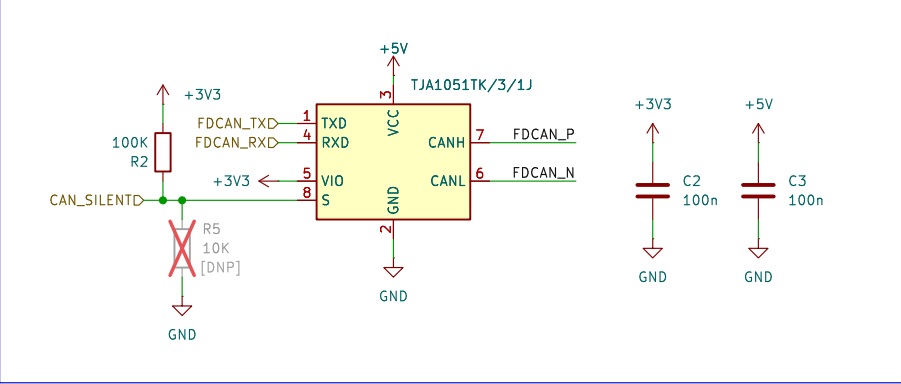
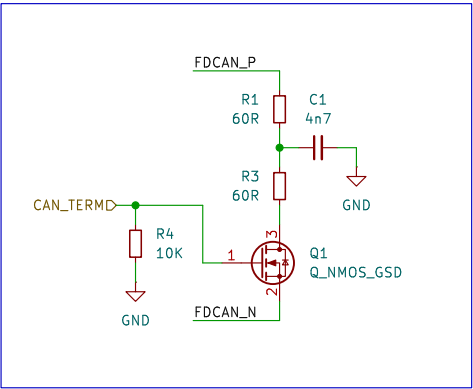


Sheet: /		
File: vrb.kicad_sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. 9.0.5		Id: 1/13

