

A

A

B

B

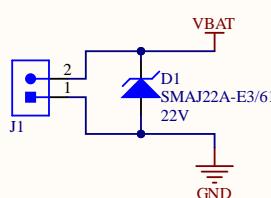
C

C

D

D

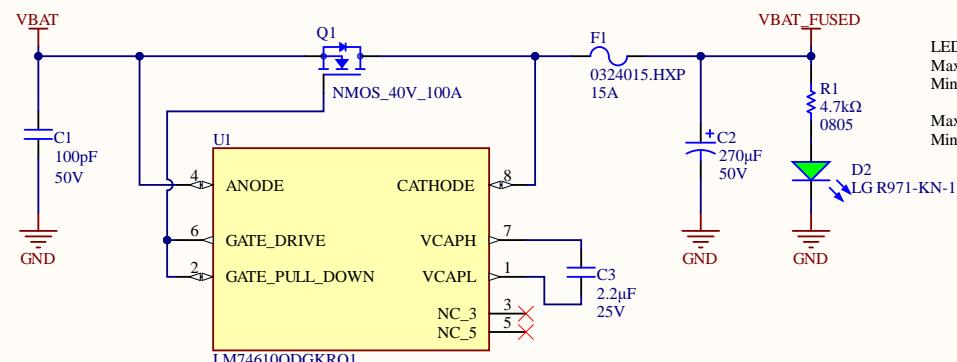
### 24V Input



Rated Current = 16A

**TODO:**  
- What is the actual rated current?

### Reverse Polarity Protection

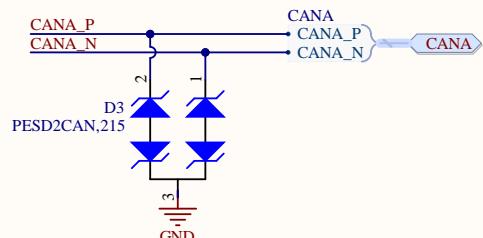
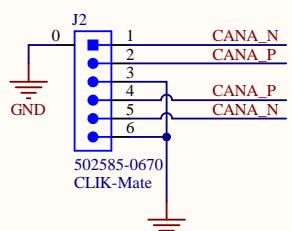


LED forward drop = 2.0V  
Max VBAT = 24V  
Min VBAT = 18V

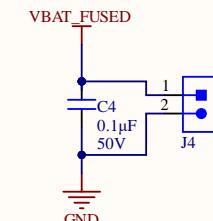
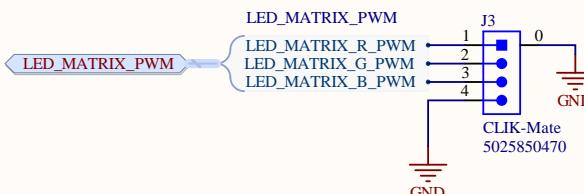
Max LED current =  $(24-2)/4700 = 4.7\text{mA}$   
Min LED current =  $(18-2)/4700 = 3.4\text{mA}$

Title Power Distribution Board Rev2 - Power		Altium Limited L3, 12a Rodborough Rd Frenchs Forest NSW Australia 2086
Size: Letter	Drawn By: Cindy Li	
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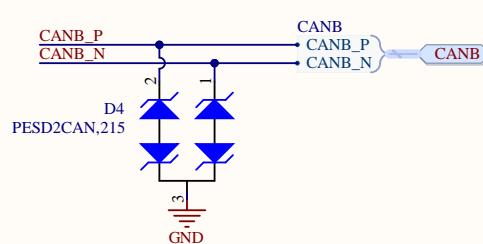
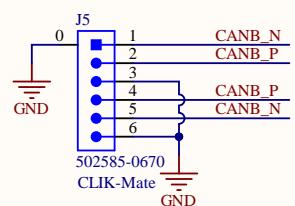
## CAN BUS A



