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Sheet: /
File: power_supply.kicad_sch

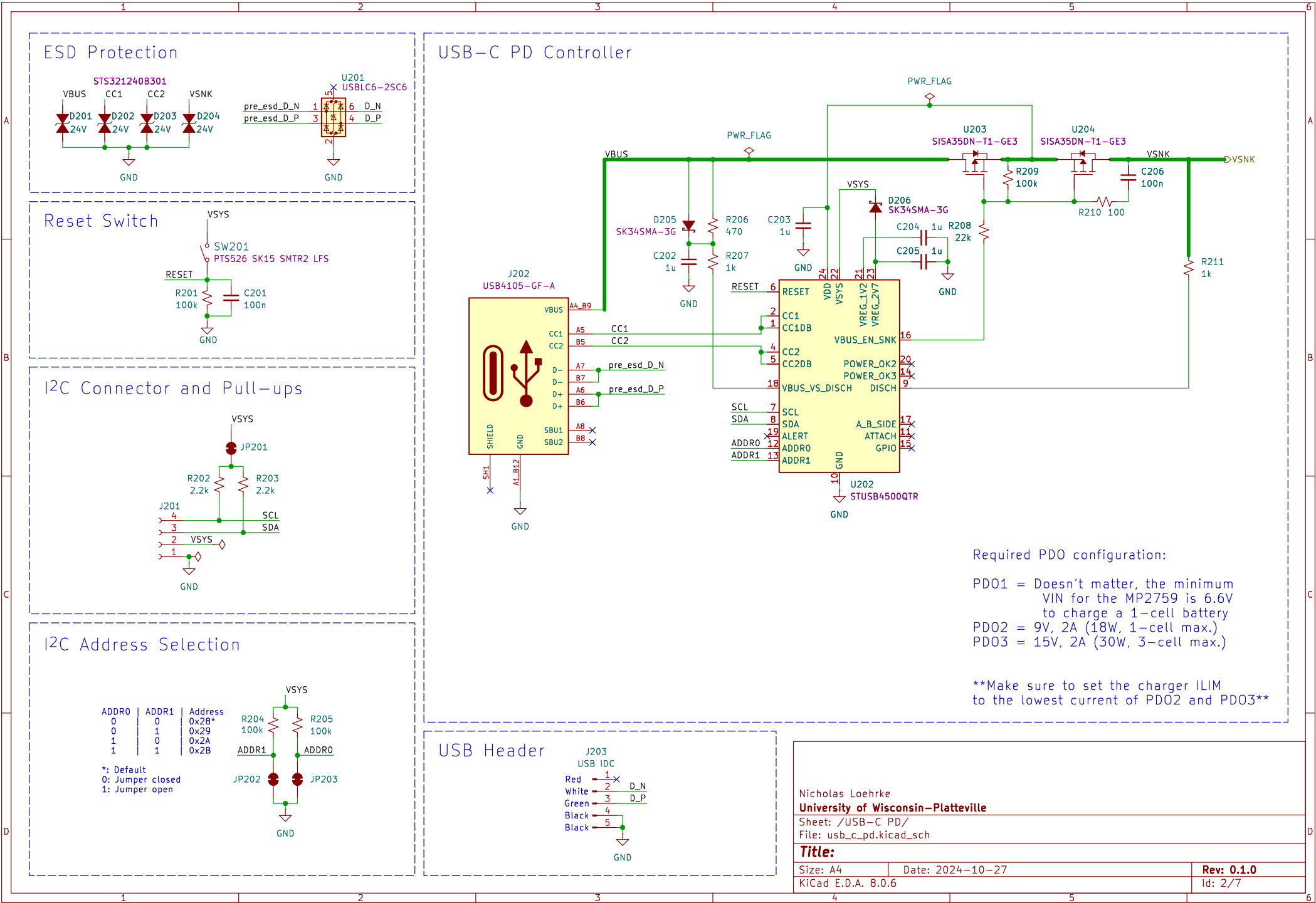
Title: Power Supply

Size: A4 Date: 2024-10-27

KiCad E.D.A. 8.0.6

Rev: 0.1.0

Id: 1/7

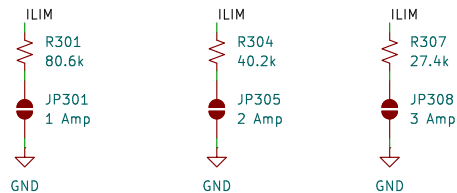


Input Current Limit Setting

Diagram illustrating the Input Current Limit Setting for a power supply. The circuit shows three configurations for setting the current limit using a resistor (R301, R304, or R307) and a jumper (JP301, JP305, or JP308).