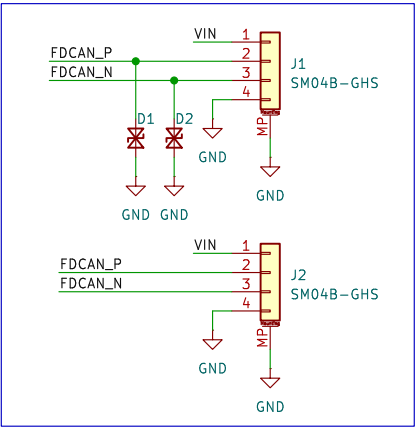
CAN-FD Transceiver



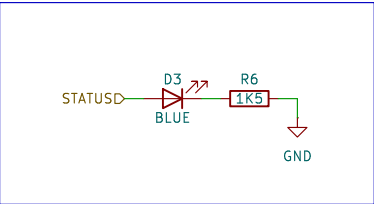
120 Ohm Termination



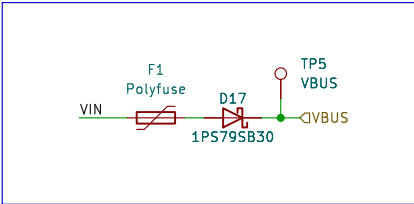
JST-GH 4 Pin Connector



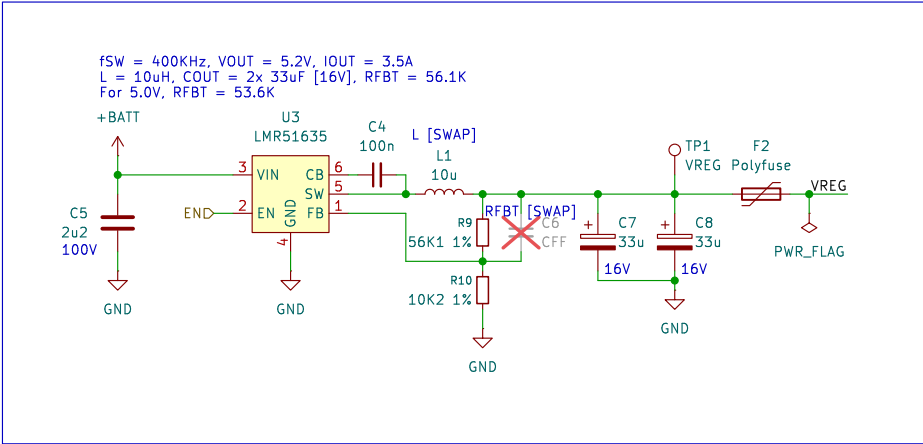
Status LED



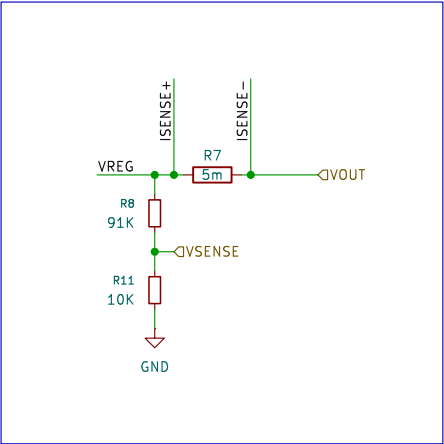
VBUS Protection



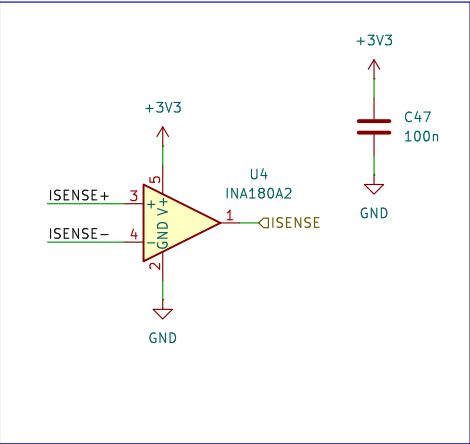
SMPS Regulator



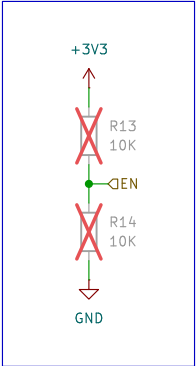
Connector + Voltage/Current Sense



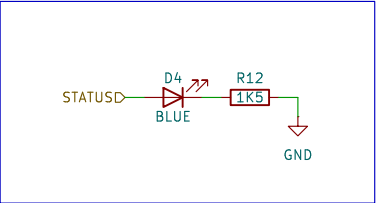
Current Sense Amplifier



Enable Override



Status LED



Sheet: /FMU 1 Domain/  
File: regulator.kicad\_sch

**Title:**

Size: A4

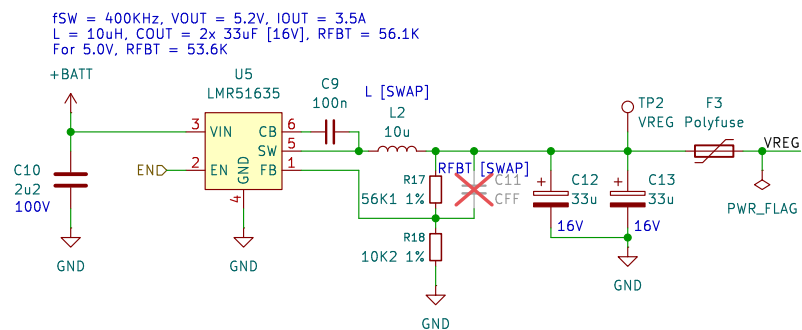
Date:

KiCad E.D.A. 9.0.5

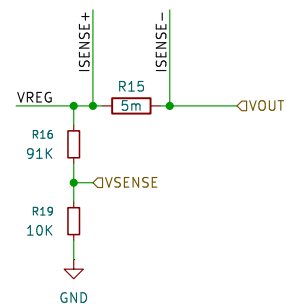
**Rev:**

Id: 3/13

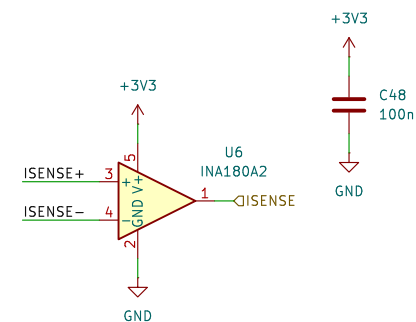
## SMPS Regulator



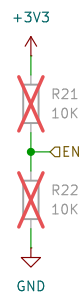
### Connector + Voltage/Current Sense



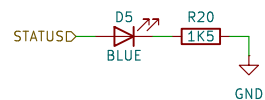
### Current Sense Amplifier



Enable Override



Status LED



Sheet: /FMU 2 Domain/  
File: regulator.kicad\_sch

**Title:**

Size: A4	Date:
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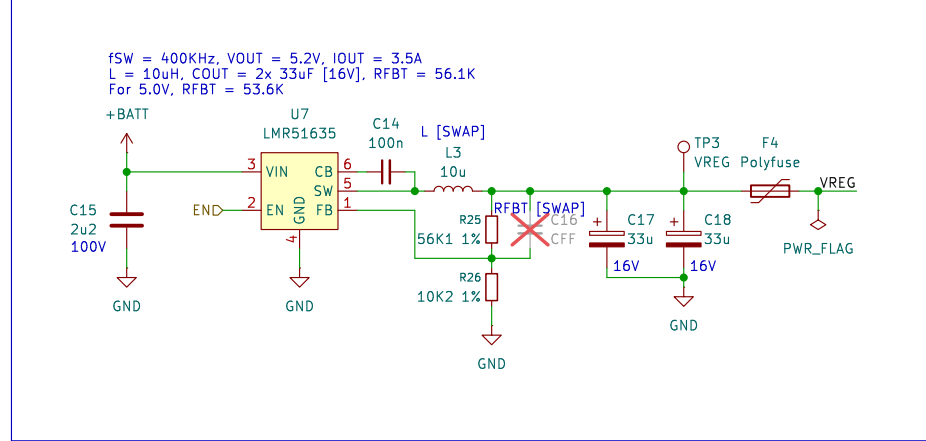
KiCad E.D.A. 9.0.5

Date:

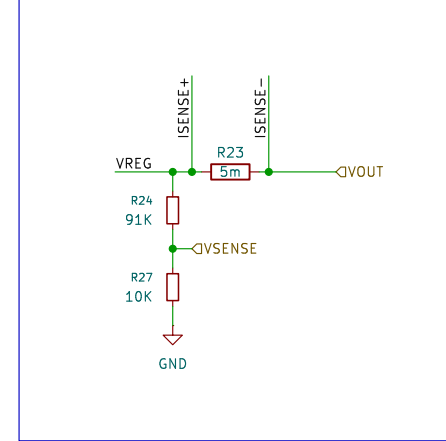
Rev:	
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Id: 4/13