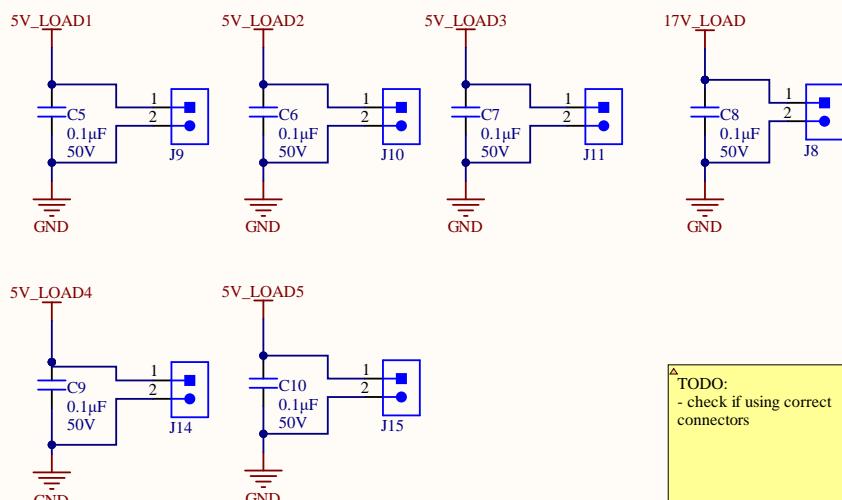
## LED Matrix



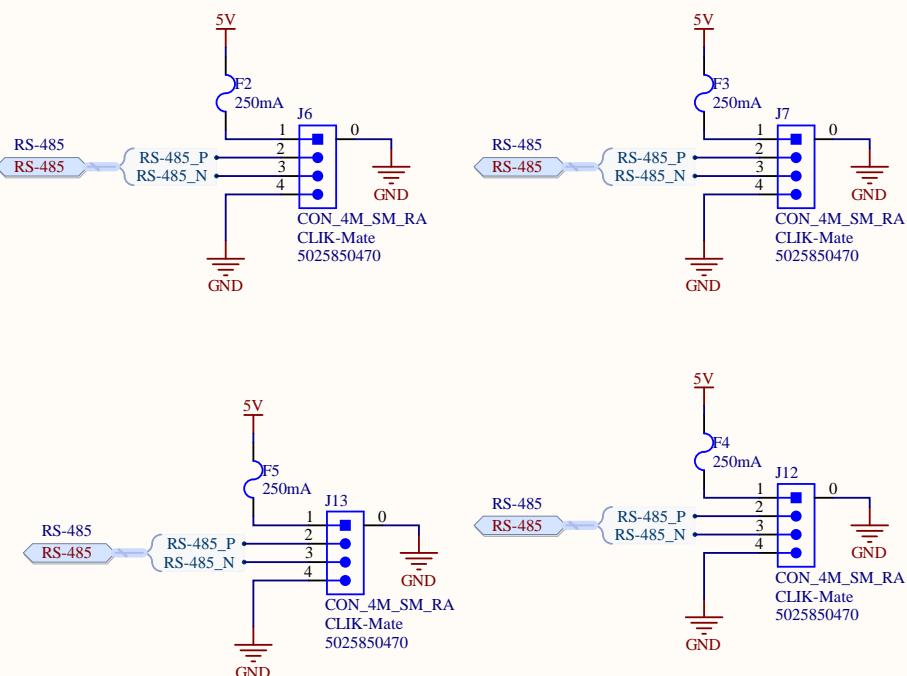
## CAN BUS B



## 5V Output



## 17V Output

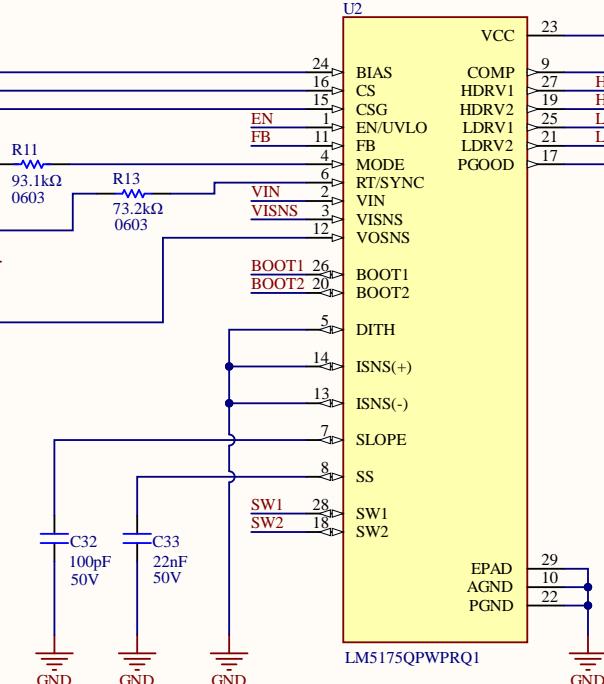
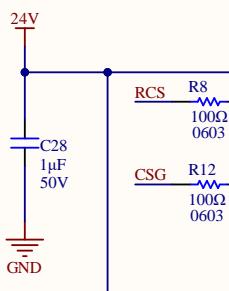
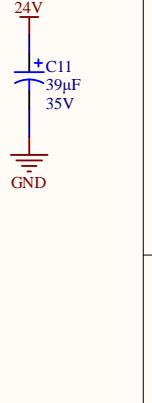
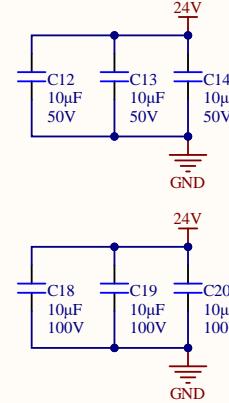
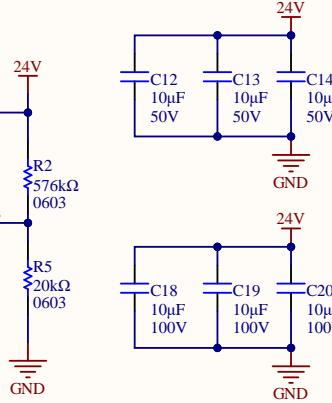
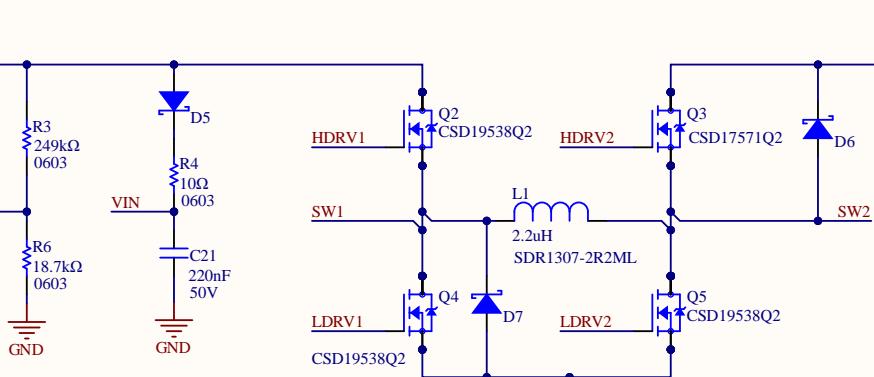
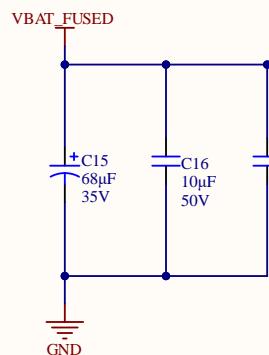


