

Title: [roverSwitch.PjPcb](#)

Size: B	Drawn by: Emile Renaud
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Date: 2024-10-28	Checked by: *
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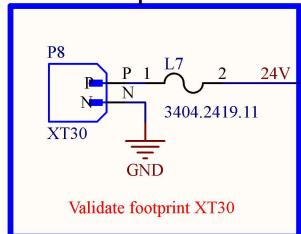
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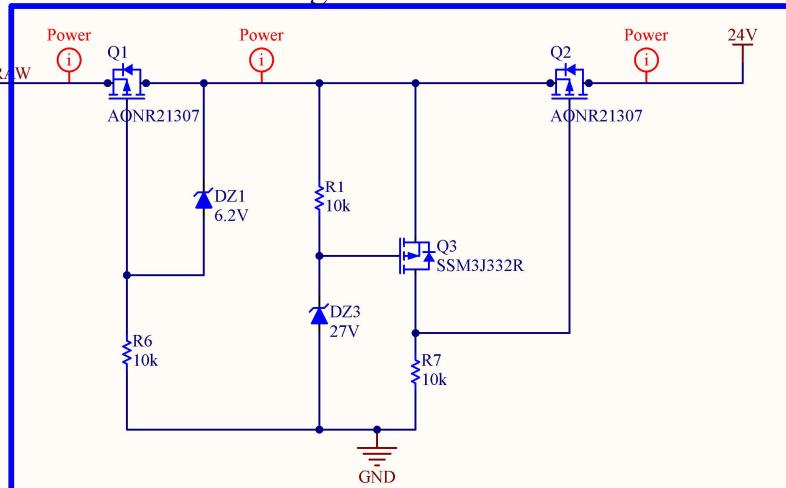
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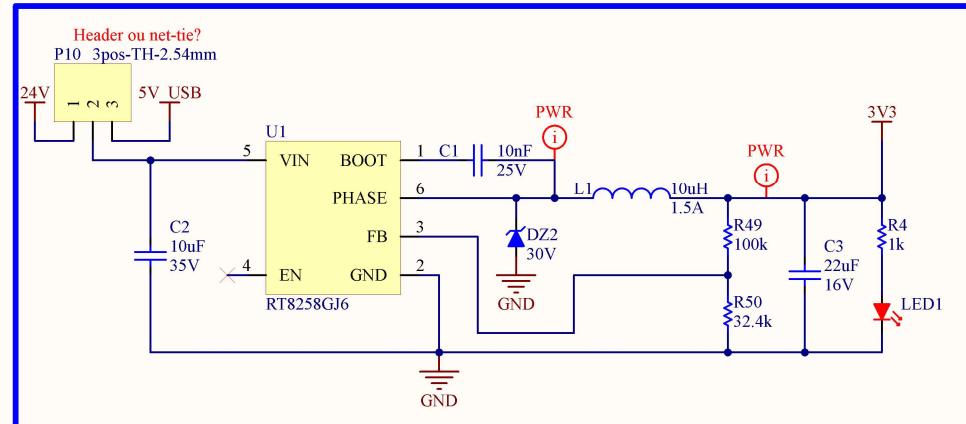
Power Input



