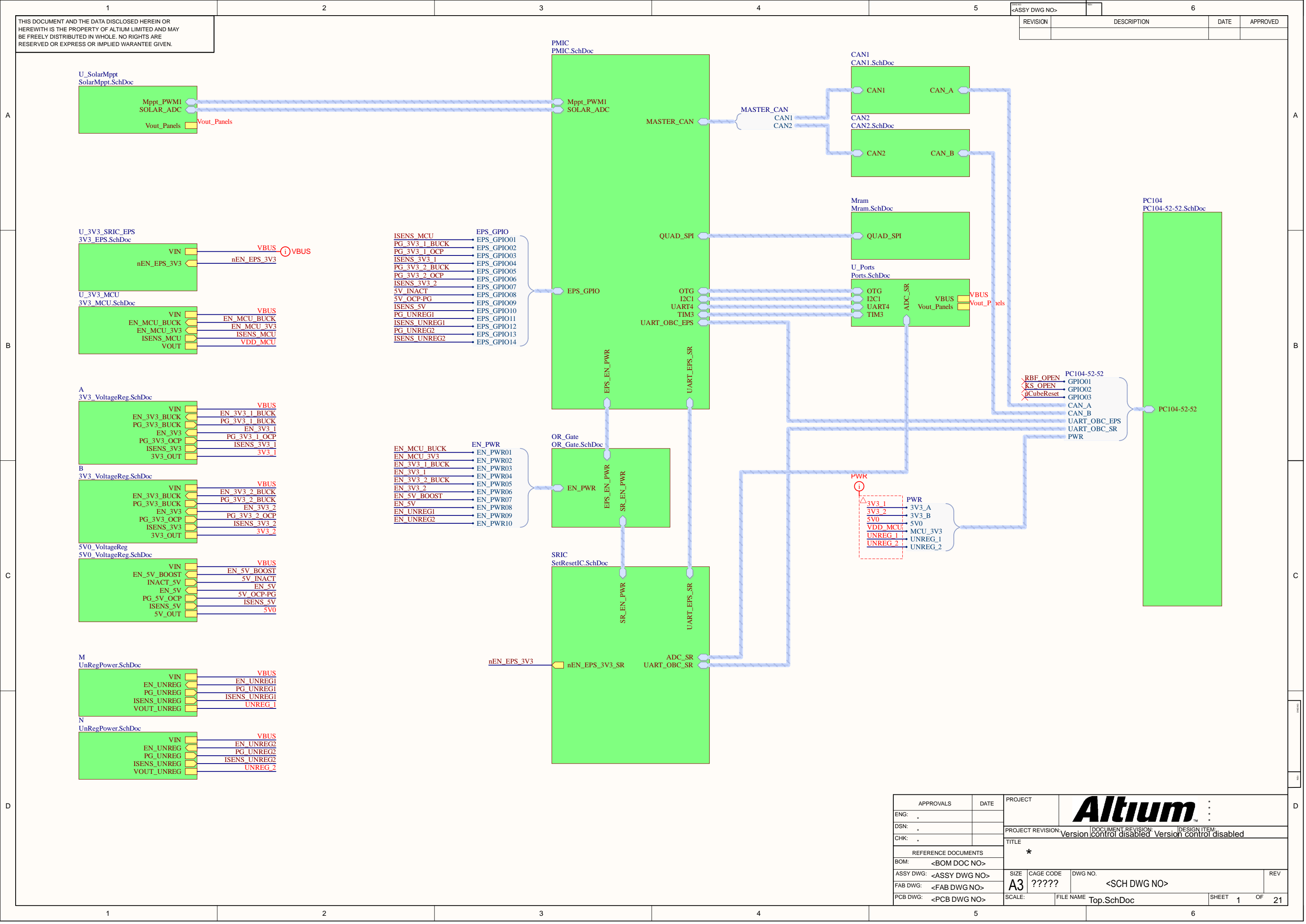


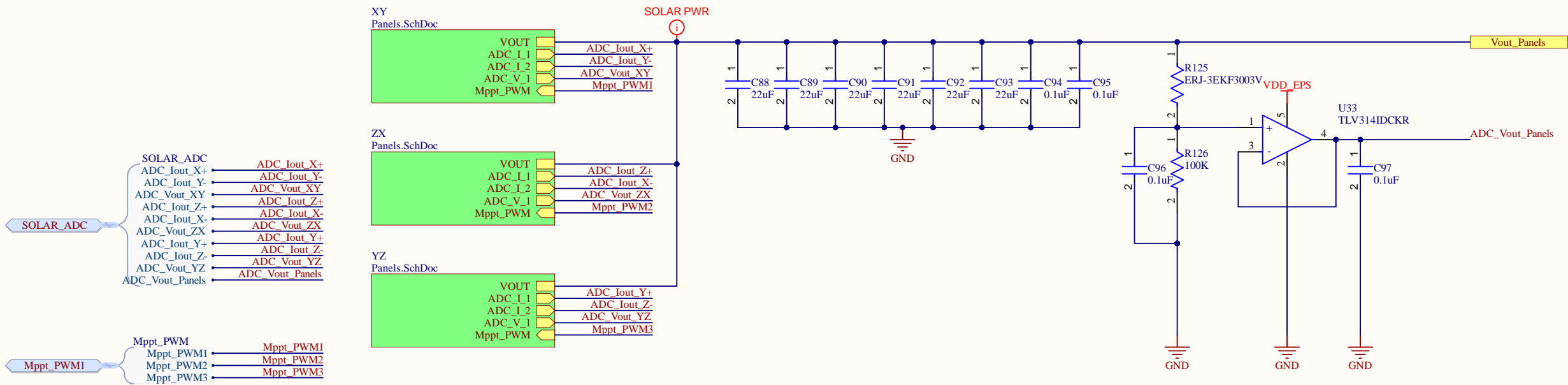
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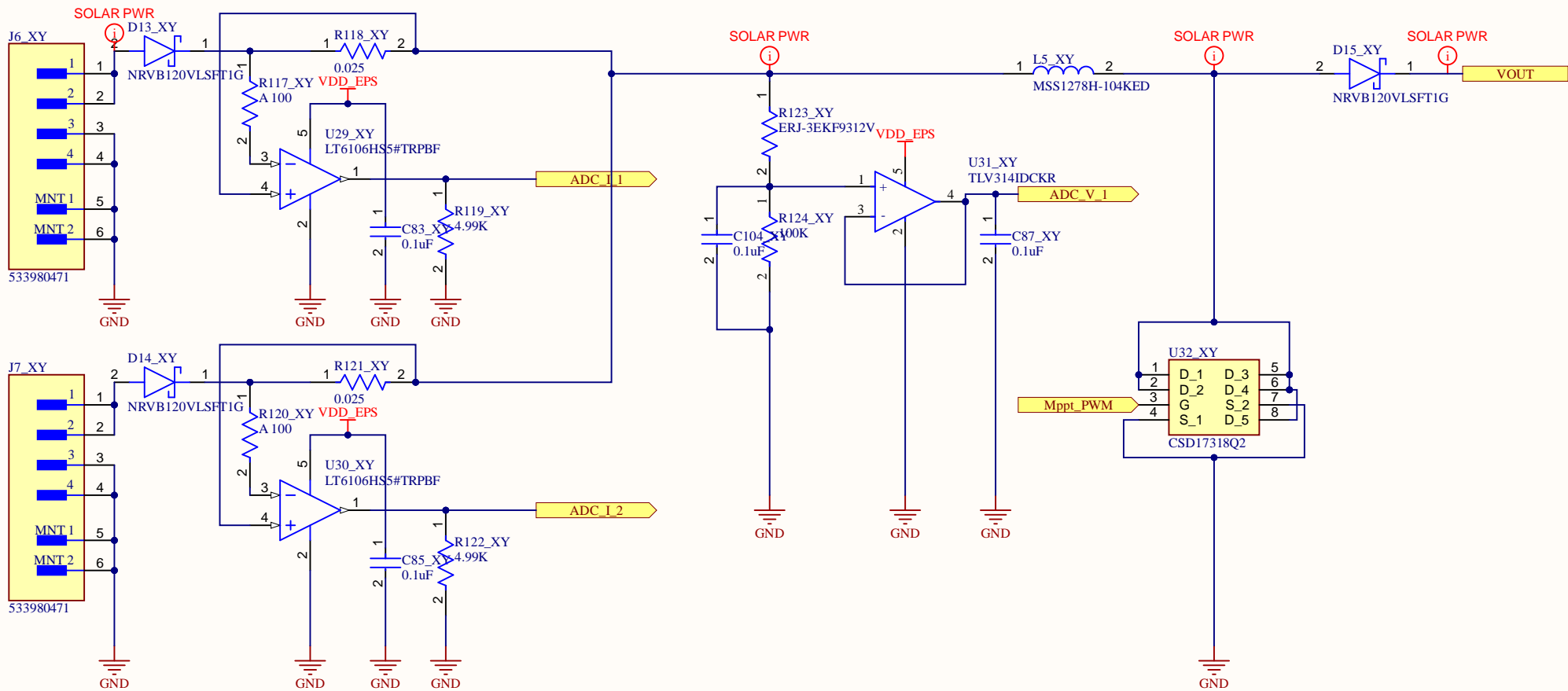
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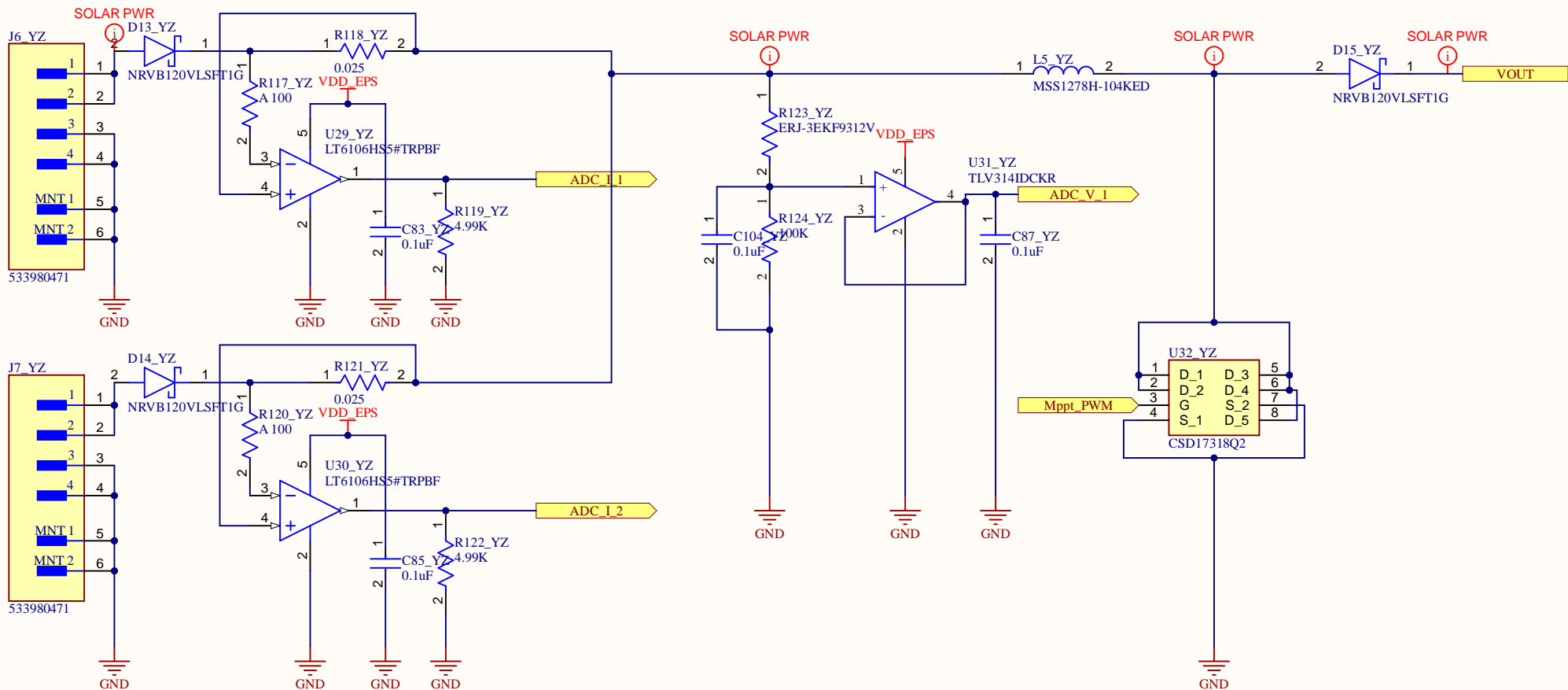