TODO:  
- check if using correct connectors

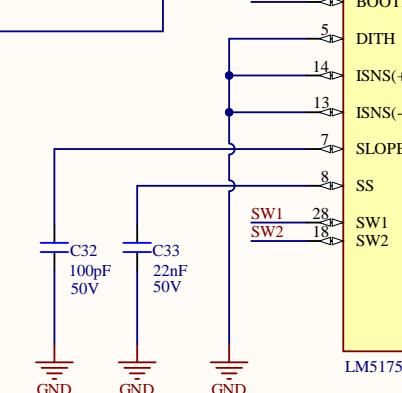
Can use 12-26AWG

Input voltage range: 18-25.8V

## 24V Buck-Boost Converter @ 3A Max



TODO:  
- add appropriate test points  
- add appropriate comments



Title PDB Rev2 - 24V Buck-Boost Converter

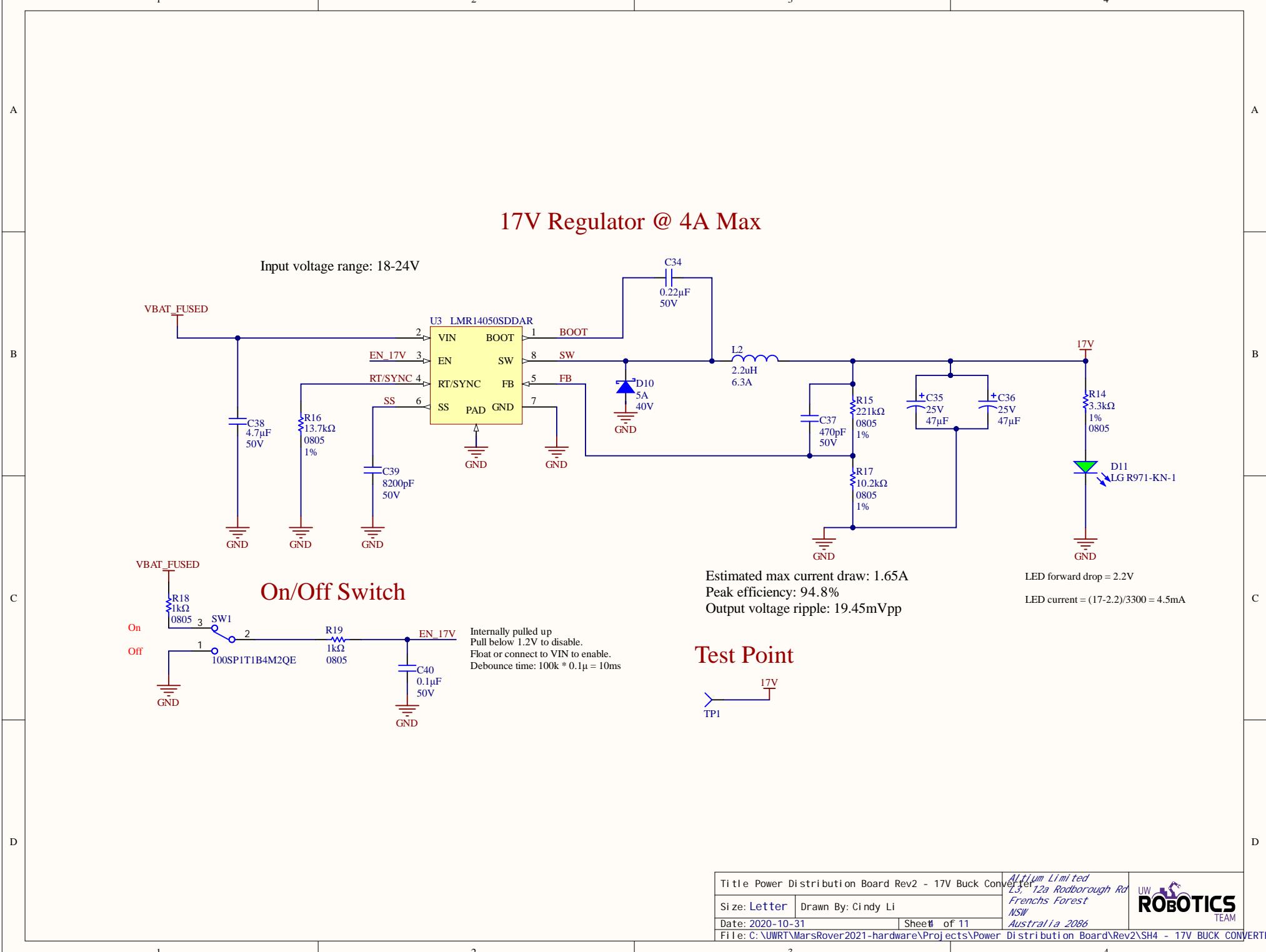
Size: Letter Drawn By: Cindy Li

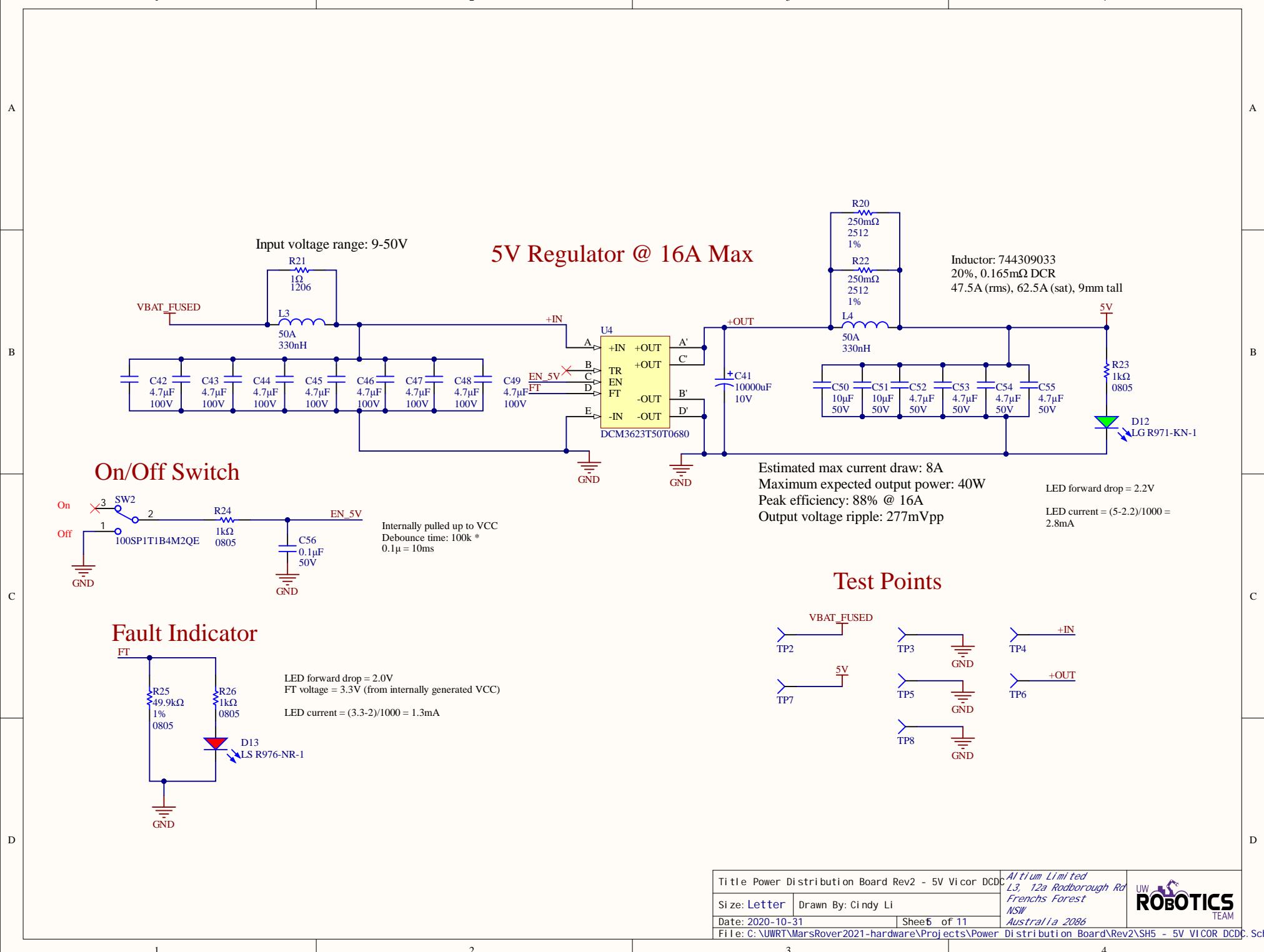