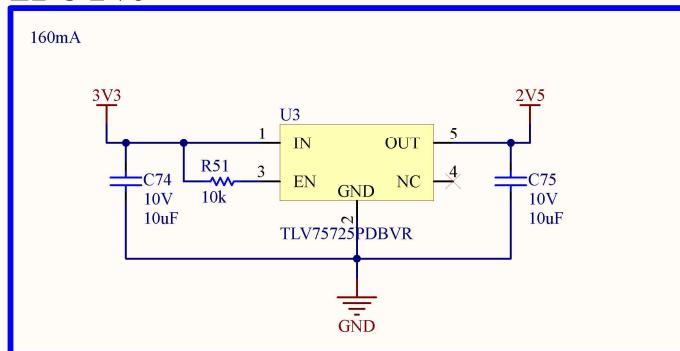
Reverse & OverVoltage Protection



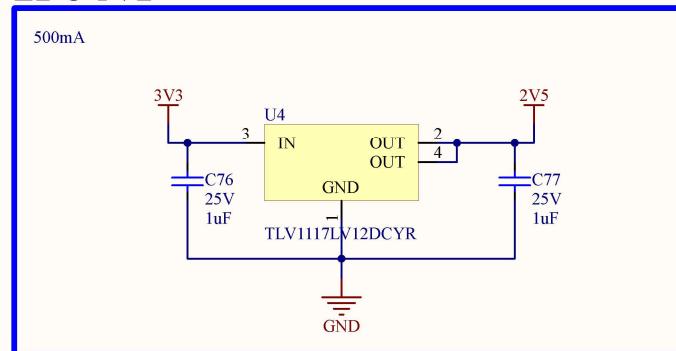
DCDC 5V



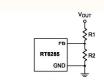
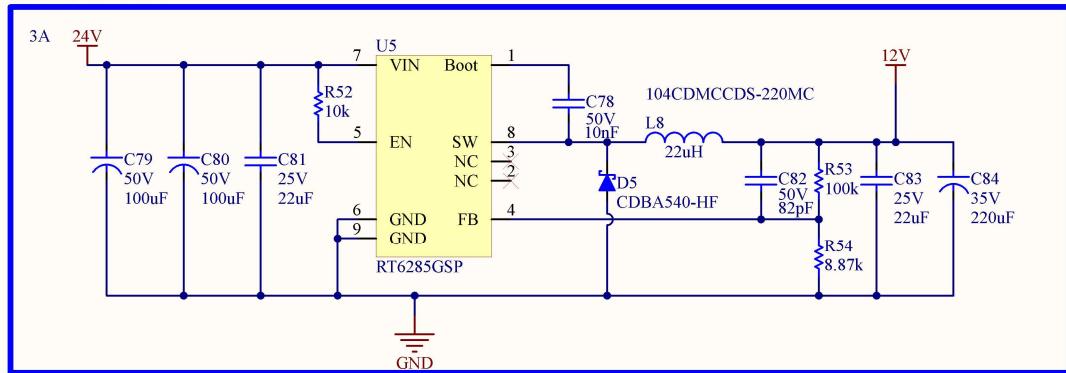
LDO 2V5



LDO 1V2



DCDC 12V



The output voltage is set by an external resistive divider according to the following equation :
 $V_{out} = V_{ref} \left(\frac{R_2}{R_1} \right)$
Where V_{ref} is the reference voltage (1.222V typ.).
Where $R_1 = 100\text{k}\Omega$.

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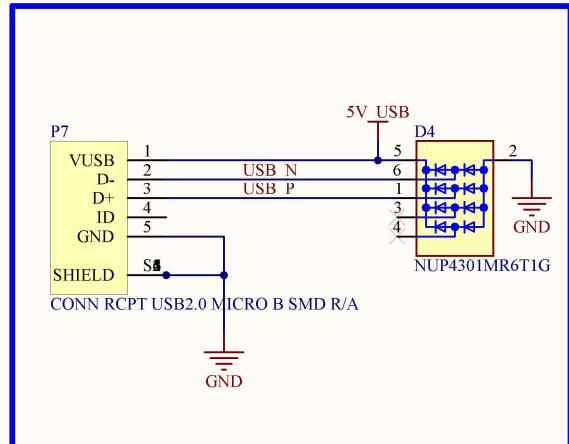
1