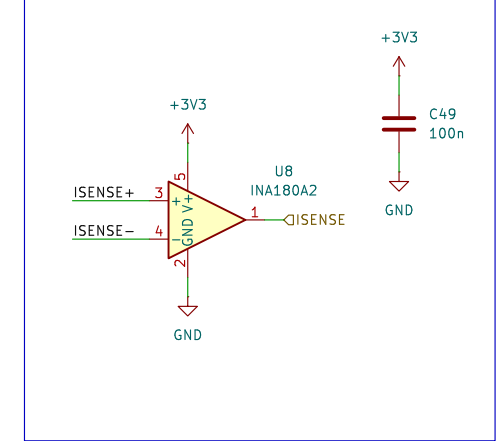
# SMPS Regulator



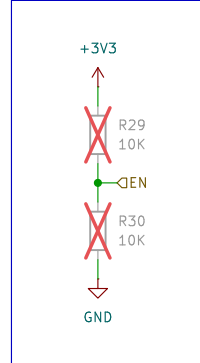
# Connector + Voltage/Current Sense



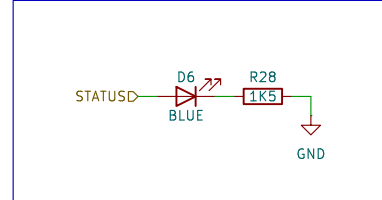
# Current Sense Amplifier



# Enable Override



# Status LED



Sheet: /Radio Domain/  
File: regulator.kicad\_sch

## Title:

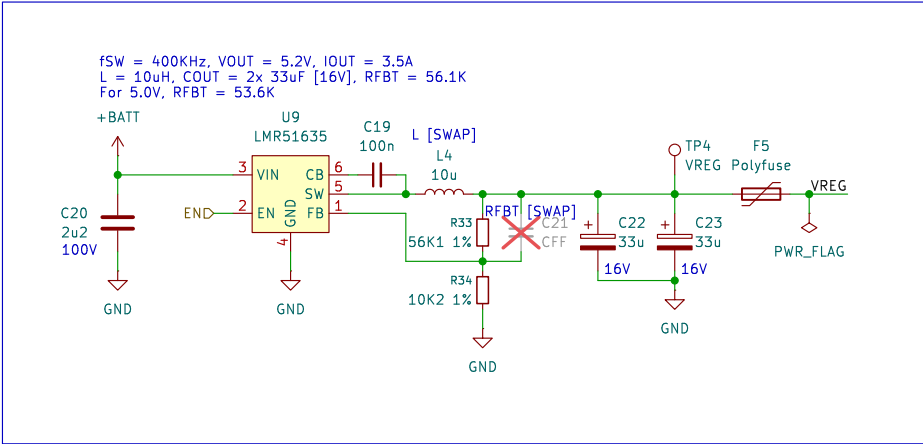
Size: A4  
KiCad E.D.A. 9.0.5

Date:

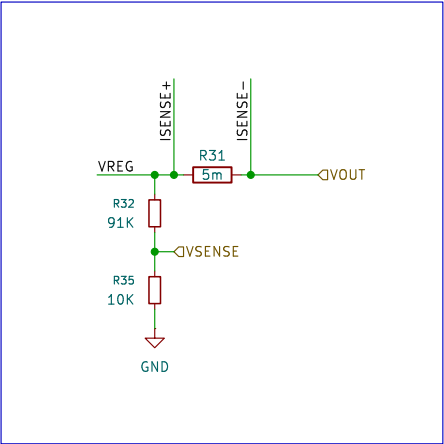
Rev:

Id: 5/13

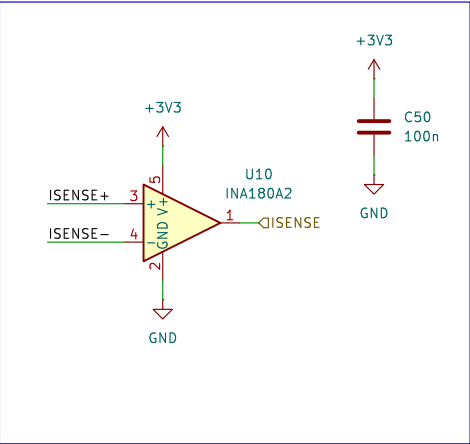
SMPS Regulator



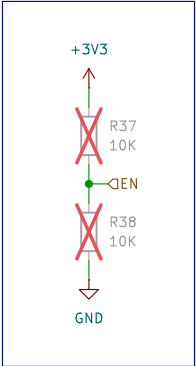
Connector + Voltage/Current Sense



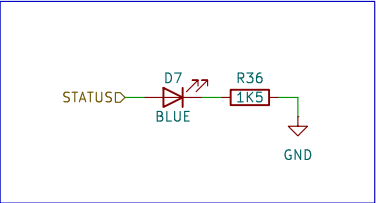
Current Sense Amplifier



Enable Override



Status LED



Sheet: /Radar Domain/  
File: regulator.kicad\_sch

**Title:**

Size: A4

Date:

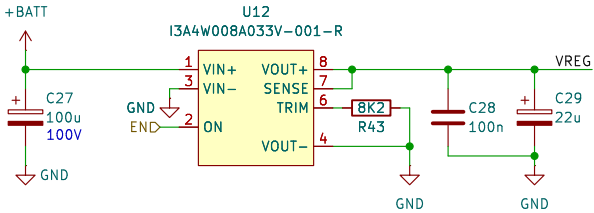
KiCad E.D.A. 9.0.5

**Rev:**

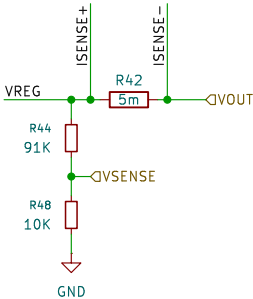
Id: 6/13

SMPS Regulator (1/32 Brick DC/DC)

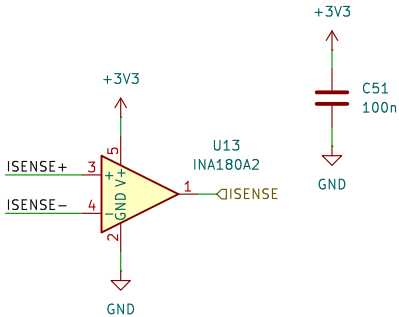
Vref = 0.6V  
Vonom = 2.59V  
F = 36500  
G = 511  
  
Rext = (Vref \* F) / (Vout - Vonom) - G  
Vout = 5.1V -> 8.214K  
Vout = 18V -> 910



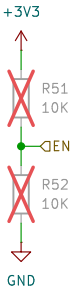
Connector + Voltage/Current Sense



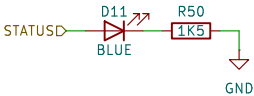
Current Sense Amplifier



Enable Override



Status LED



Sheet: /Compute Module Domain/  
File: regulator\_highpower.kicad\_sch

Title:

Size: A4

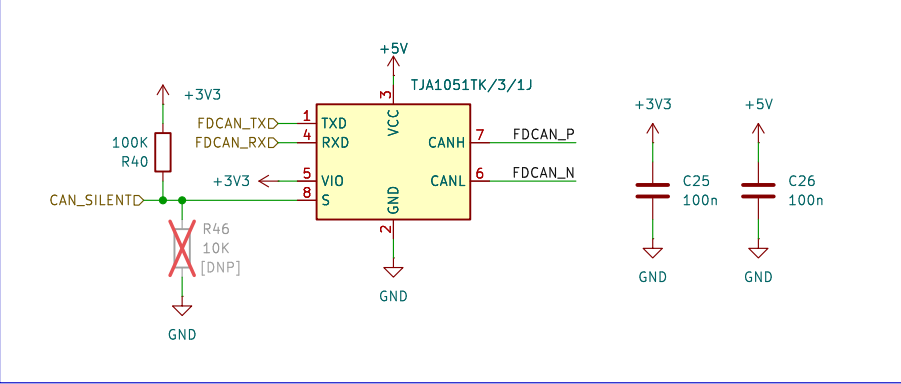
Date:

KiCad E.D.A. 9.0.5

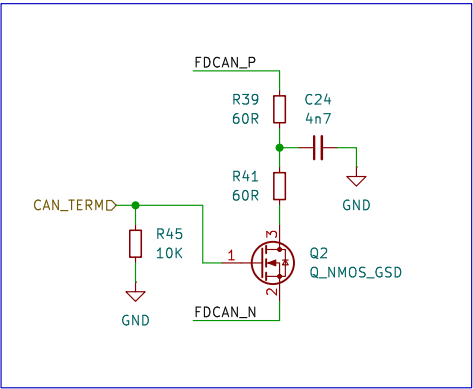
Rev:

Id: 7/13

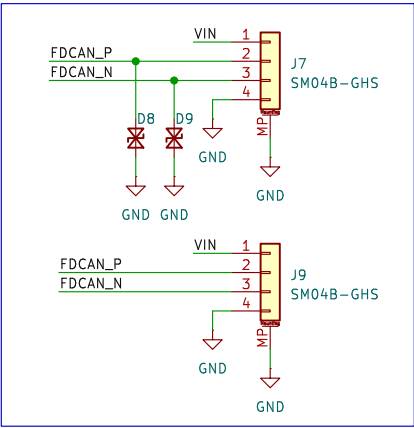
CAN-FD Transceiver



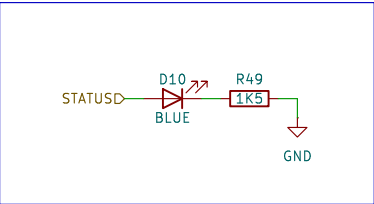
120 Ohm Termination



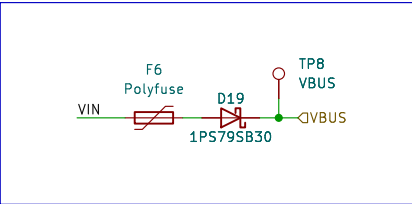
JST-GH 4 Pin Connector



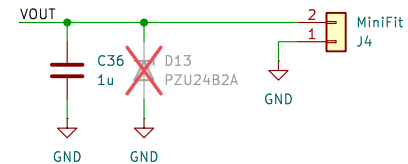
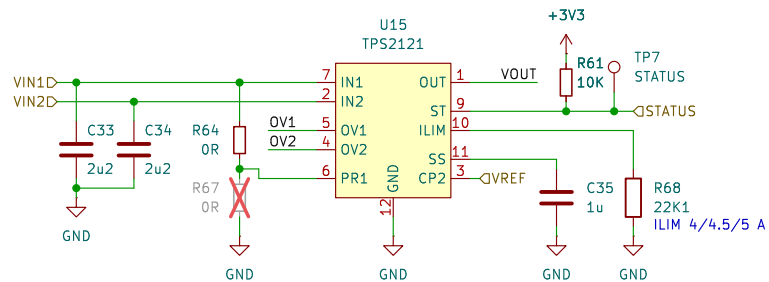
Status LED