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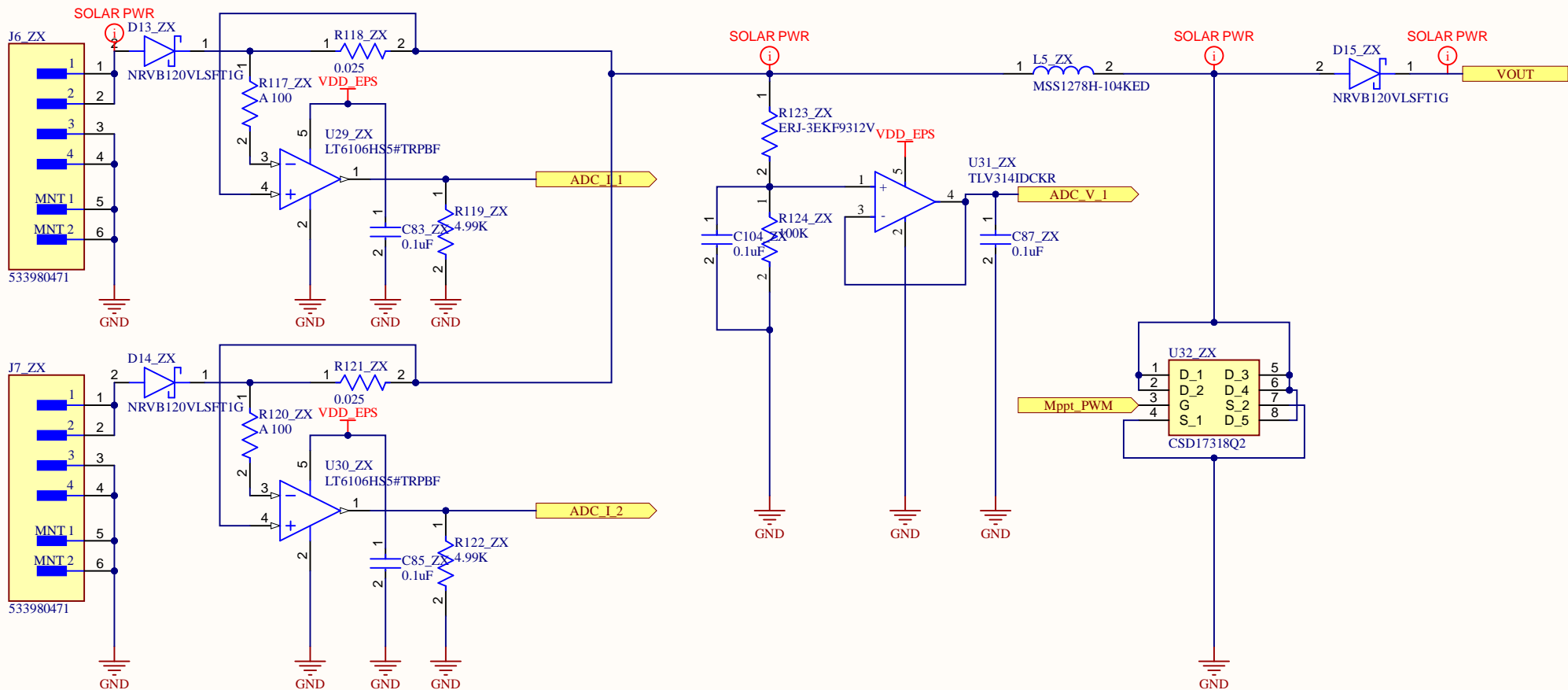
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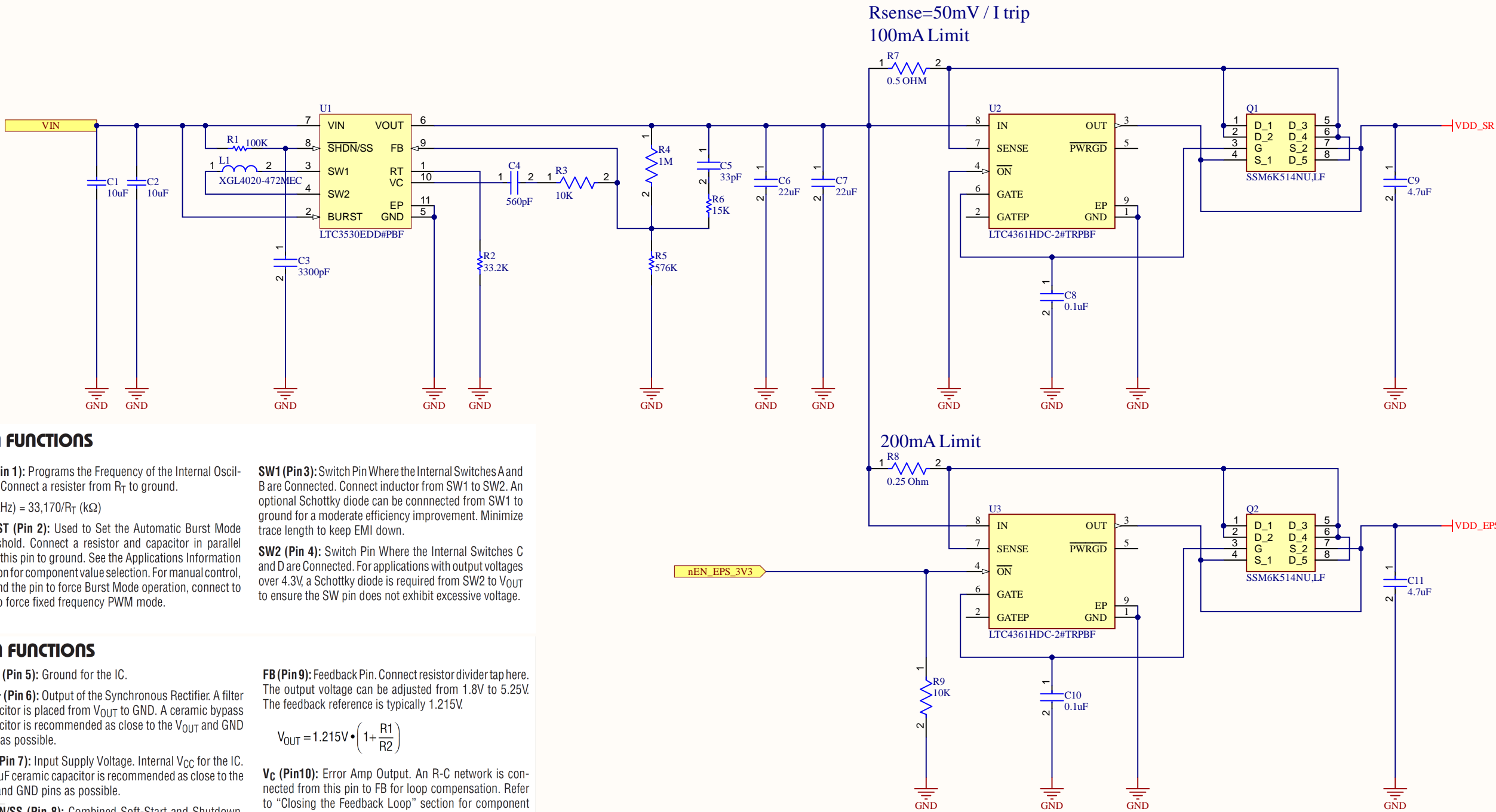
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PCB DWG: <PCB DWG NO>	SCALE:	FILE NAME	Panels.SchDoc		SHEET 3 OF 21