2

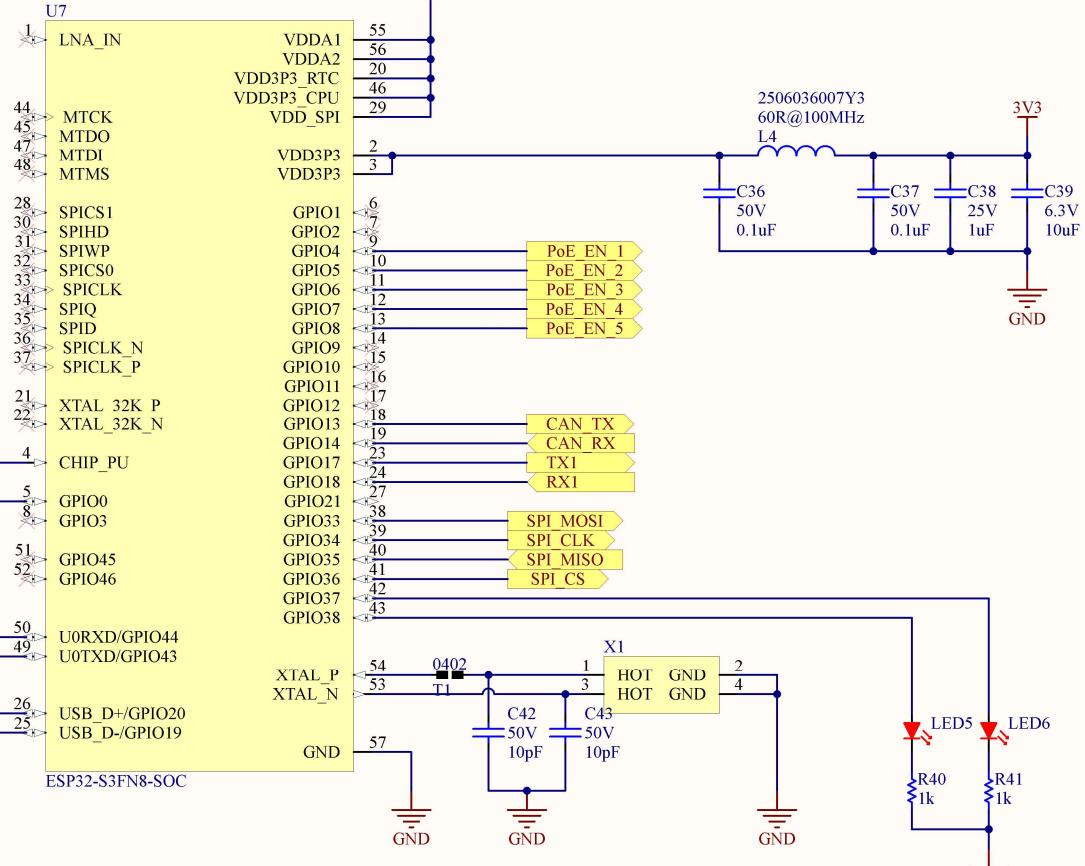
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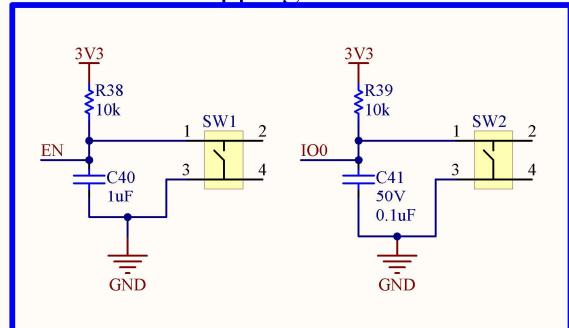
USB-micro



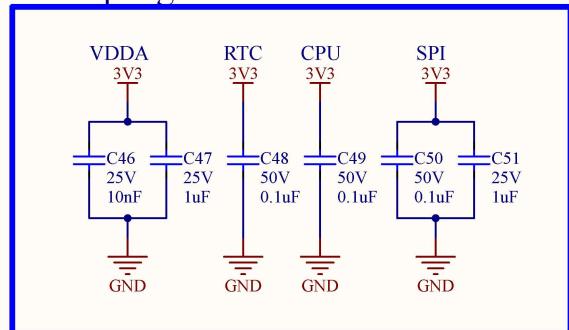
<https://www.ti.com/lit/an/swra117d/swra117d.pdf>



