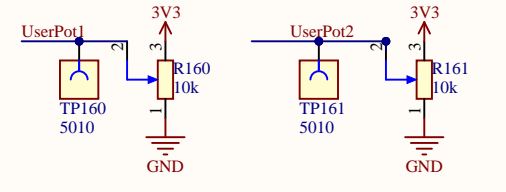
Control Pinheader



Arduino Pinheader



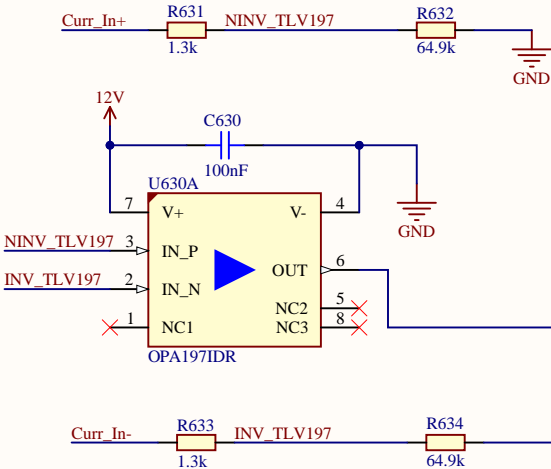
Bigger THT Potentiometers  
New Poti. Connected to ADC A7



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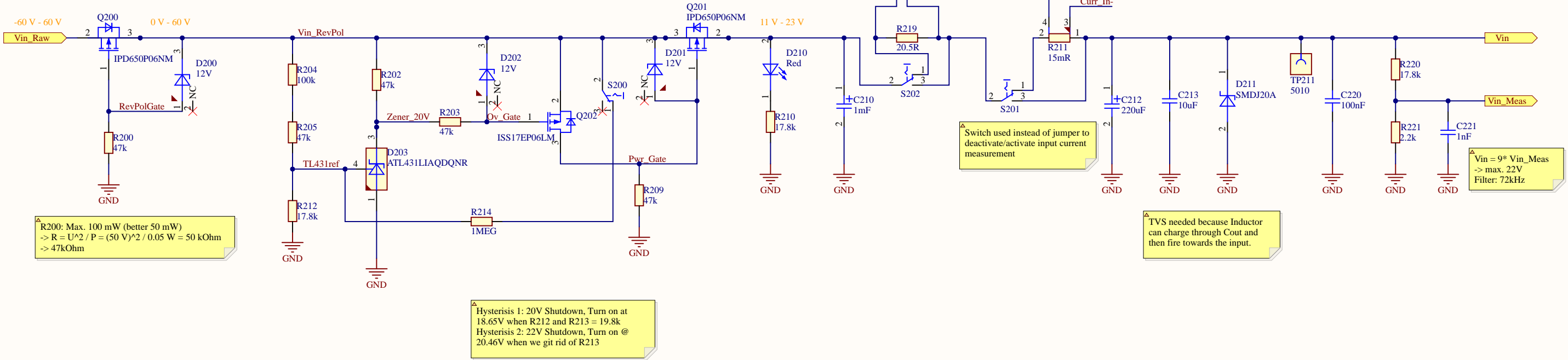
Input.SchDoc