PIN FUNCTIONS

R_T (Pin 1): Programs the Frequency of the Internal Oscillator. Connect a resistor from R_T to ground.

$$f(\text{kHz}) = 33,170/R_T(\text{k}\Omega)$$

BURST (Pin 2): Used to Set the Automatic Burst Mode Threshold. Connect a resistor and capacitor in parallel from this pin to ground. See the Applications Information section for component value selection. For manual control, ground the pin to force Burst Mode operation, connect to V_{IN} to force fixed frequency PWM mode.

SW1 (Pin 3): Switch Pin Where the Internal Switches A and B are Connected. Connect inductor from SW1 to SW2. An optional Schottky diode can be connected from SW1 to ground for a moderate efficiency improvement. Minimize trace length to keep EMI down.

SW2 (Pin 4): Switch Pin Where the Internal Switches C and D are Connected. For applications with output voltages over 4.3V, a Schottky diode is required from SW2 to V_{OUT} to ensure the SW pin does not exhibit excessive voltage.

PIN FUNCTIONS

GND (Pin 5): Ground for the IC.

V_{OUT} (Pin 6): Output of the Synchronous Rectifier. A filter capacitor is placed from V_{OUT} to GND. A ceramic bypass capacitor is recommended as close to the V_{OUT} and GND pins as possible.

V_{IN} (Pin 7): Input Supply Voltage. Internal V_{CC} for the IC. A 10μF ceramic capacitor is recommended as close to the V_{IN} and GND pins as possible.

SHDN/SS (Pin 8): Combined Soft-Start and Shutdown. Applied voltage <0.4V shuts down the IC. Tie to >1.4V to enable the IC and >1.6V to ensure the error amp is not clamped from soft-start. An R-C from the shutdown command signal to this pin will provide a soft-start function by limiting the rise time of V_C.

FB (Pin 9): Feedback Pin. Connect resistor divider tap here. The output voltage can be adjusted from 1.8V to 5.25V. The feedback reference is typically 1.215V.

$$V_{OUT} = 1.215V \cdot \left(1 + \frac{R1}{R2}\right)$$

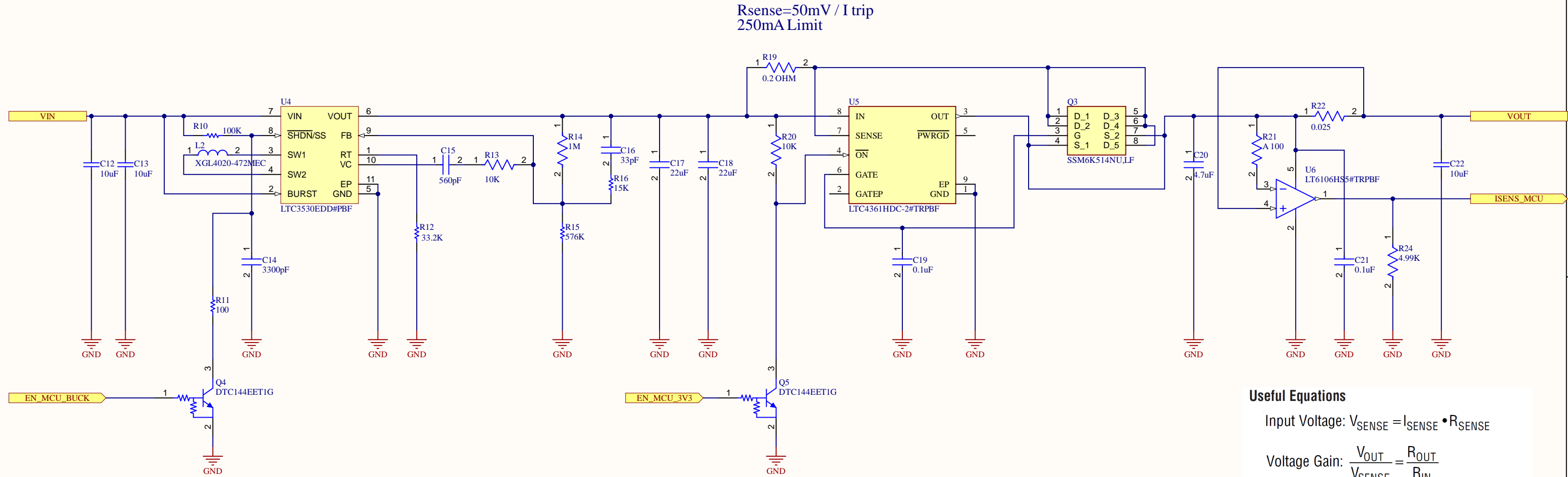
V_C (Pin 10): Error Amp Output. An R-C network is connected from this pin to FB for loop compensation. Refer to "Closing the Feedback Loop" section for component selection guidelines. During Burst Mode operation, V_C is internally clamped.

Exposed Pad (Pin 11, DD Package Only): Ground. This pin must be soldered to the PCB and electrically connected to ground.