Buttons & Strapping



Decoupling



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1

2

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CAN

1

2

3

4

A

A

B

B

High-Side PoE Switch

C

C

D

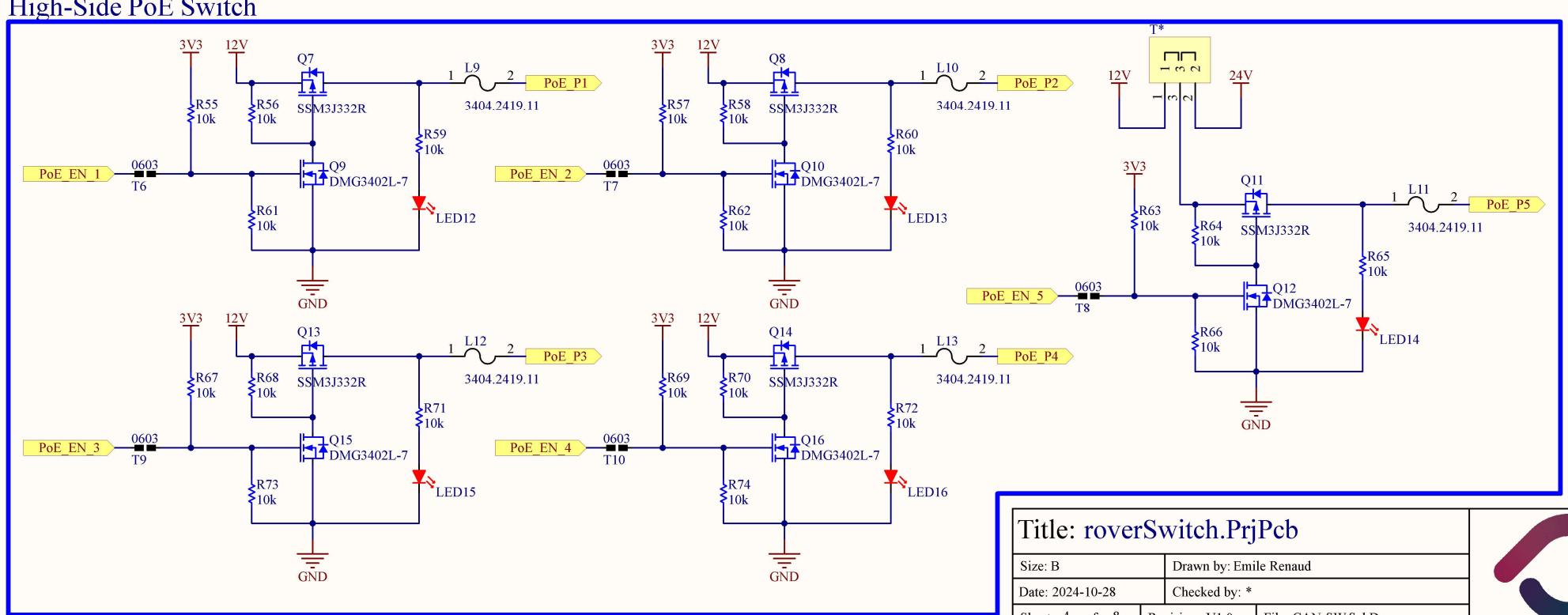
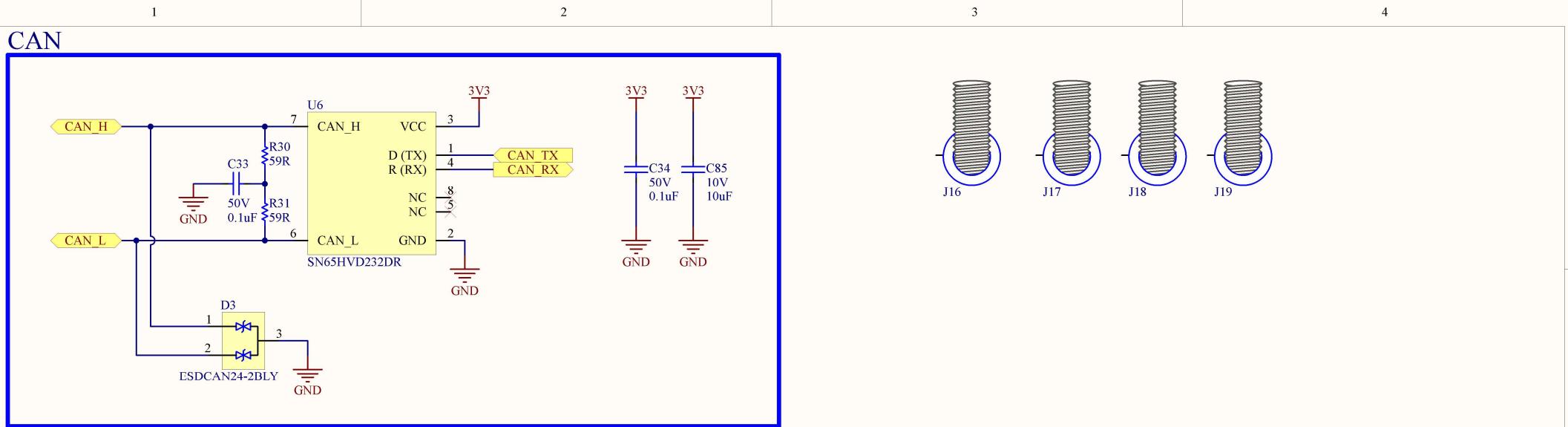
D

