

Nicholas Loehrke
University of Wisconsin-Platteville

Sheet: /
File: power_supply.kicad_sch

Title: Power Supply

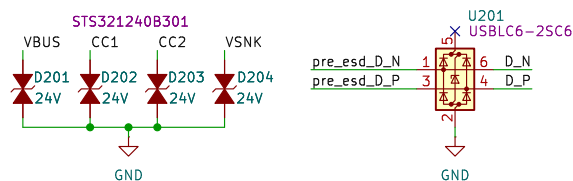
Size: A4 Date: 2024-10-27

KiCad E.D.A. 8.0.6

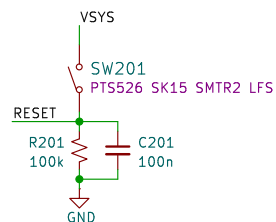
Rev: 0.1.0

Id: 1/7

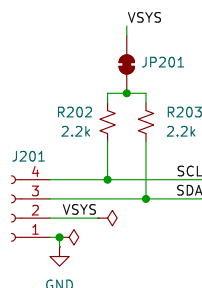
ESD Protection



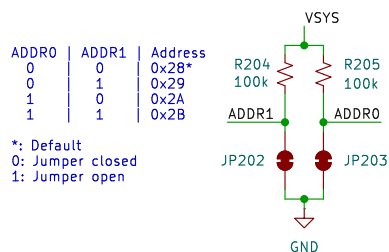
Reset Switch



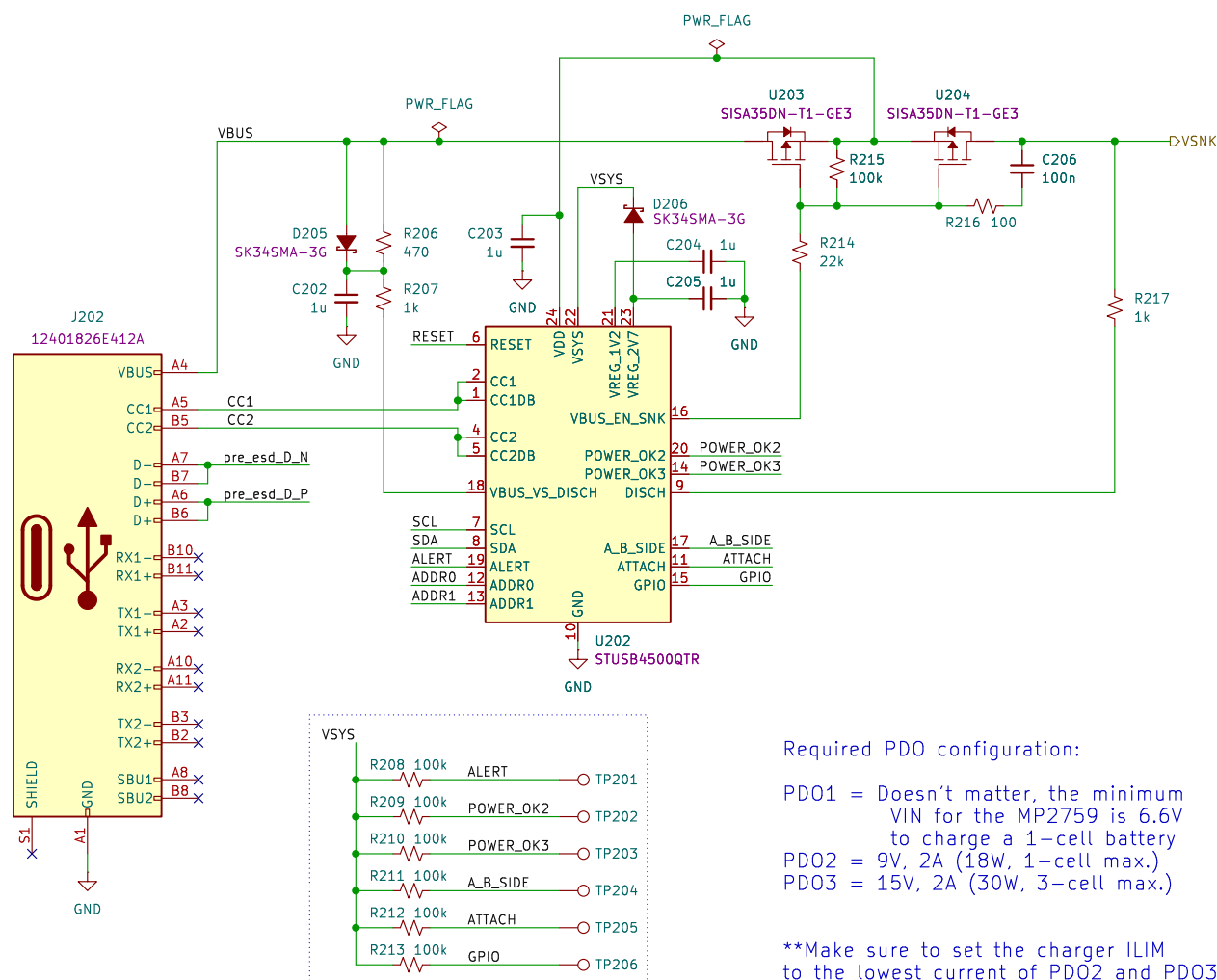
I2C Connector and Pull-ups



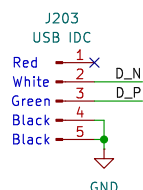
I2C Address Selection



USB-C PD Controller



USB Header



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Sheet: /USB-C PD/
File: usb_c_pd.kicad_sch

Title:

Size: A4
KiCad E.D.A. 8.0.6