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Useful Equations

Input Voltage: $V_{SENSE} = I_{SENSE} \cdot R_{SENSE}$

Voltage Gain: $\frac{V_{OUT}}{V_{SENSE}} = \frac{R_{OUT}}{R_{IN}}$

Current Gain: $\frac{I_{OUT}}{I_{SENSE}} = \frac{R_{SENSE}}{R_{IN}}$

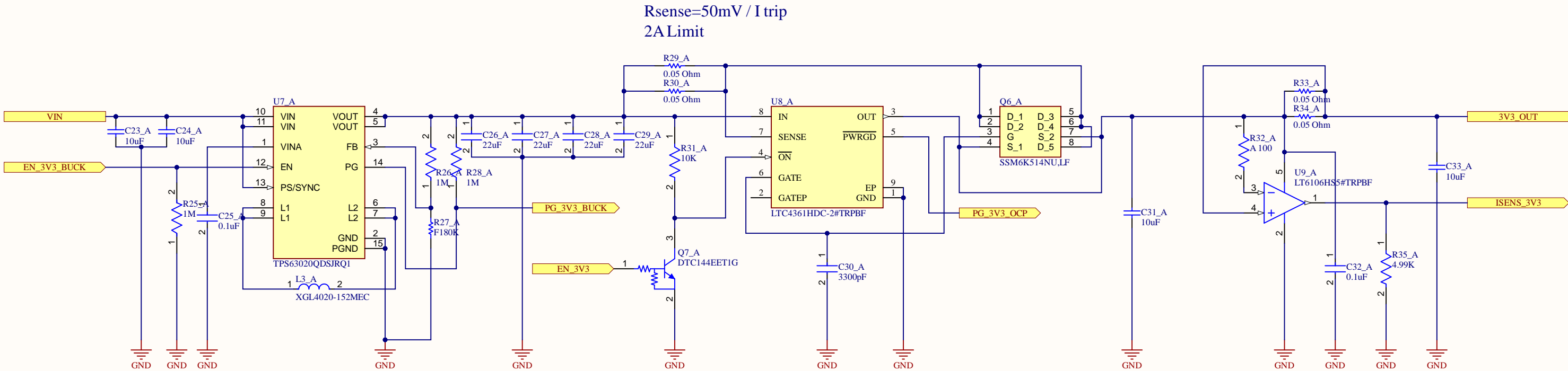
Transconductance: $\frac{I_{OUT}}{V_{SENSE}} = \frac{1}{R_{IN}}$

Transimpedance: $\frac{V_{OUT}}{I_{SENSE}} = R_{SENSE} \cdot \frac{R_{OUT}}{R_{IN}}$