Resistor	Value	Jumper	Current Limit
R301	80.6k	JP301	1 Amp
R304	40.2k	JP305	2 Amp
R307	27.4k	JP308	3 Amp

Note: Bridge only the desired current limit's jumper



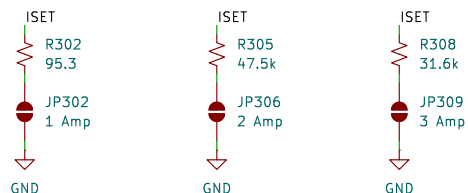
Note: Bridge only the desired current limit's jumper

Charging Current Setting



Resistor	Value	Jumper	Rating
R302	95.3	JP302	1 Amp
R305	47.5k	JP306	2 Amp
R308	31.6k	JP309	3 Amp

Note: Bridge only the desired current limit's jumper

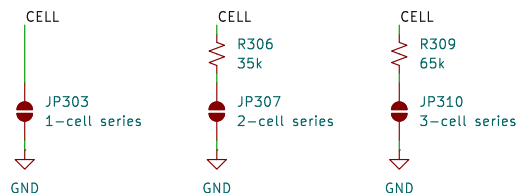


Note: Bridge only the desired current limit's jumper

Cell Count Setting

The diagrams illustrate three different cell count settings for a battery pack:

- 1-cell series:** The battery pack is connected to the 1-cell series setting (JP303).
- 2-cell series:** The battery pack is connected to the 2-cell series setting (JP307) with a 35k resistor (R306).
- 3-cell series:** The battery pack is connected to the 3-cell series setting (JP310) with a 65k resistor (R309).

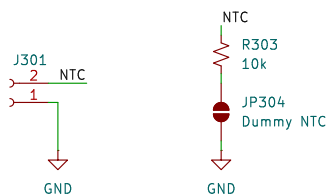


Note: Bridge only the desired cell count's jumper

Thermistor Setting and Connector

The image contains two circuit diagrams. The left diagram shows a thermistor connection where a green wire labeled 'J301' and 'NTC' is connected to a red wire labeled '1', which then goes to 'GND'. The right diagram shows a bridge circuit with an 'NTC' thermistor (resistor symbol) labeled 'R303 10k' in series with a 'JP304 Dummy NTC' (diode symbol) connected to 'GND'.