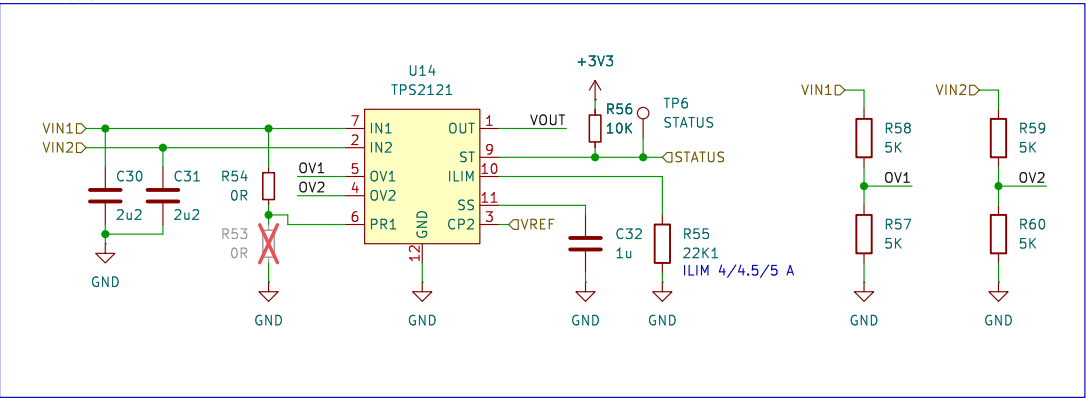
VBUS Protection



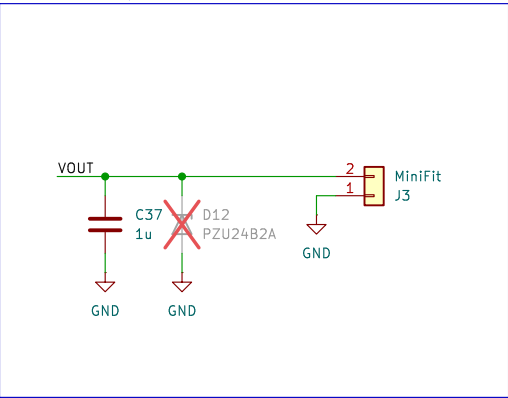




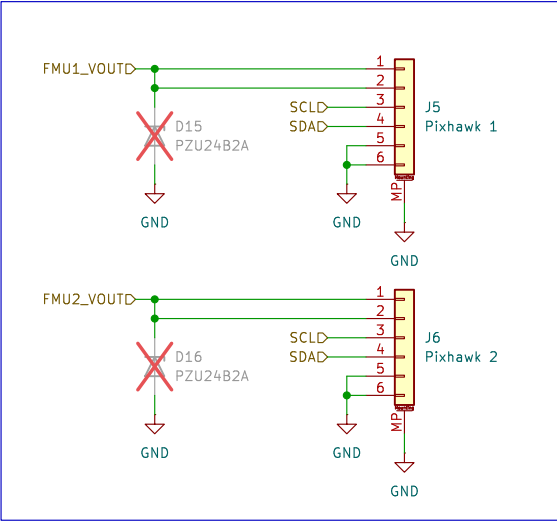
Power Supply Mux



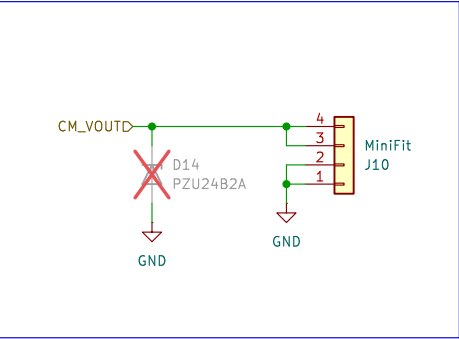
Molex MiniFit Output



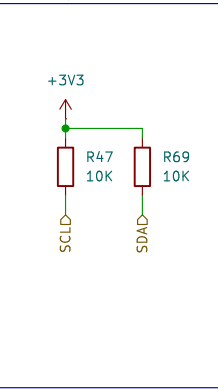
Pixhawk ClikMate Ports



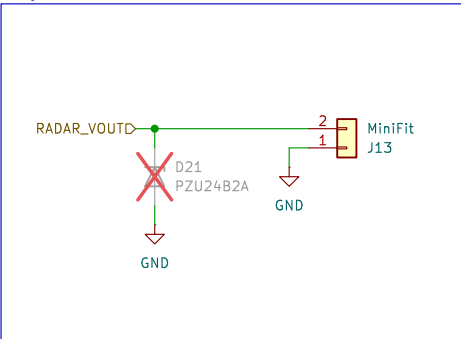
Compute Module Port



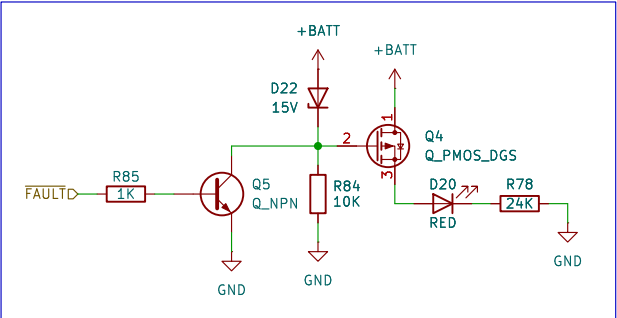
I2C Pullup



Rangefinder Port

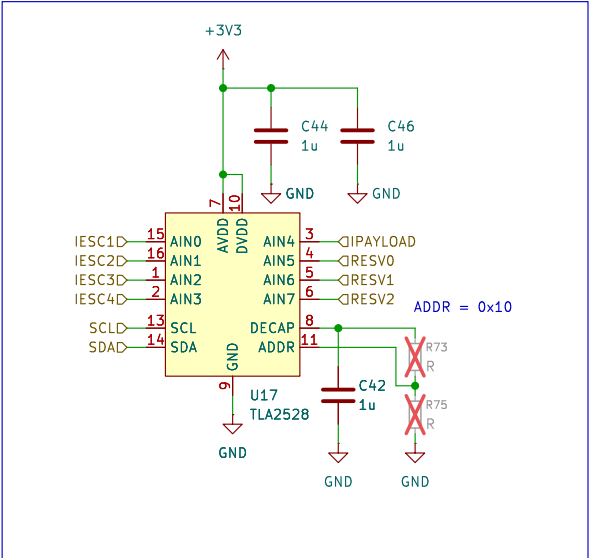


Fault LED

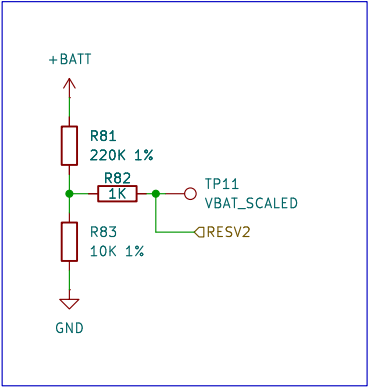


FAULT LED INDICATOR - 50V with 3.3V MCU Control  
LED ON (Fault); MCU OFF or GPIO LOW  
LED OFF (OK); MCU ON with GPIO HIGH (3.3V)  
PROTECTION:  
Zener D1 clamps Vgs to -15V (prevents gate overvoltage)  