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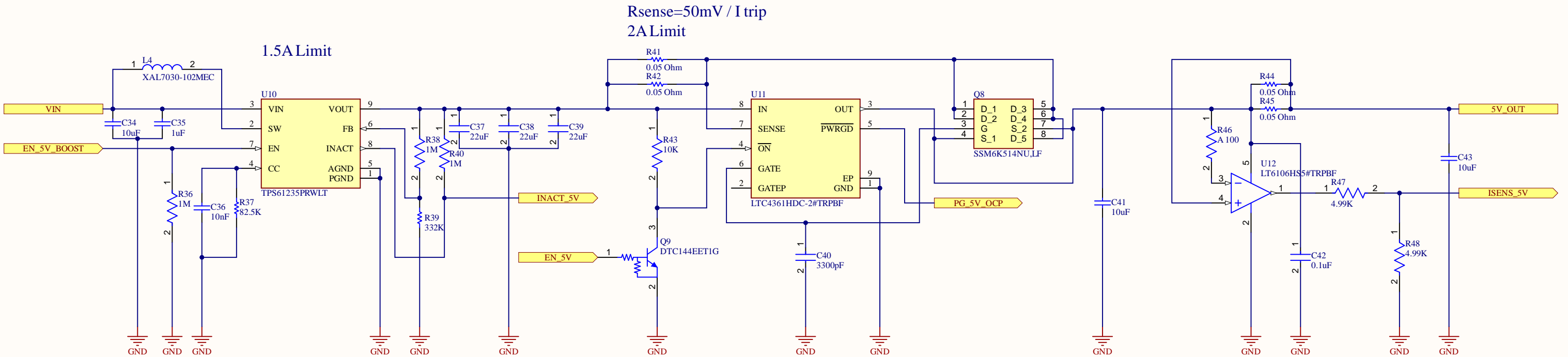
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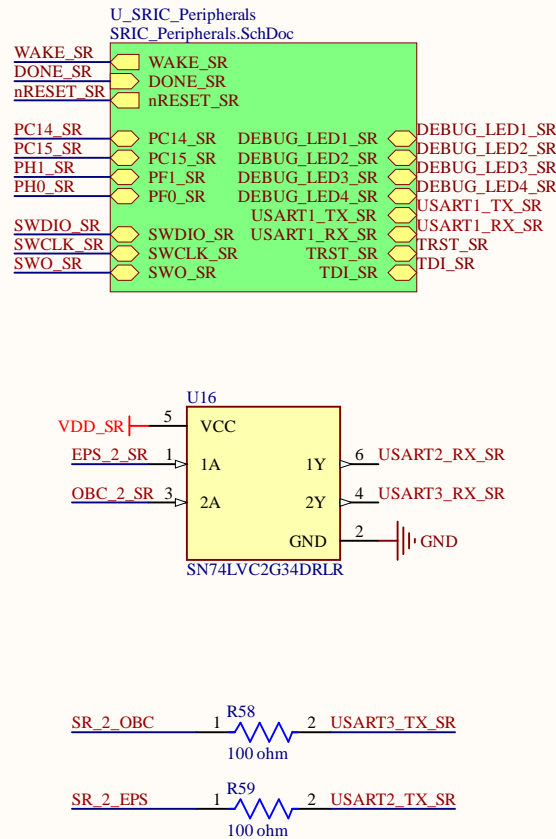
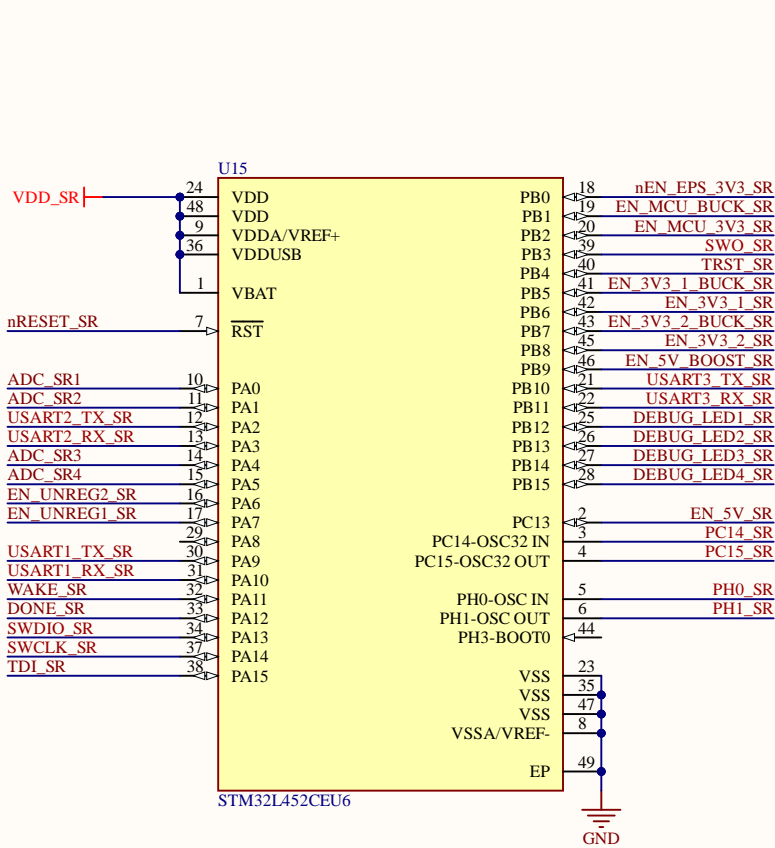
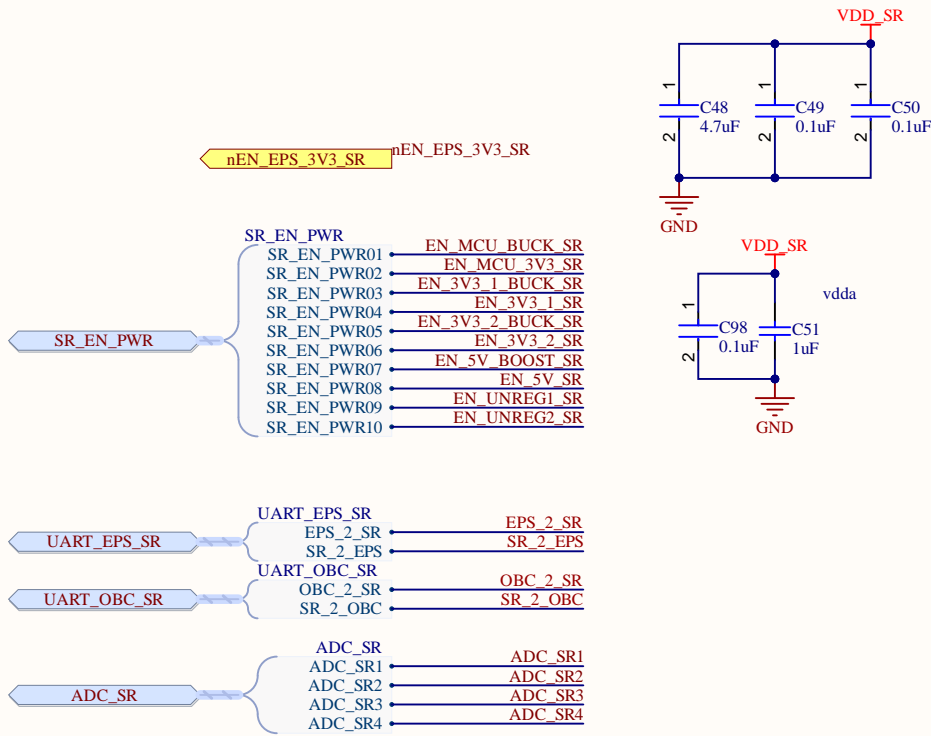
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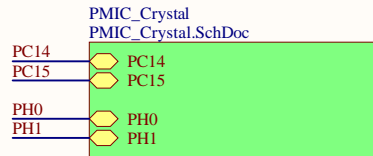
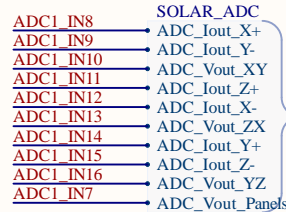
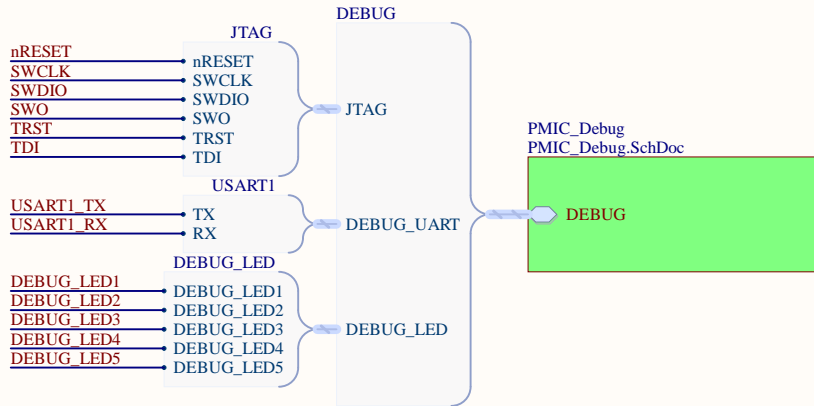
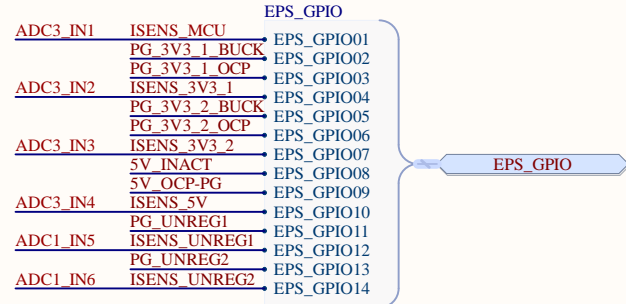
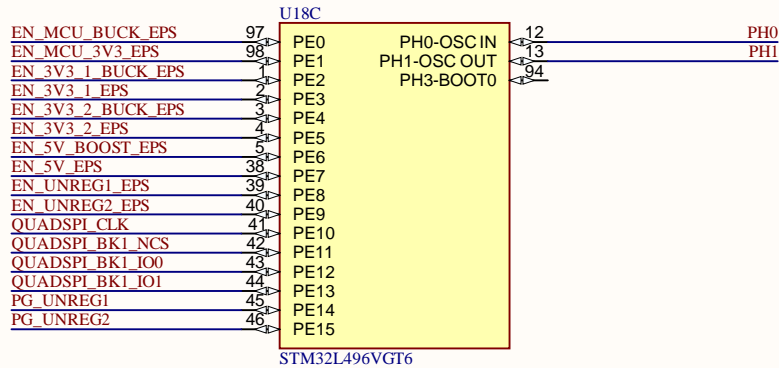
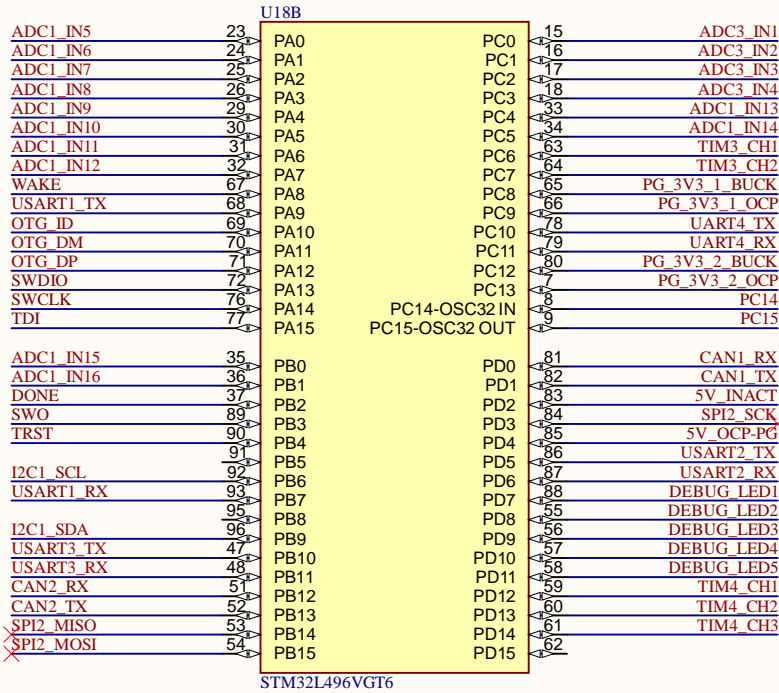
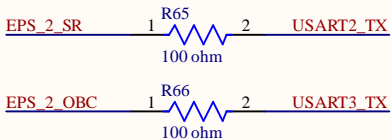
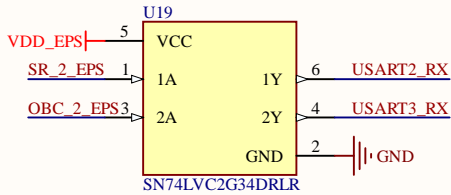
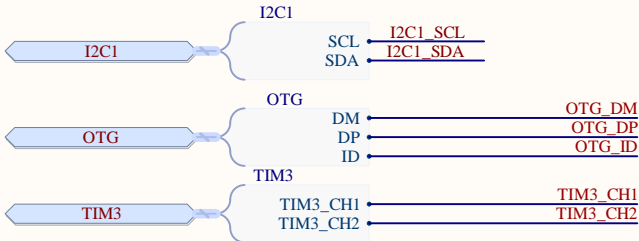
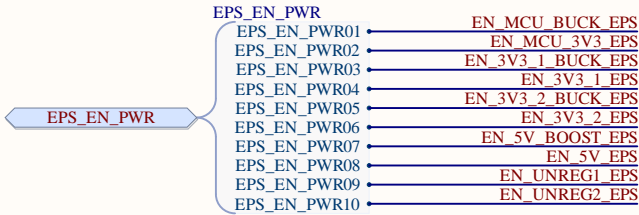
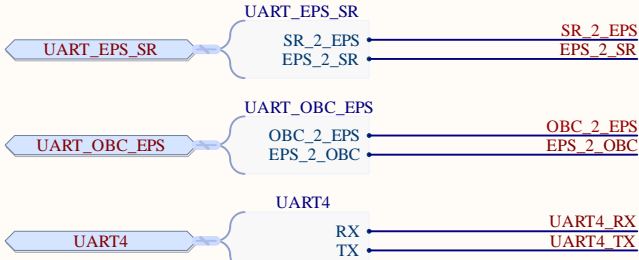