Differential amplifier instead of integrated solution for educational purposes



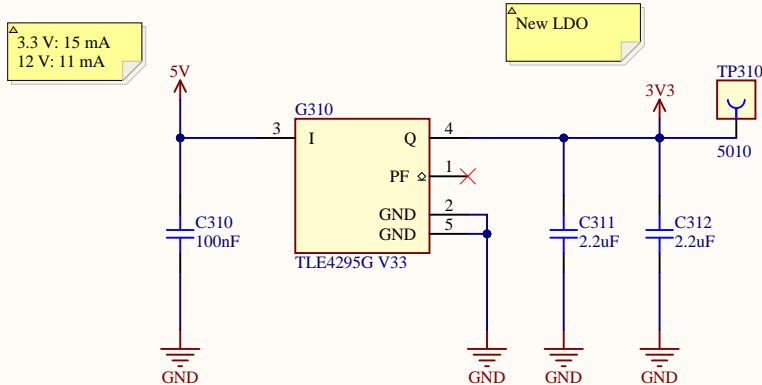
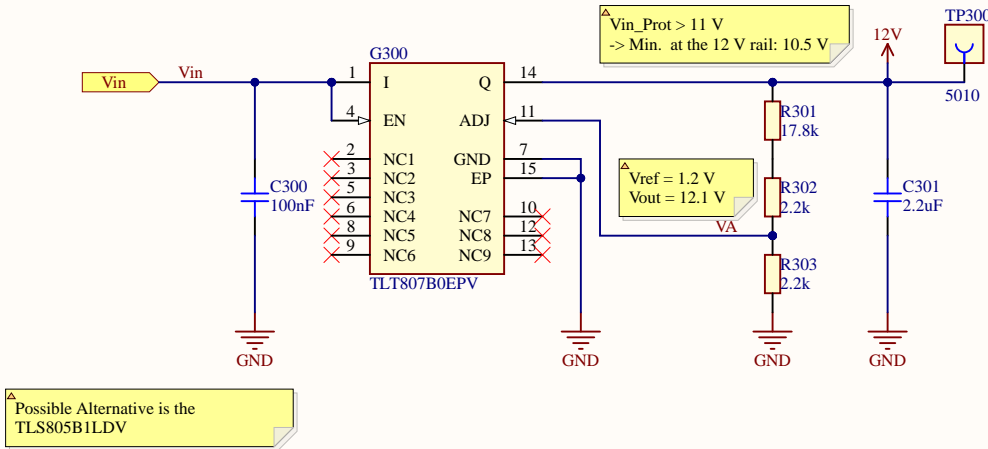
Over-Voltage Protection

Reverse-Polarity Protection

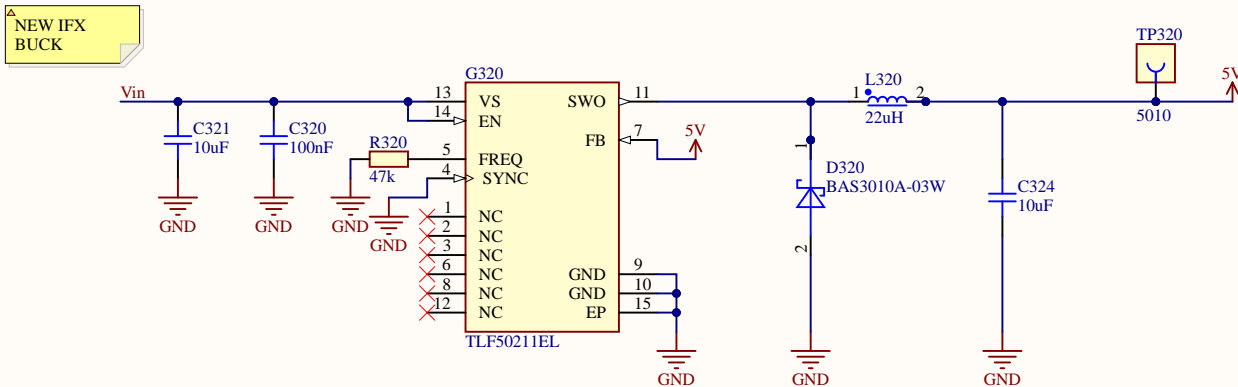


TVS needed because Inductor can charge through Cout and then fire towards the input.