R2 pull-down ensures clean gate switching (PMOS Q2 inverts logic & isolates 3.3V from 50V pull-up) (limits base current to safe MCU levels)  
OPERATION:  
GPIO LOW - Q2 OFF - R2 pulls gate LOW - Vgs = -15V - Q1 ON - LED ON  
GPIO HIGH - Q2 ON - pulls gate HIGH - Vgs = 0V - Q1 OFF - LED OFF  
LED CURRENT: (50V - V<sub>LED</sub>) / 24kΩ = 2mA

IO Expansion



Backup Voltage Sense



Sheet: /Passthrough Ports/  
File: passthrough.kicad\_sch

Title:

Size: A4

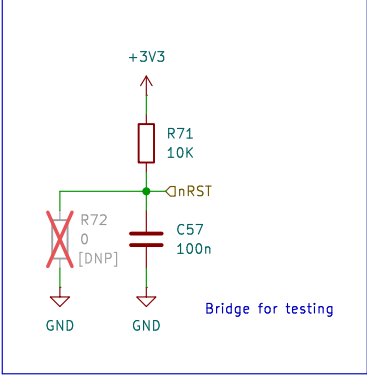
Date:

KiCad E.D.A. 9.0.5

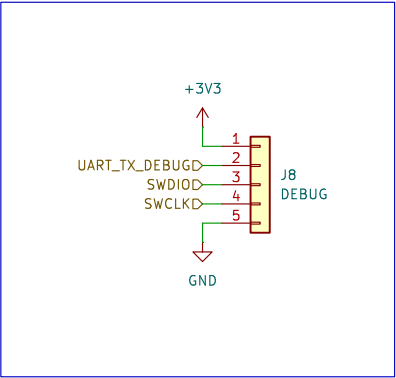
Rev:

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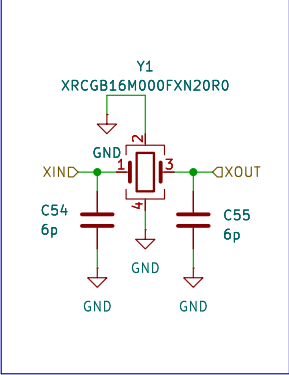
Reset Circuitry



Debug



16MHz Crystal



Sheet: /Reset Clock Ctrl/  
File: rcc.kicad\_sch

**Title:**

Size: A4

Date:

KiCad E.D.A. 9.0.5

**Rev:**

Id: 12/13