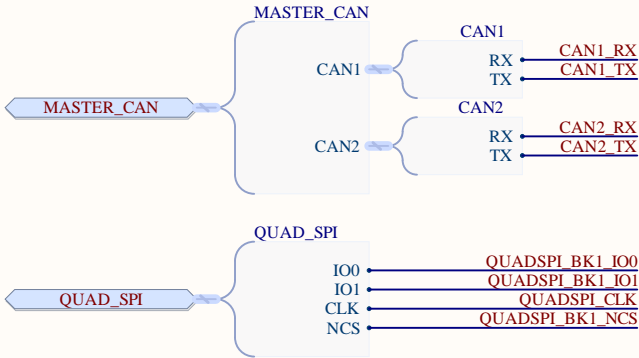
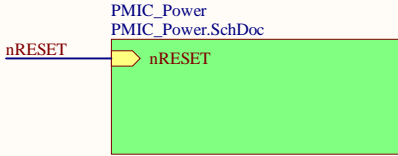
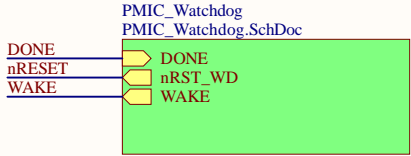
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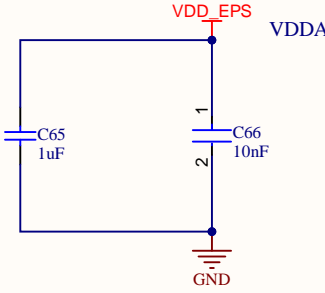
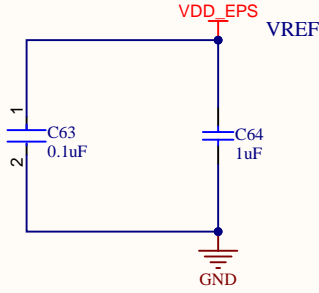
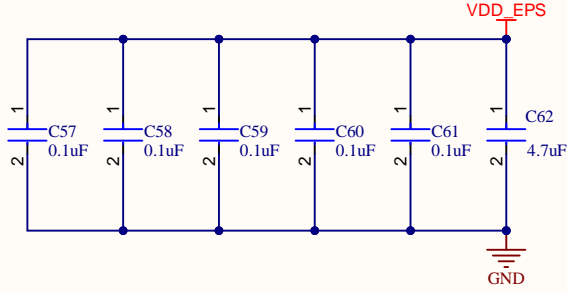
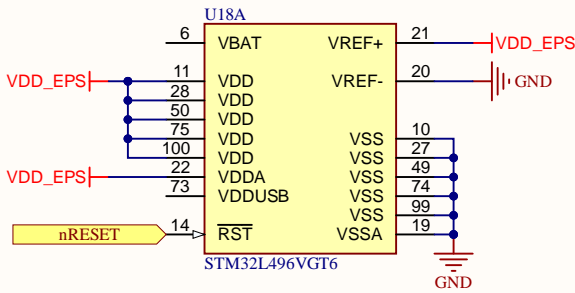
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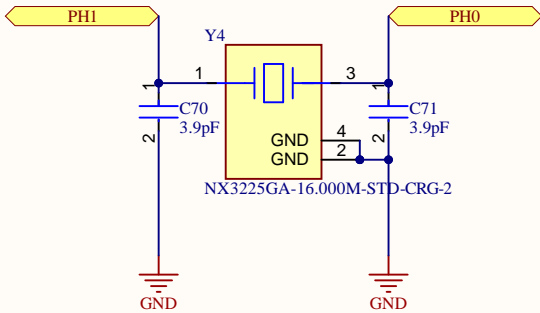
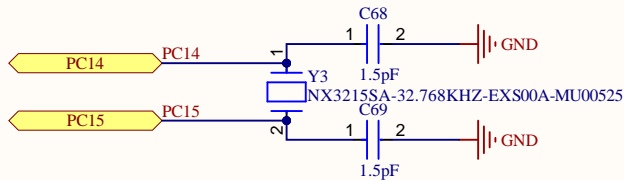
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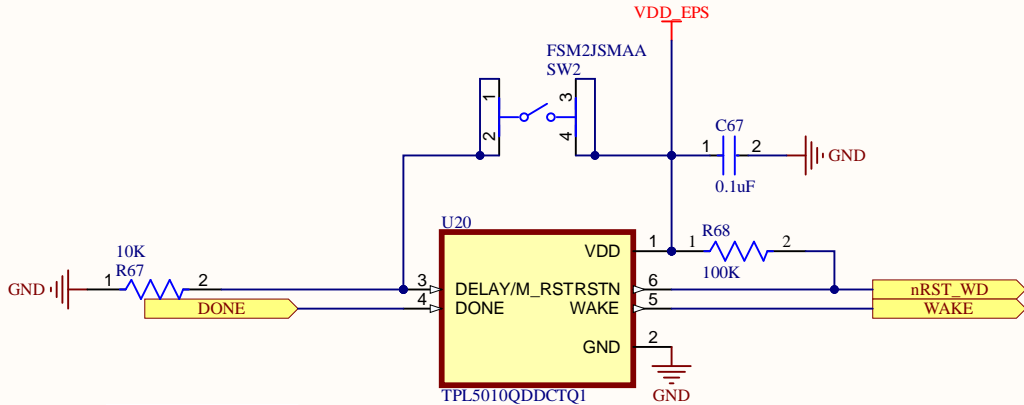
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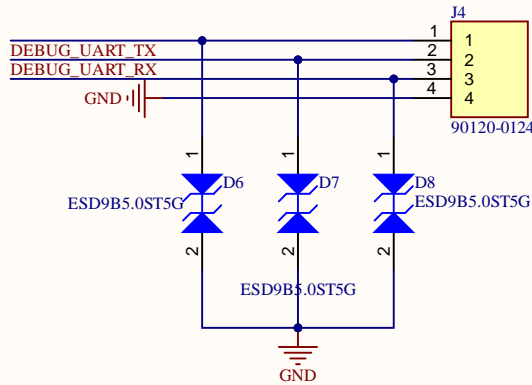
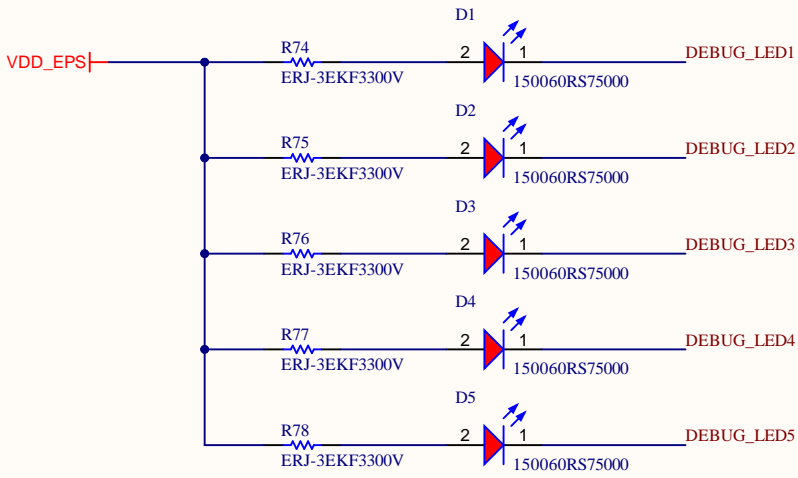
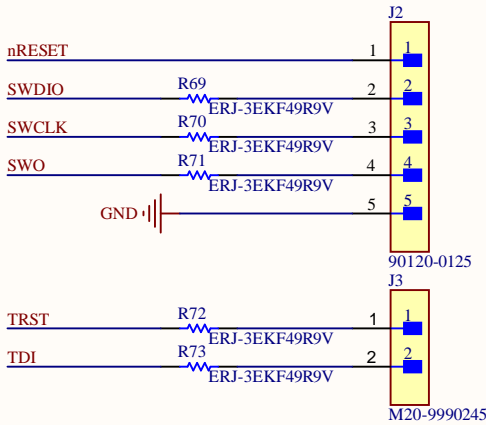
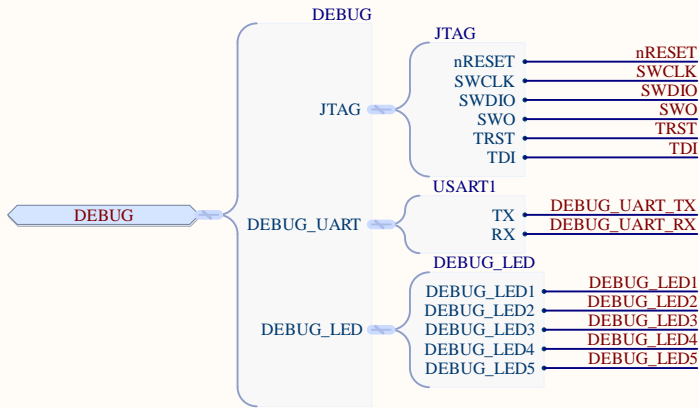