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L3, 12a Rodborough Rd  
Frenchs Forest  
NSW Australia 2086

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## 3.3V Buck Converter

B

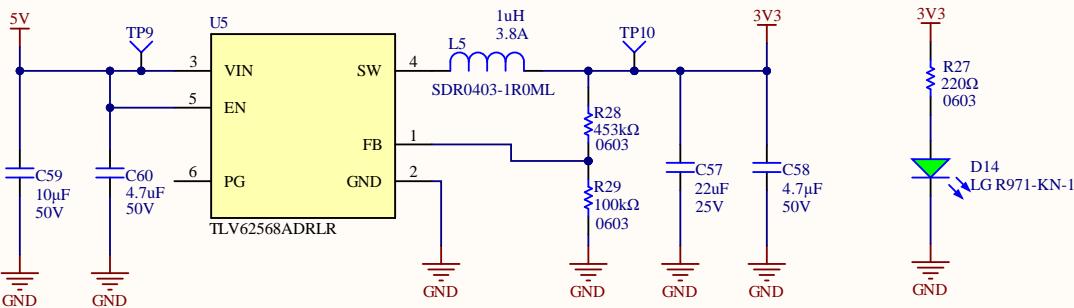
B

Designed for 3.3V - 5V input

**Route for 1A in**

Inductor: SDR0403-1R0ML  
1uH, 20%, 33mOhm DCR (max)  
3.8A (rms), 5.5A (sat), 3.2mm tall