1

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4



Title: roverSwitch.PnjPcb

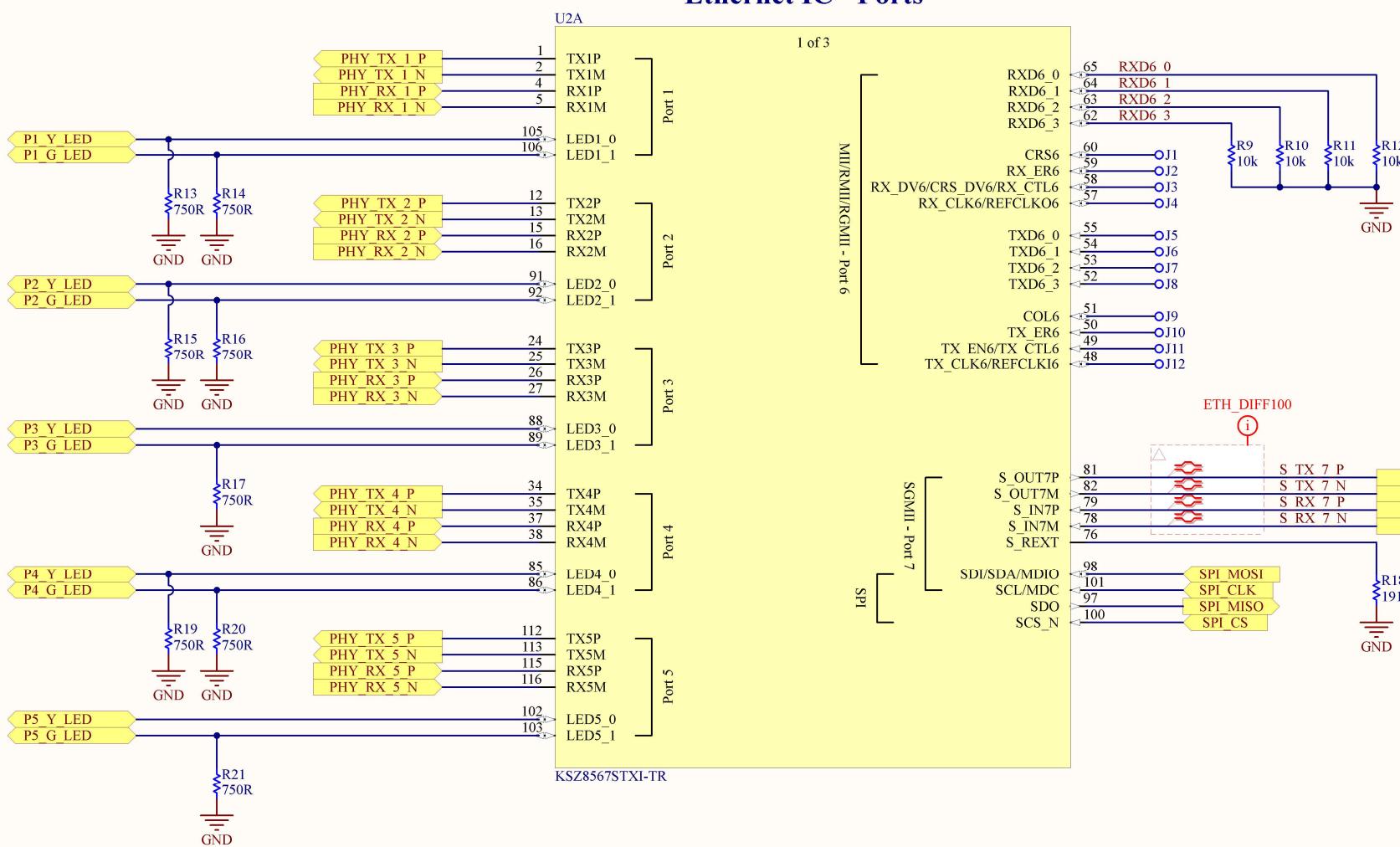
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Sheet 4 of 8 Revision: V1.0 File: CAN-SW.SchDoc