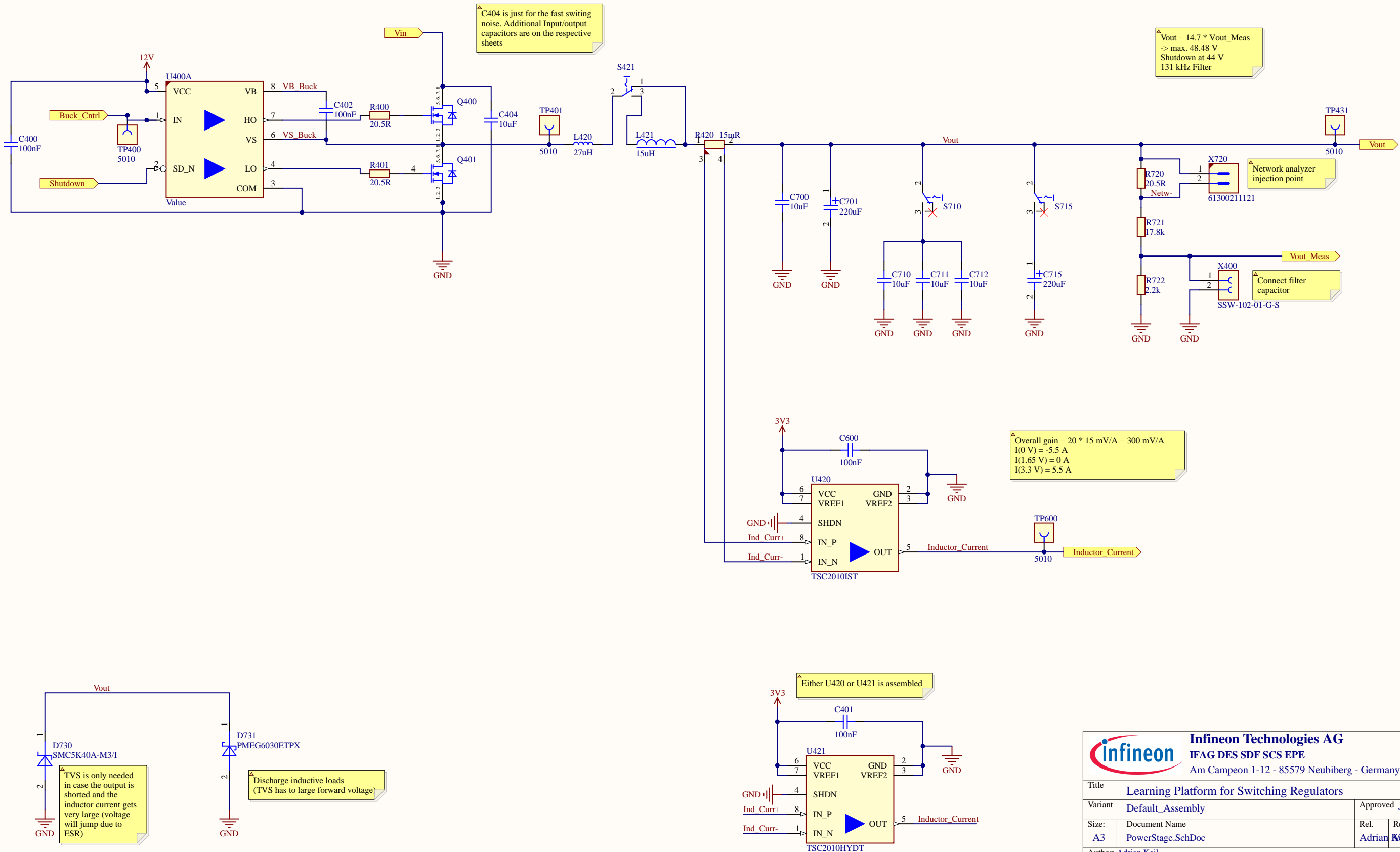
PowerSupply.SchDoc



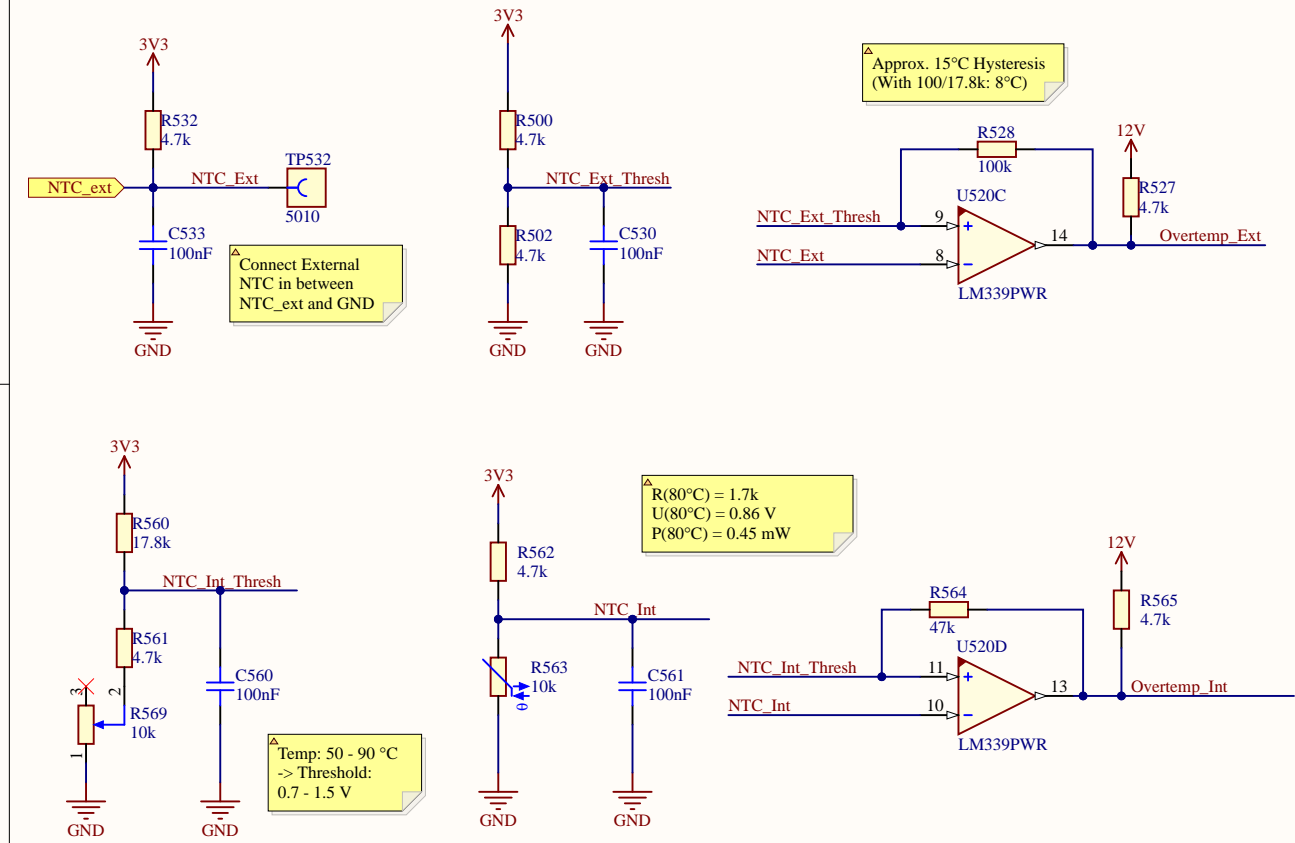
XMC4700 Relax Kit Lite: 235 mA  
-> With LDO: 15 V \* 235 mA = 3.5 W  
-> LDO not feasible