Maximum output current = 2A  
Maximum output power = 6.6W  
Expected efficiency at 1A = 94.3%



△ Current Calculations  
Green LED voltage drop: 2.2V  
-  $I = (3.3-2.2V)/220 = 5mA$

C

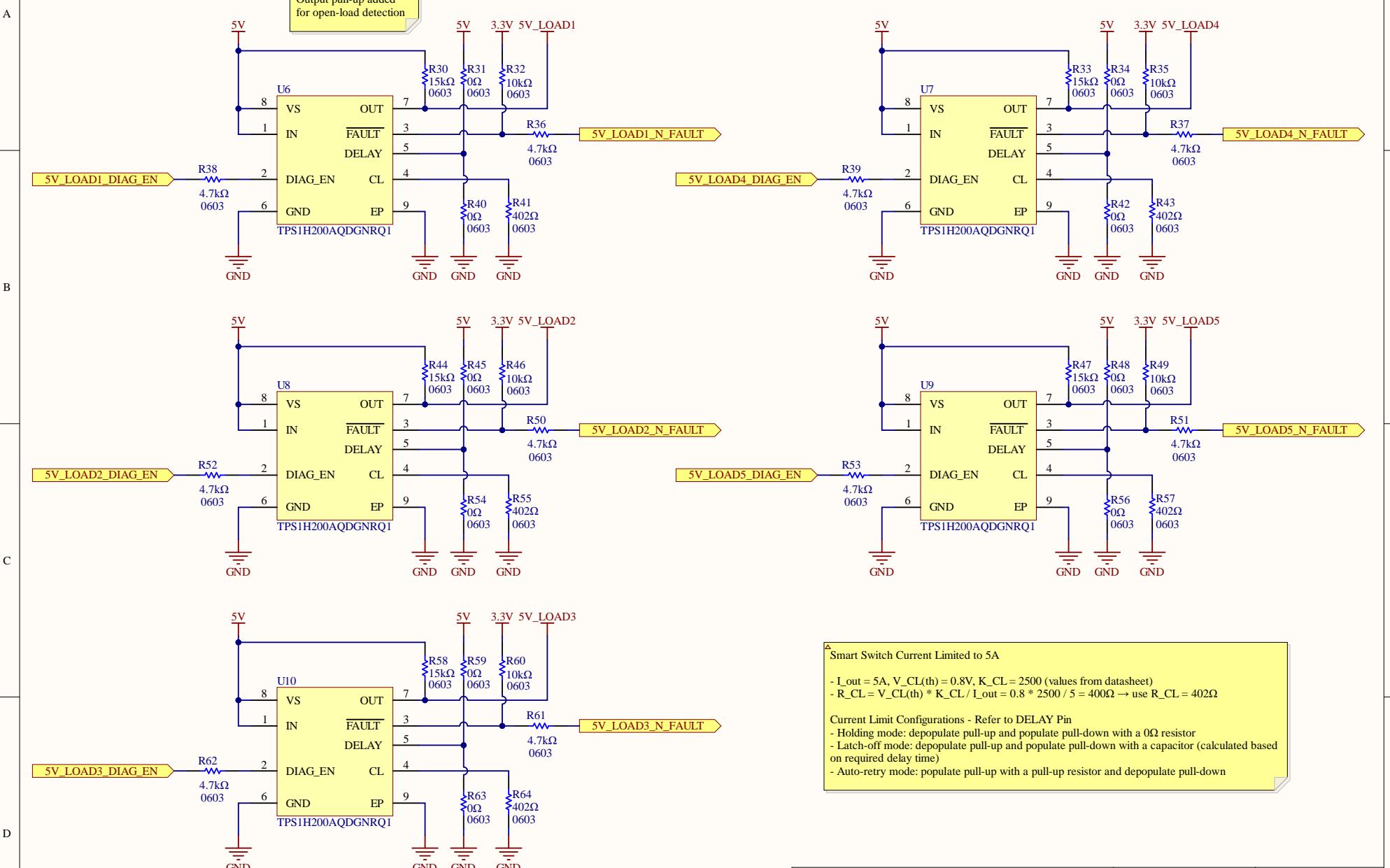
C

D

D

Title Power Distribution Board Rev2 - 3.3V Buck Converter		Altium Limited L3, 72a Rodborough Rd Frenchs Forest NSW Australia 2086
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## 5V Loads Smart Switches