Ethernet IC - Ports



Title: roverSwitch.PrjPcb

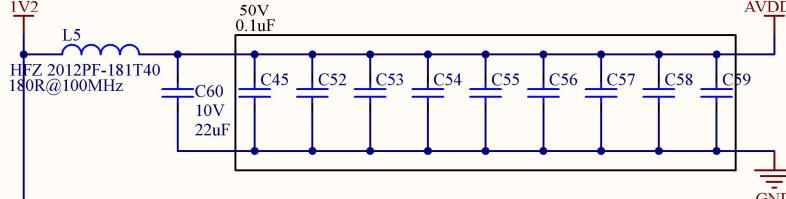
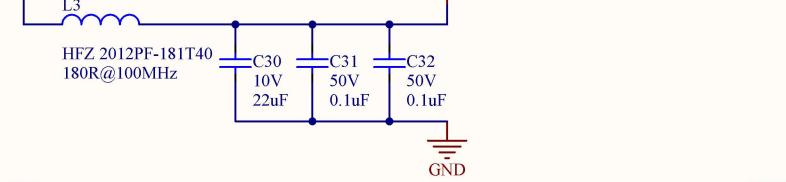
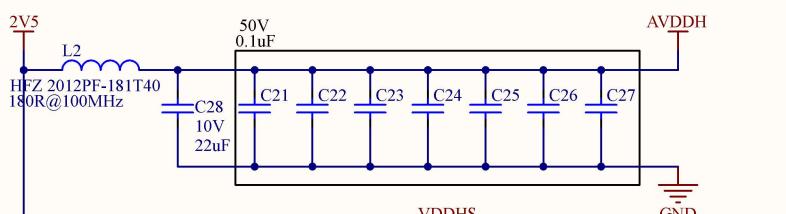
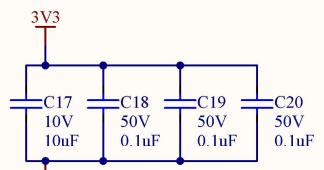
Size: B	Drawn by: Emile Renaud
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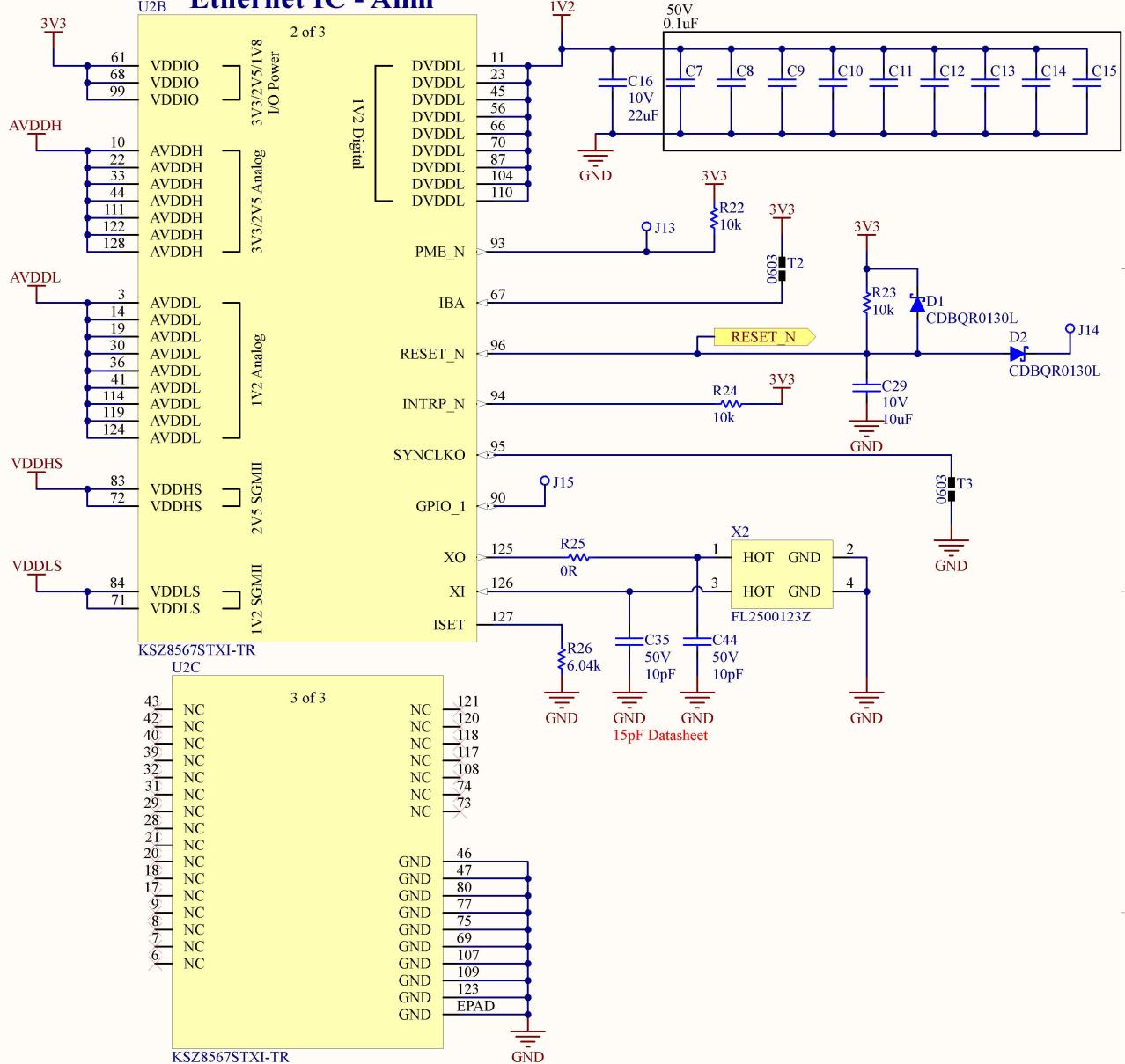