Date: 2024-10-27

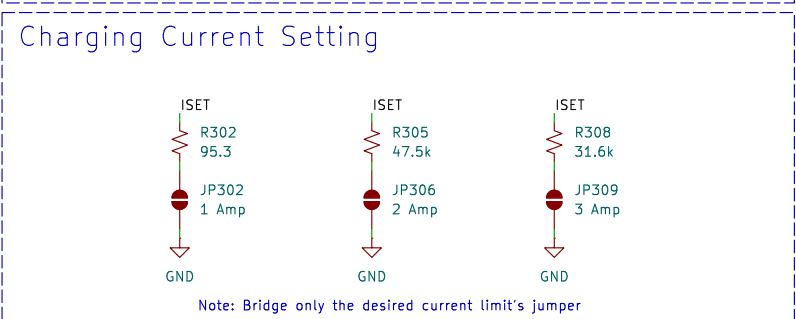
Rev: 0.1.0
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Input Current Limit Setting

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

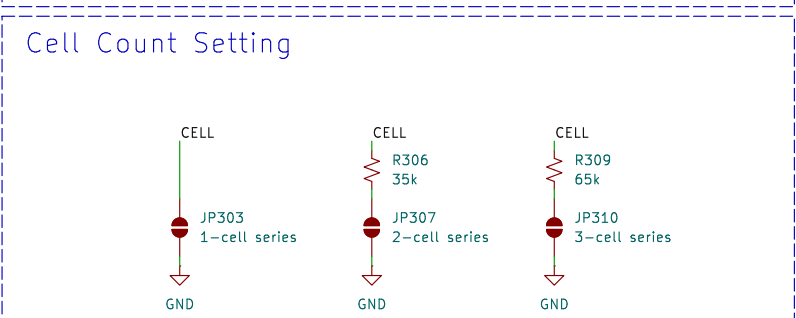
Note: Bridge only the desired current limit's jumper



Charging Current Setting

The diagrams illustrate three different charging current settings for a battery pack. Each diagram shows a resistor (R302, R305, or R308) connected to a jumper (JP302, JP306, or JP309) which is then connected to ground. The resistor values are 95.3, 47.5k, and 31.6k respectively. The jumper ratings are 1 Amp, 2 Amp, and 3 Amp respectively.