A

A

B

B

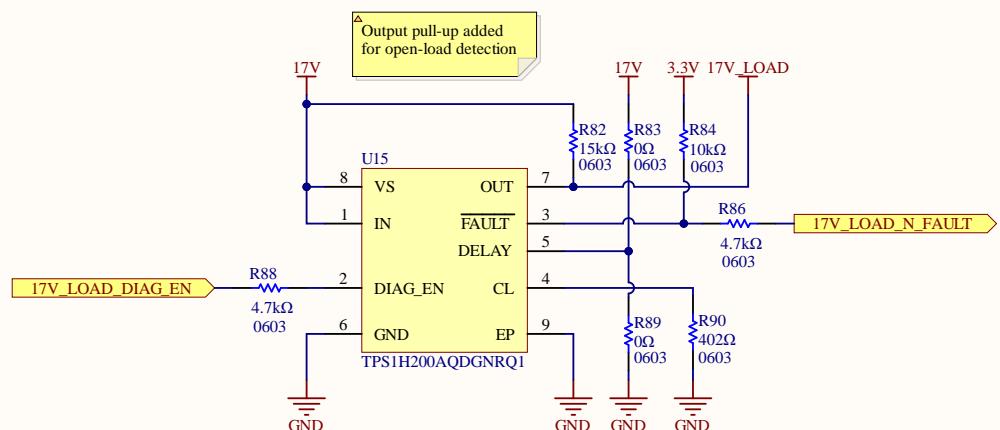
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C