Use 1% Resistors
100 ms = 500 ohm
200 ms = 1000 ohm
300 ms = 1500 ohm
400 ms = 2000 ohm
500 ms = 2500 ohm
1 s = 5.2 Kohm
2 s = 6.79 Kohm
5 s = 8.85 Kohm
10 s = 11.20 Kohm

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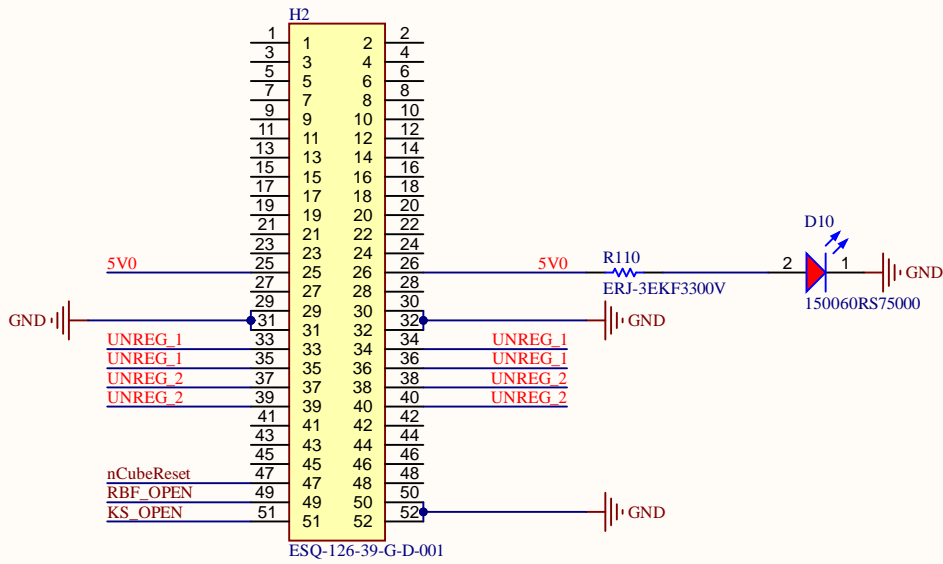
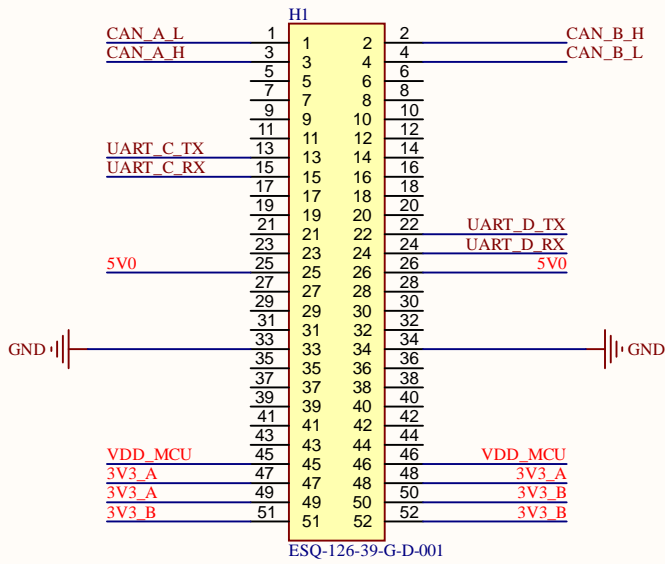
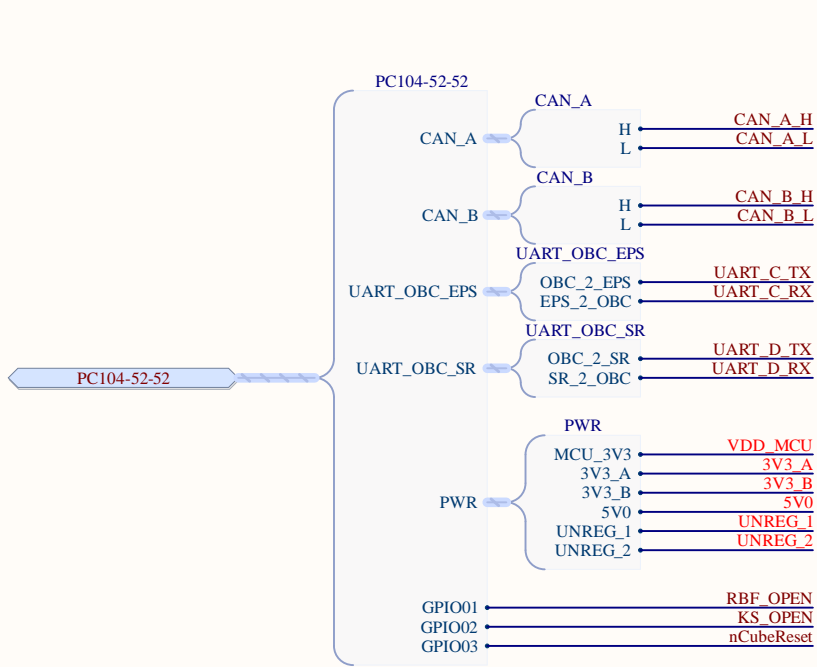
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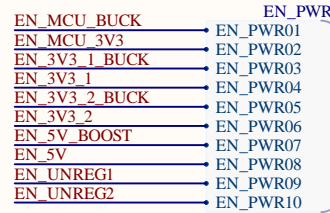
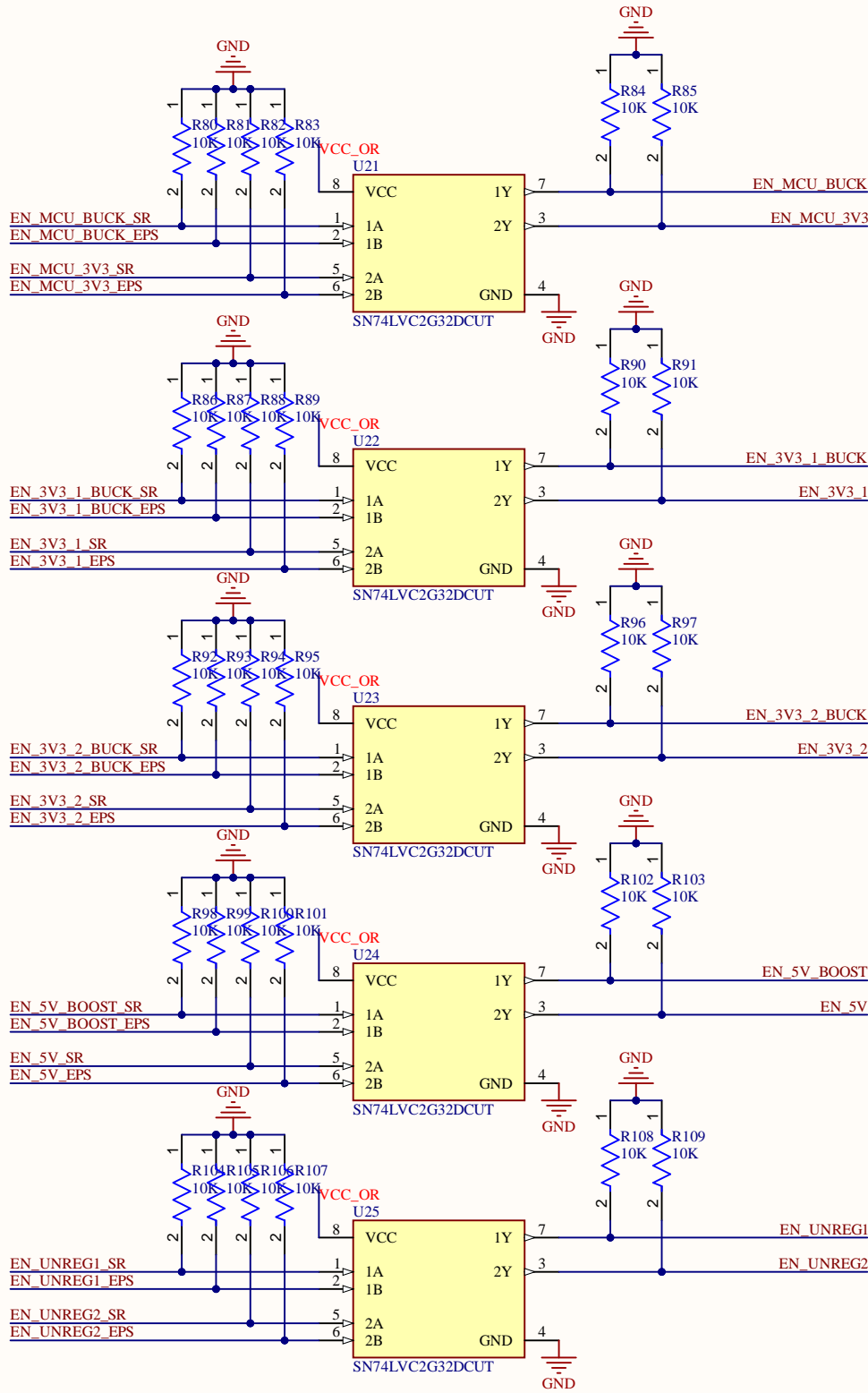
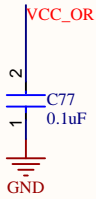
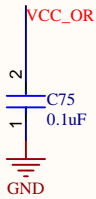
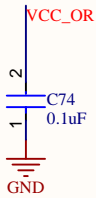
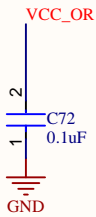