Note: Bridge 'Dummy NTC' when not using a thermistor



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IO Connector

J302

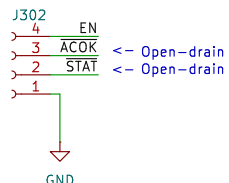
4 EN

3 ACOK <- Open-drain

2 STAT <- Open-drain

1

GND



Charge Voltage Setting

VB

R310
65k

JP311
4.15 Volts

GND

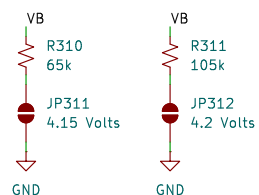
VB

R311
105k

JP312
4.2 Volts

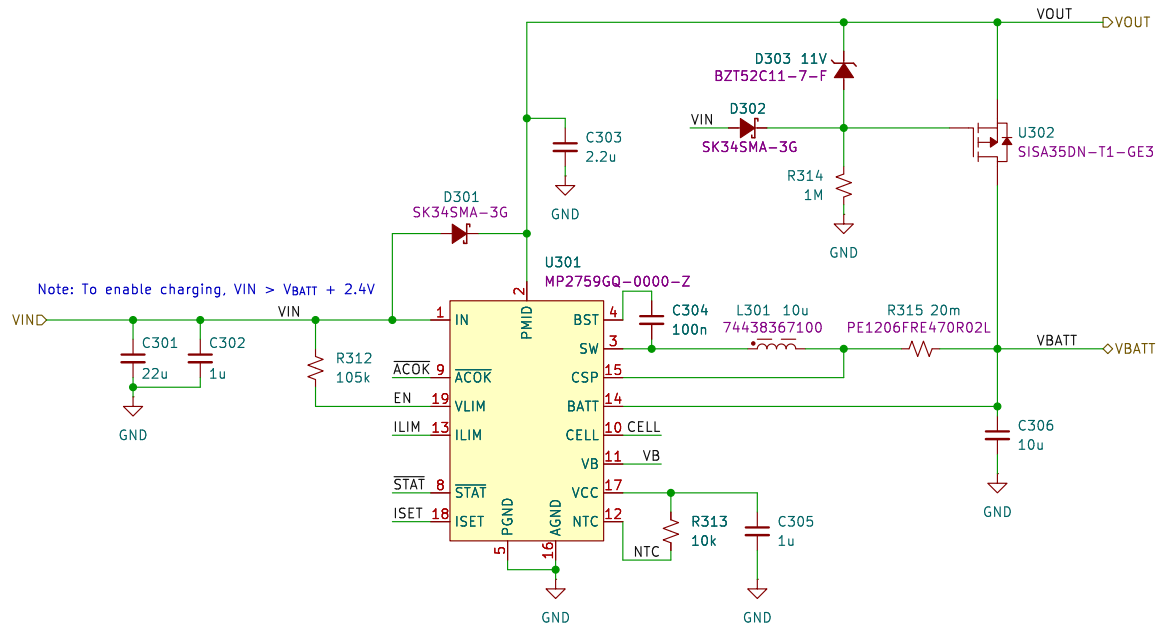
GND

Note: Bridge only the desired charge voltage's jumper



Note: Bridge only the desired charge voltage's jumper

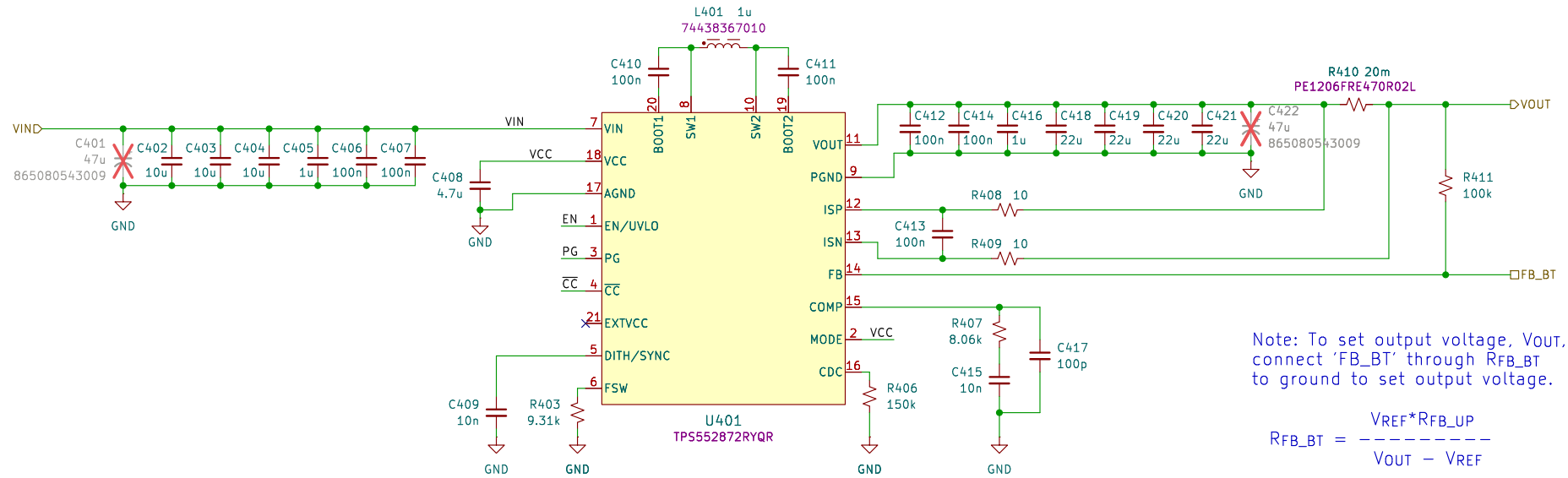
Charger



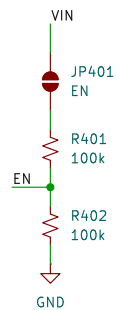
Note: To enable charging, $V_{IN} > V_{BATT} + 2.4V$

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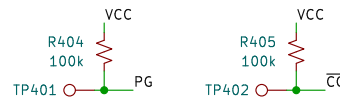
Buck-Boost Converter