Decoupling Capacitors



Symbol	Parameter	Conditions	Min	Typ	Max	Units
Supply Current - Mixed 1000/100 Mbps Operation						
I _{DD_AH}	AVDDH supply current			140		mA
I _{DD_IO}	VDDIO supply current	AVDDH @ 2.5V; VDDIO @ 3.3V		40		mA
I _{DD_CA}	AVDDI supply current	Ports 1-5 in 100BASE-TX Ports 6 & 7 @ 1000 Mbps		140		mA
I _{DD_CO}	DVDDI supply current	All ports 100% utilization		350		mA
I _{DD_H}	VDDHS supply current			20		mA
I _{DD_LS}	VDDLS supply current			15		mA

Ethernet IC - Alim



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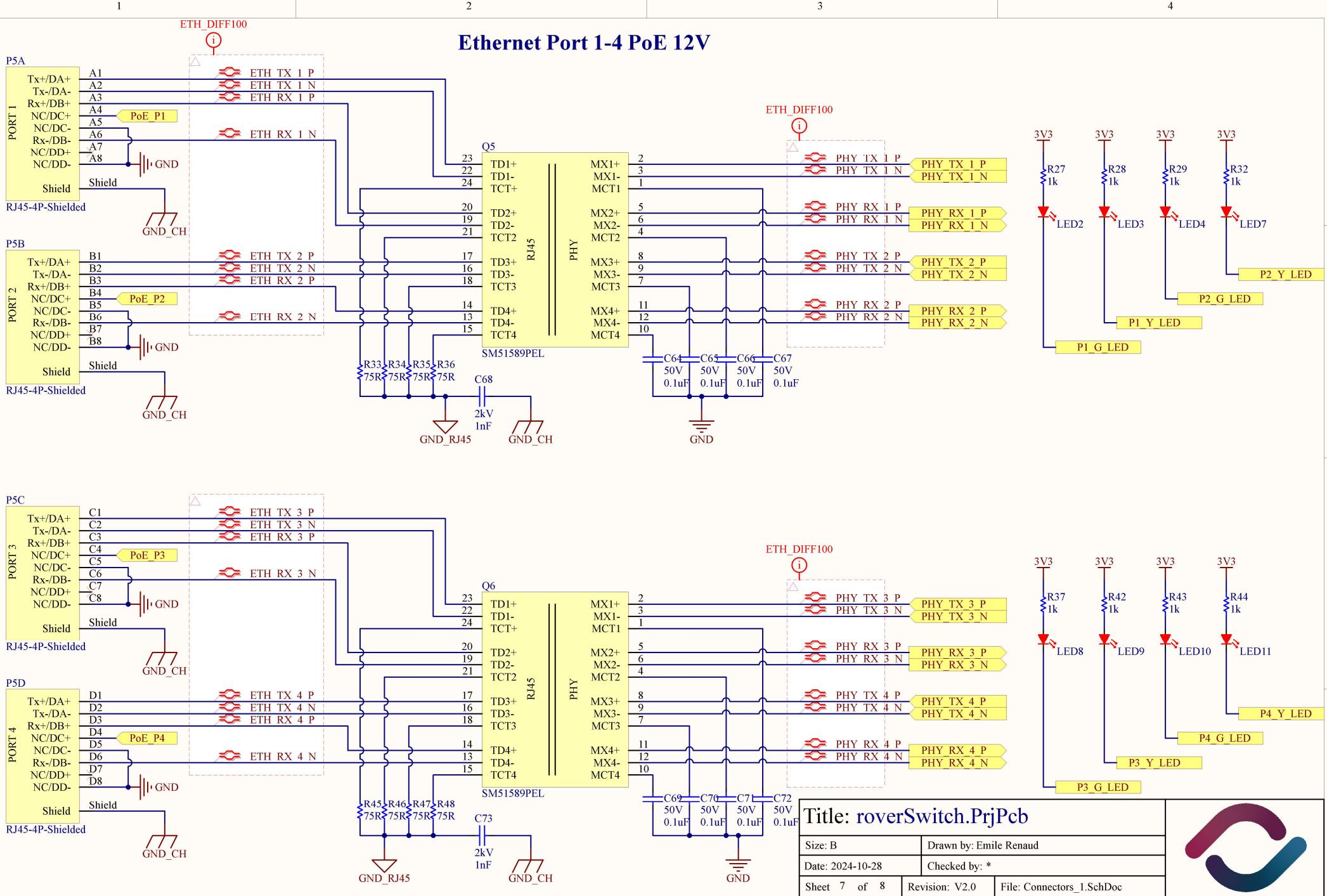
Size: B Drawn by: Emile Renaud