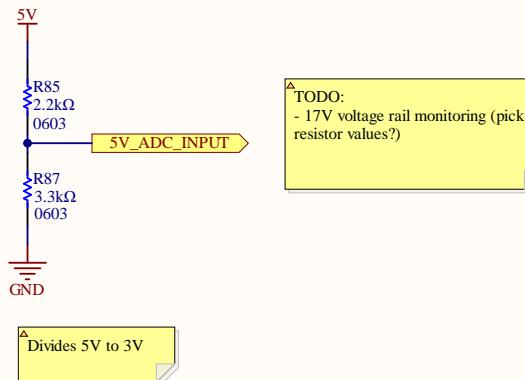
D

D

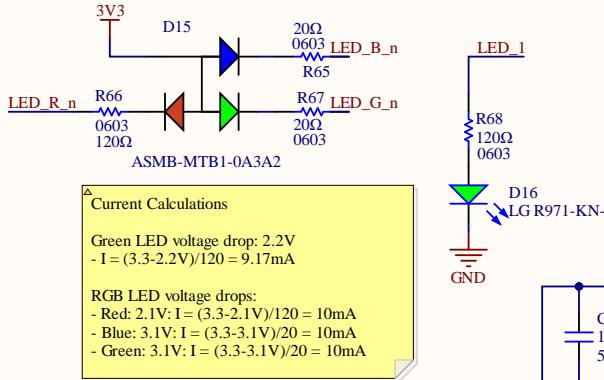
## Jetson Smart Switch



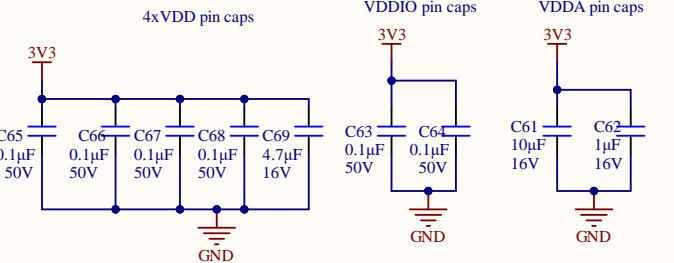
## Power Rail Voltage Monitoring



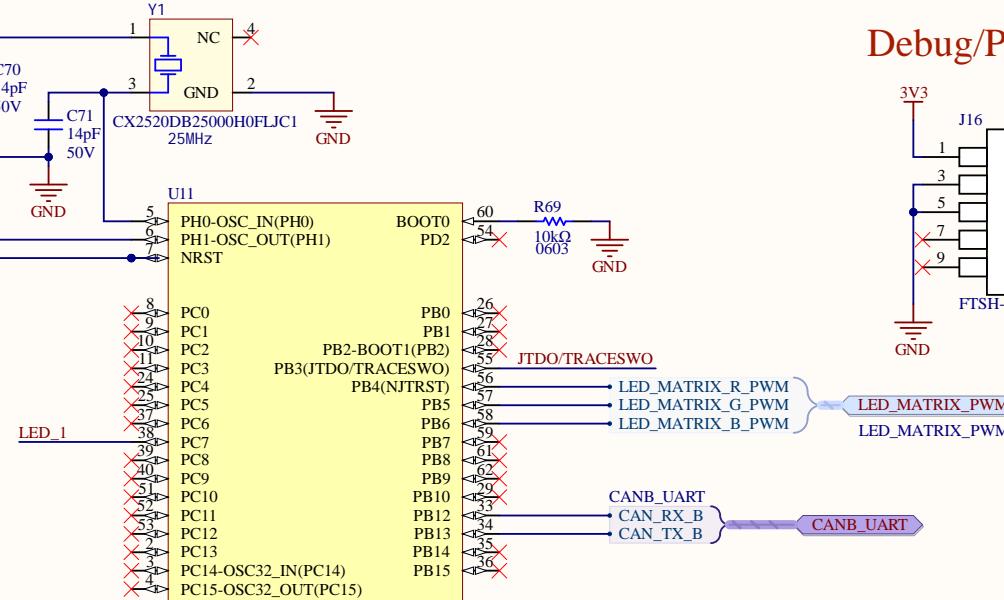
## Status/Debug LEDs



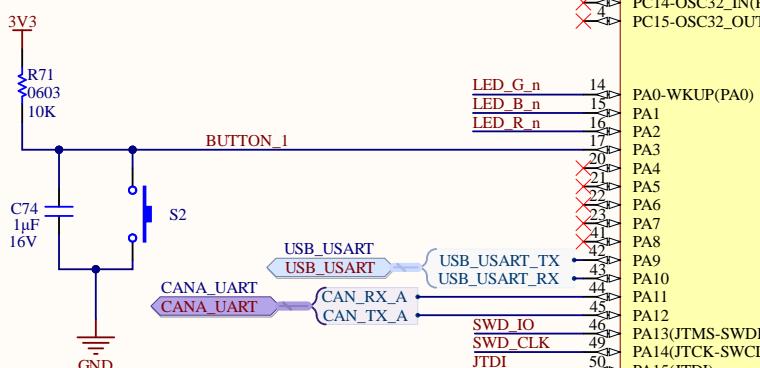
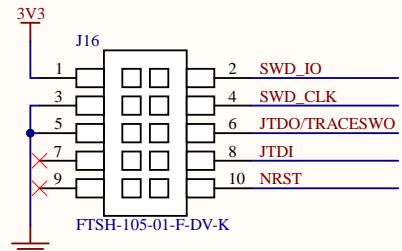
## Decoupling Caps