Enable



Test Points



Sheet: /Buck-Boost-1/
File: buck_boost.kicad_sch

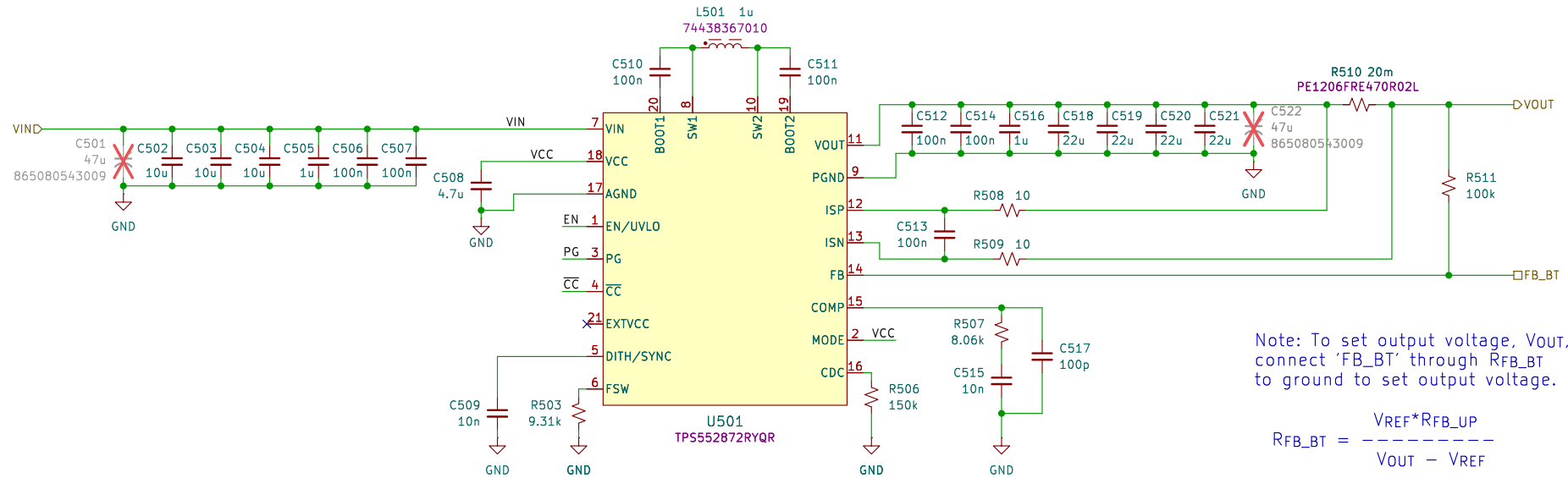
Title:

Size: A4
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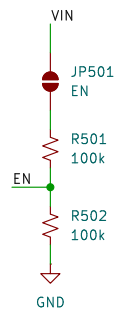
Date:

Rev:
Id: 4/7

Buck-Boost Converter



Enable



Test Points



Sheet: /Buck-Boost-2/
File: buck_boost.kicad_sch

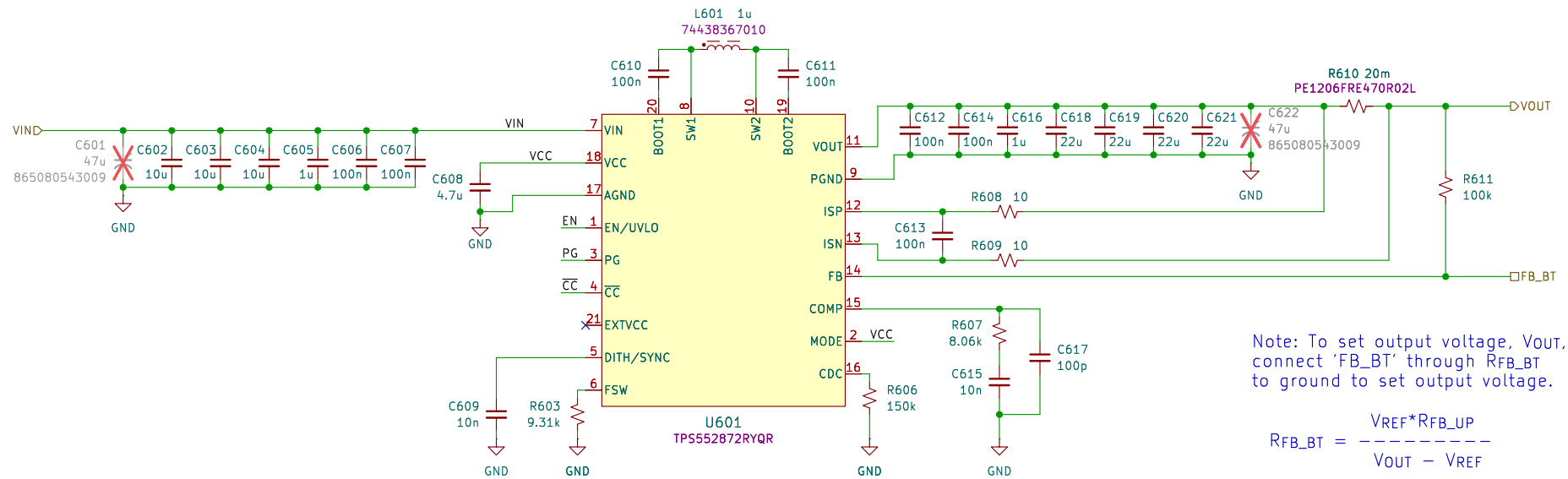
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KiCad E.D.A. 8.0.6

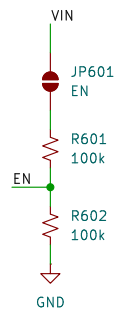
Date:

Rev:
Id: 5/7

Buck-Boost Converter



Enable



Test Points



Sheet: /Buck-Boost-3/
File: buck_boost.kicad_sch

Title:

Size: A4
KiCad E.D.A. 8.0.6

Date:

Rev:
Id: 6/7