Date: 2024-10-28 Checked by: *

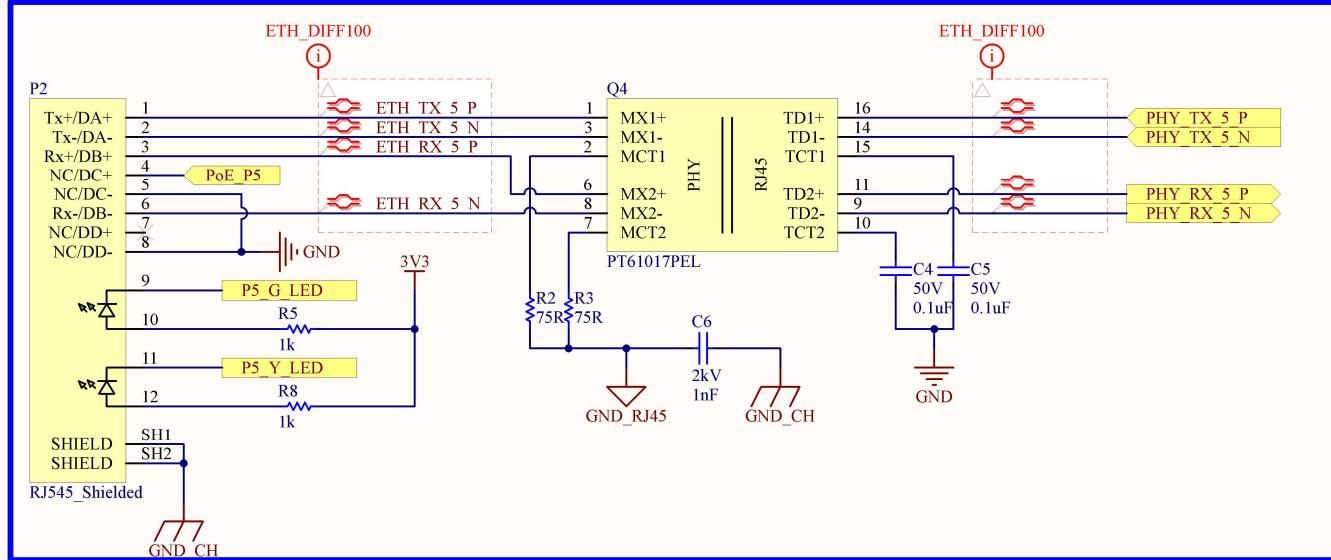
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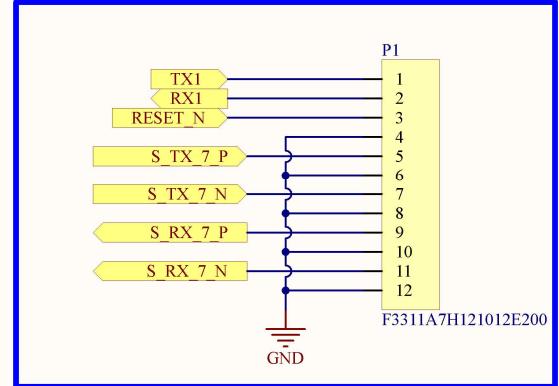
Ethernet Port 1-4 PoE 12V



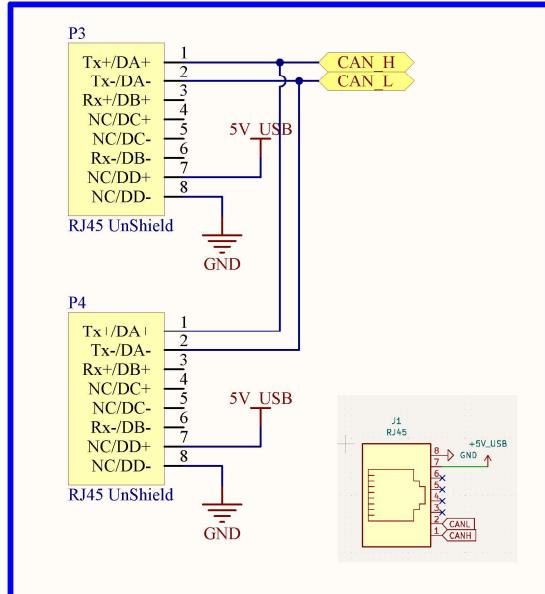
Port 5 - PoE 12/24



FFC Connector Ethernet



CAN + Low Power Rover



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