## STM32F446RET6

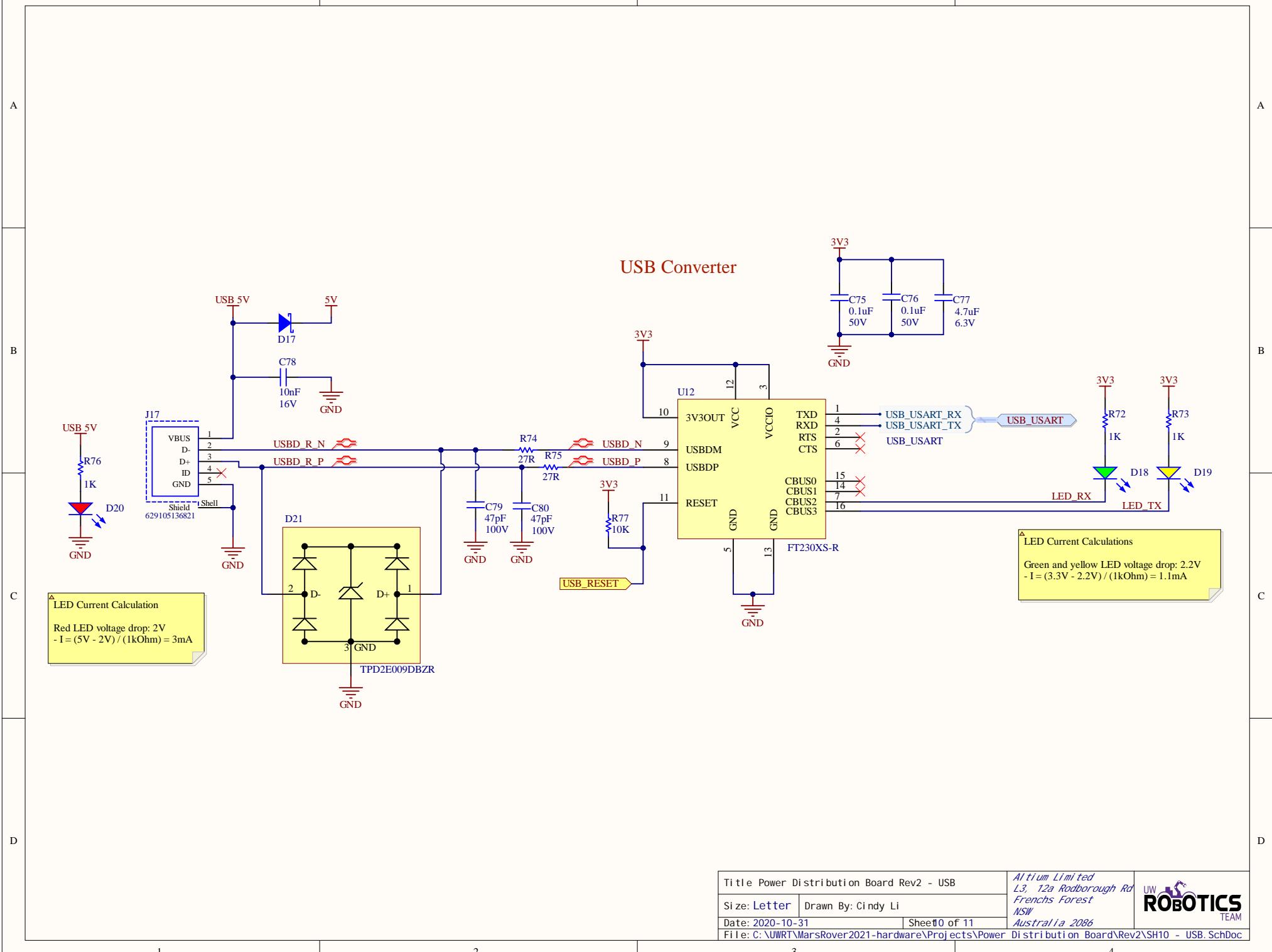


## Debug/Programming



**TODO:**

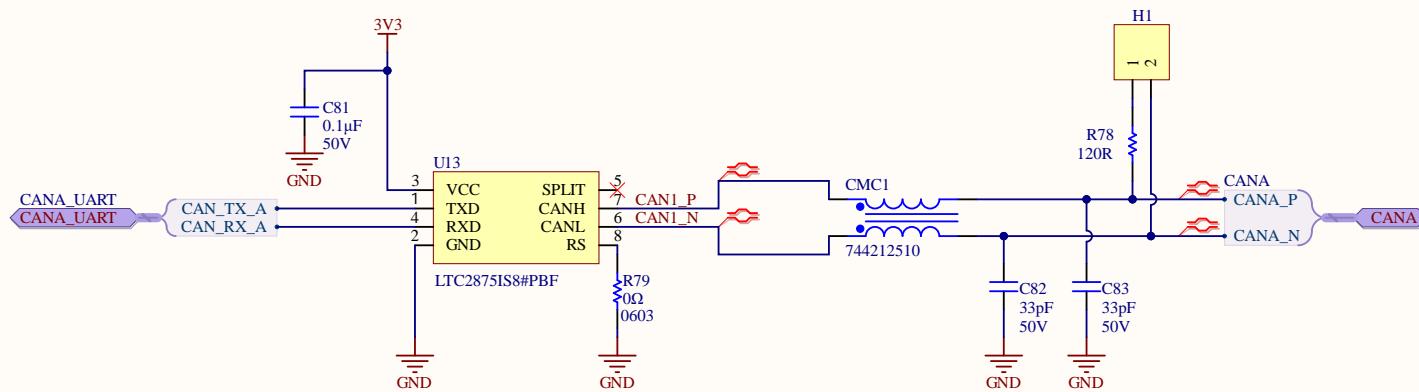
- USB Reset (digital out)
- Load switch signals
- Voltage monitoring analog signals
- RS-485 UART



A

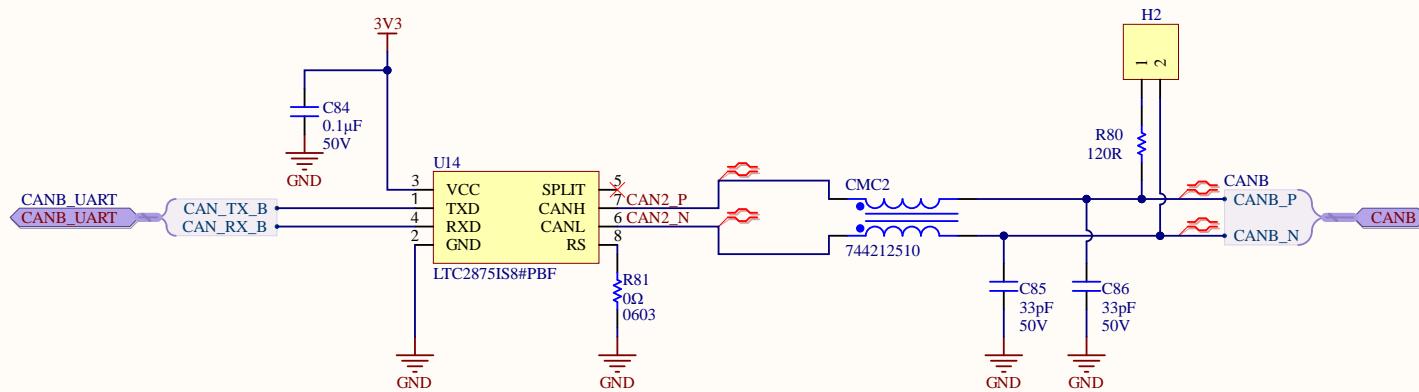
A

## CAN Transceivers



B

B



C

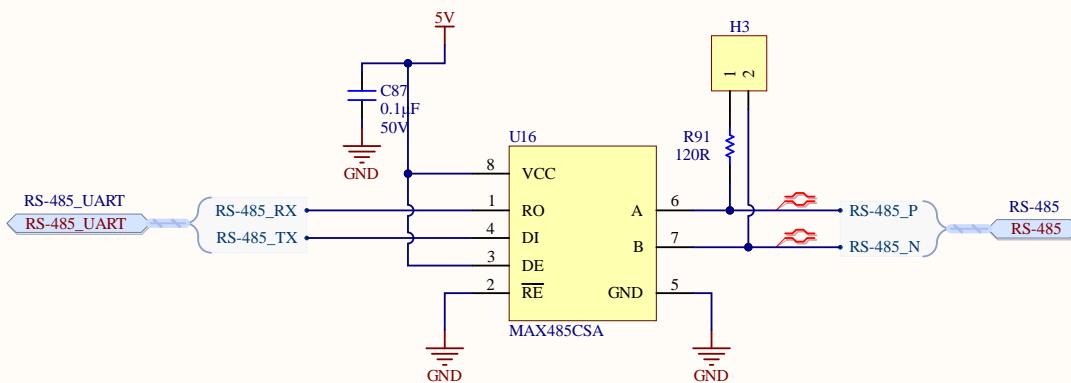
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D

D

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## RS-485 Transceiver



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