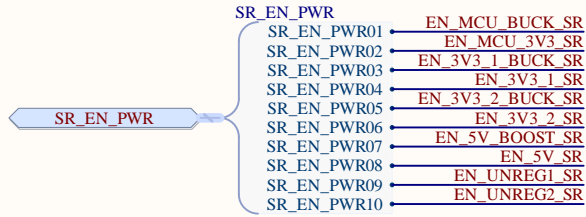
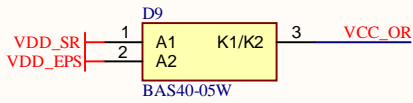
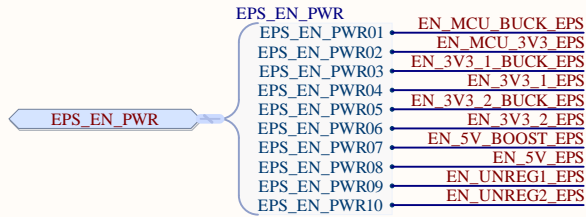
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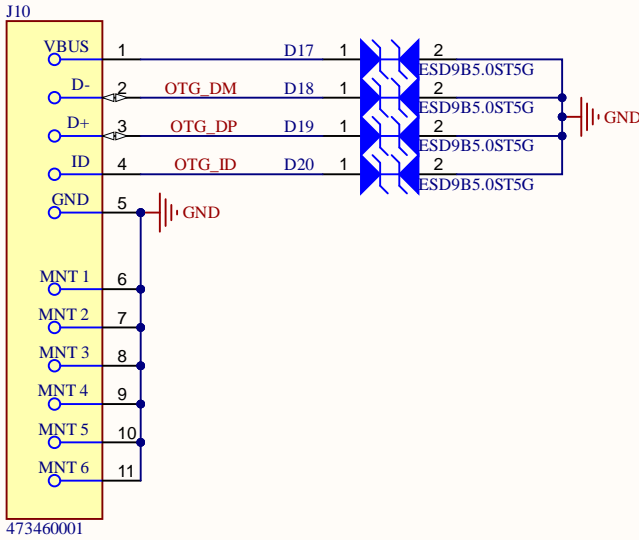
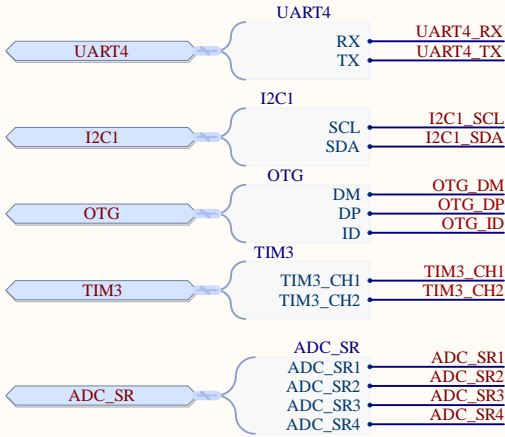
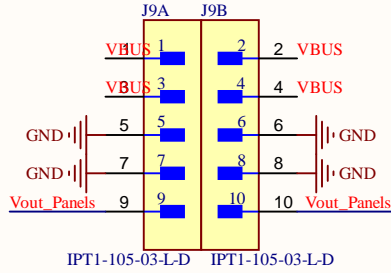
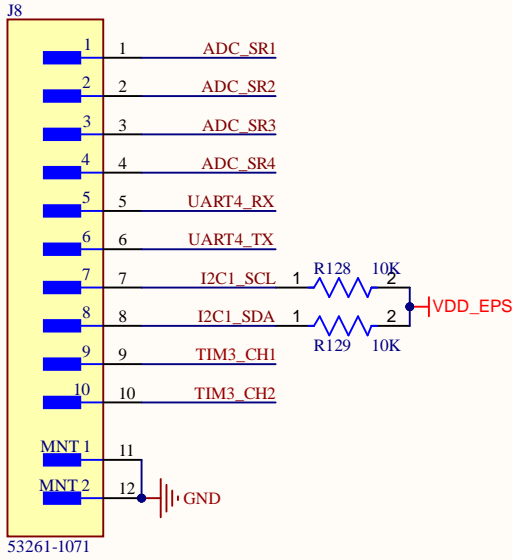
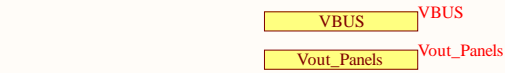
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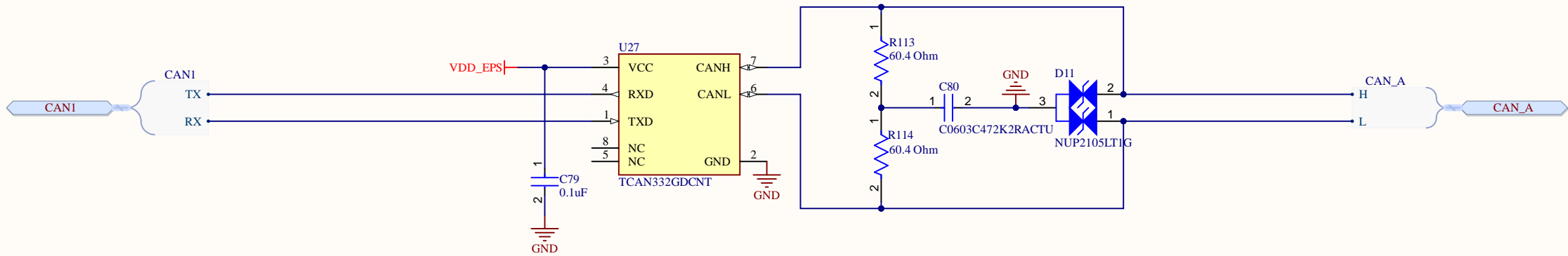
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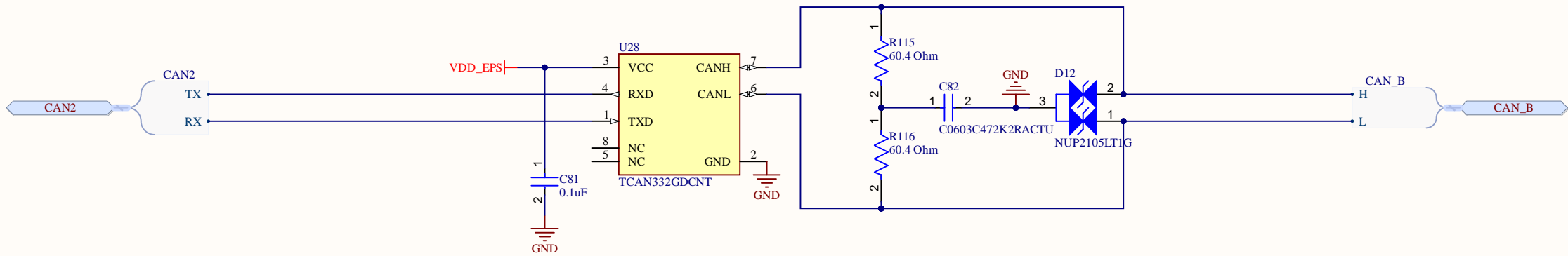
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