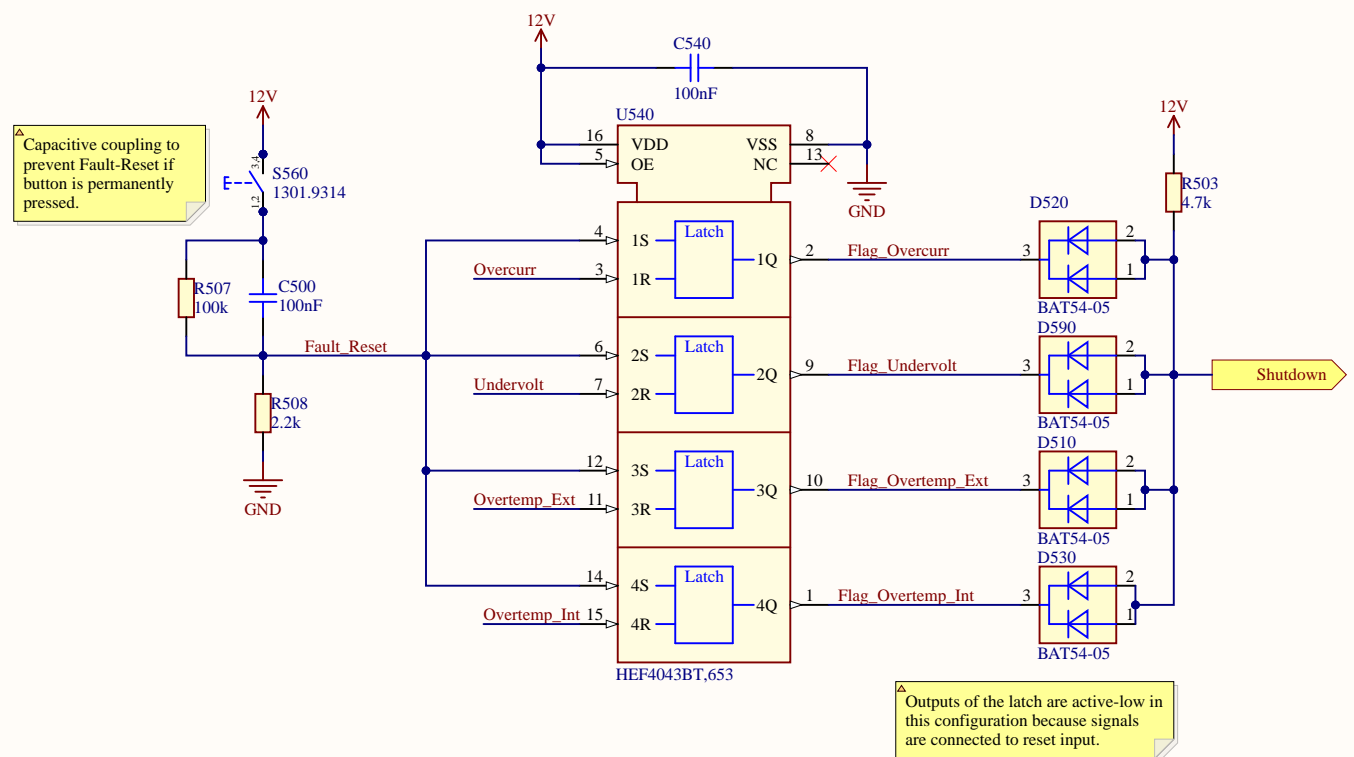
PowerStage.SchDoc



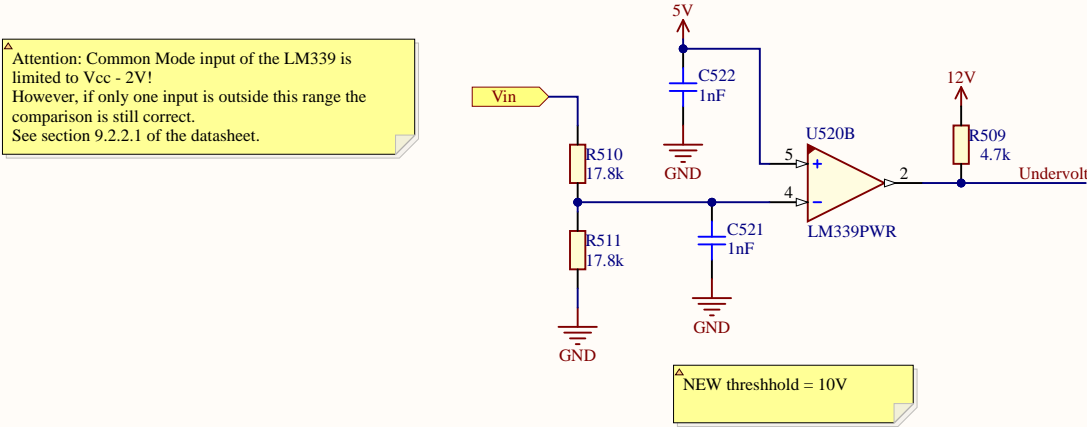
Over-Temperature



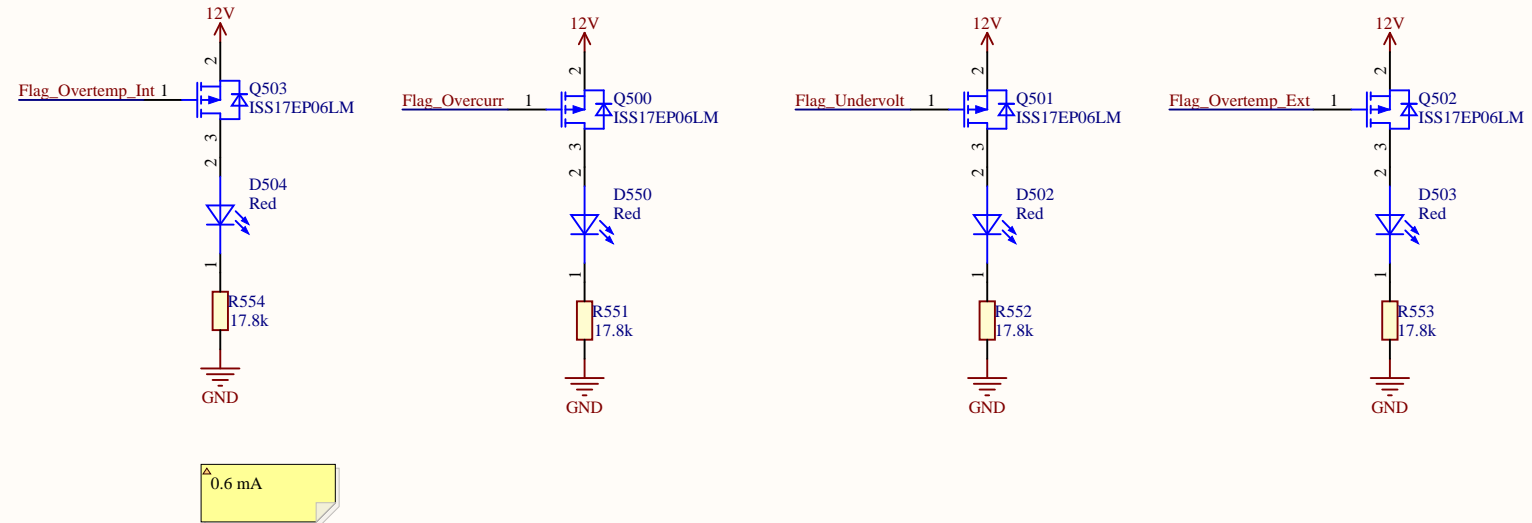
Safety-Latch



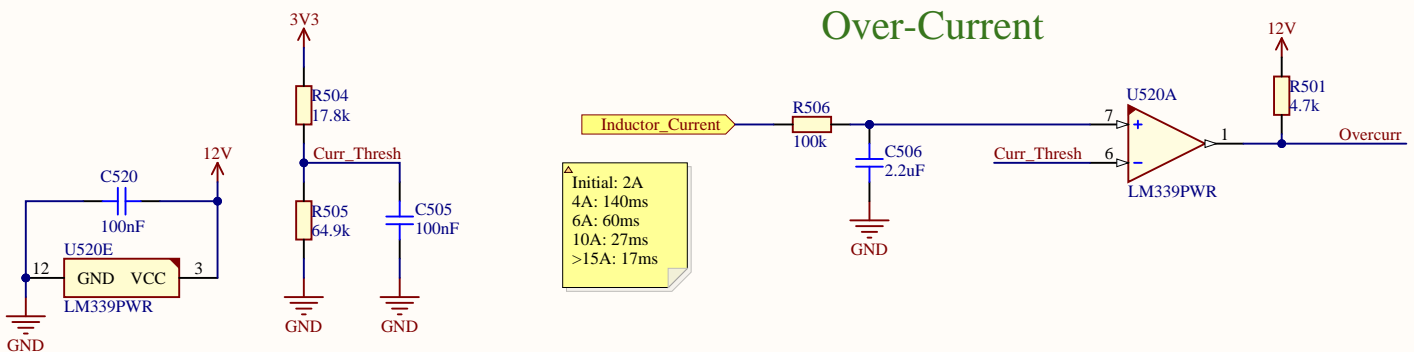
Under-Voltage



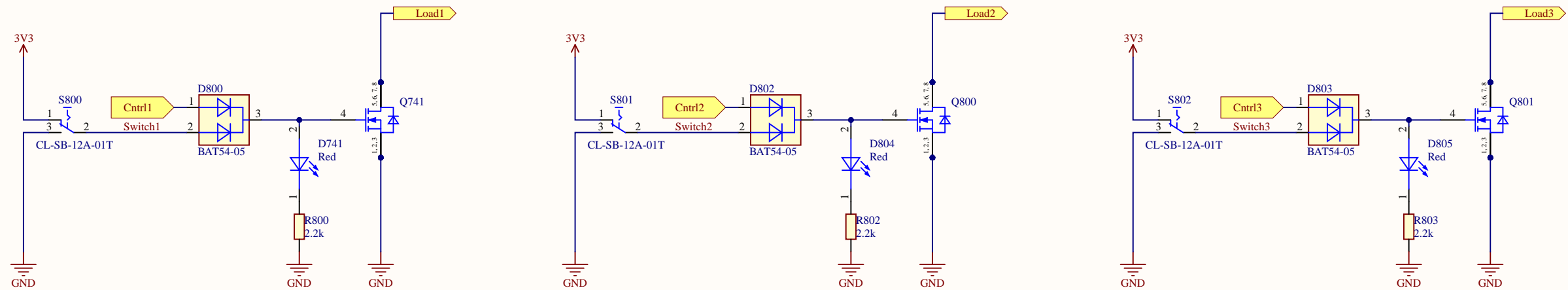
Status-LEDs



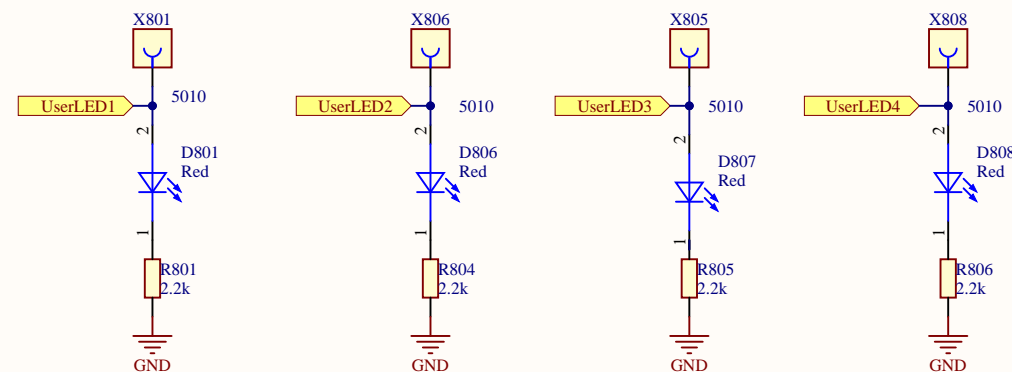
Over-Current



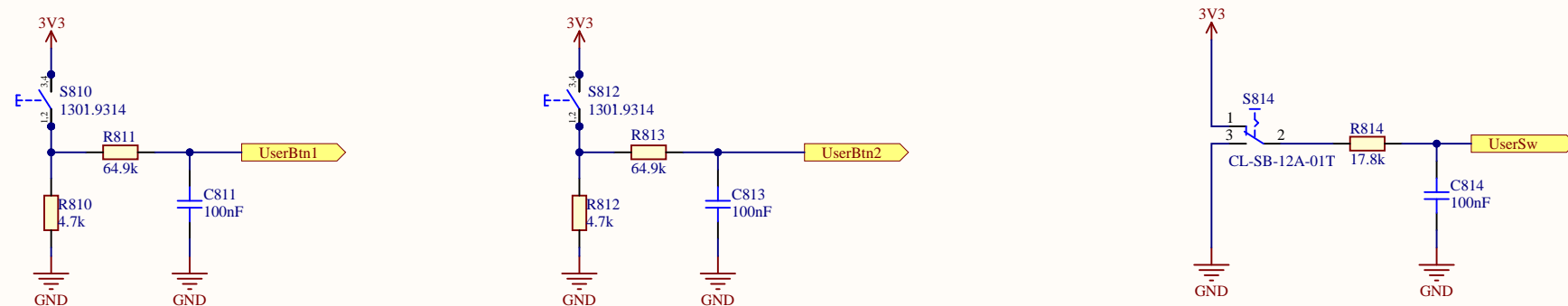
## Output Stages




## User LEDs



## User Buttons and Switch



|  |                      |  |                                     |
|--|----------------------|--|-------------------------------------|
|  <div> <b>Infineon Technologies AG</b><br/> <b>IFAG DES SDF SCS EPE</b><br/>         Am Campeon 1-12 - 85579 Neubiberg - Germany       </div> |                      |  |                                     |
| Title  |                      | Learning Platform for Switching Regulators |                                     |
| Variant  |                      | Default_Assembly                           | Approved <span>&lt;Appr.&gt;</span> |
| Size:  | Document Name        | Rel.                                       | Rev.                                |
| A3   | Miscellaneous.SchDoc | Adrian                                     | Rev10                               |
| Author: Adrian Keil  |                      |  |                                     |
| Date: 27.07.2022    Time: 12:50:13   |                      | SVN Revision:                              |                                     |
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