Note: Bridge only the desired current limit's jumper



Cell Count Setting

CELL

JP303
1-cell series

GND

CELL

R306
35k

JP307
2-cell series

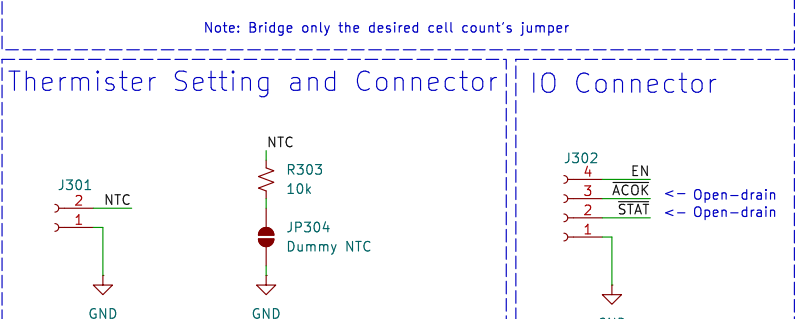
GND

CELL

R309
65k

JP310
3-cell series

GND



Thermistor Setting and Connector

I/O Connector

J302

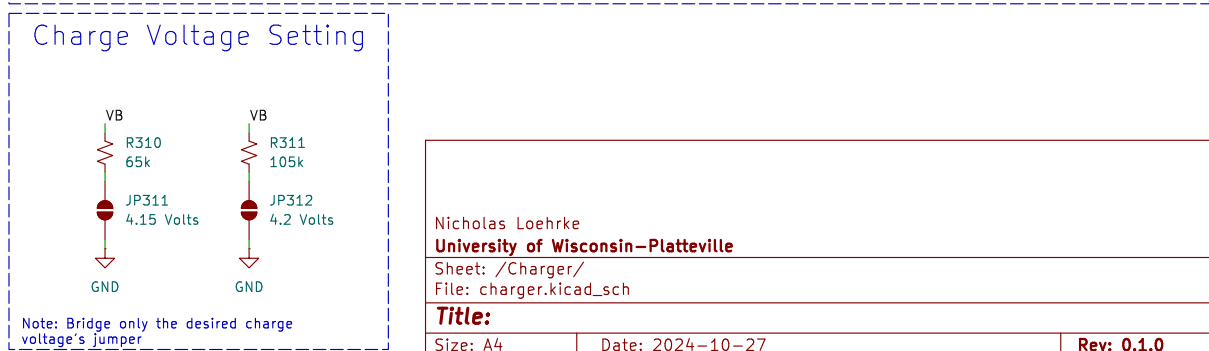
4 EN

3 ACOK <- Open-drain

2 STAT <- Open-drain

1

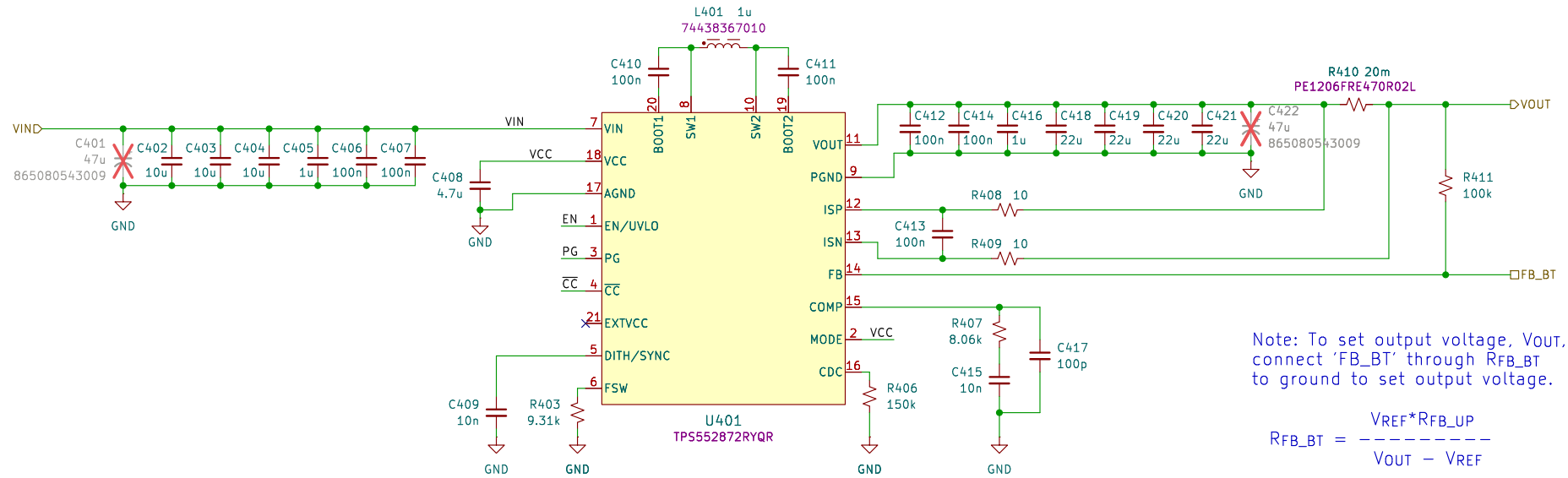
GND

[illegible]

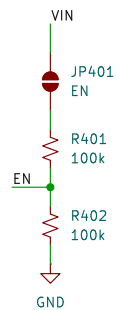
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Title:		
Size: A4	Date: 2024-10-27	Rev: 0.1.0
KiCad E.D.A. 8.0.6		Id: 3/7

Size: A4	Date: 2024-10-27	Rev: 0.1.0
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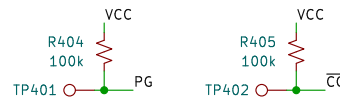
Buck-Boost Converter



Enable



Test Points



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

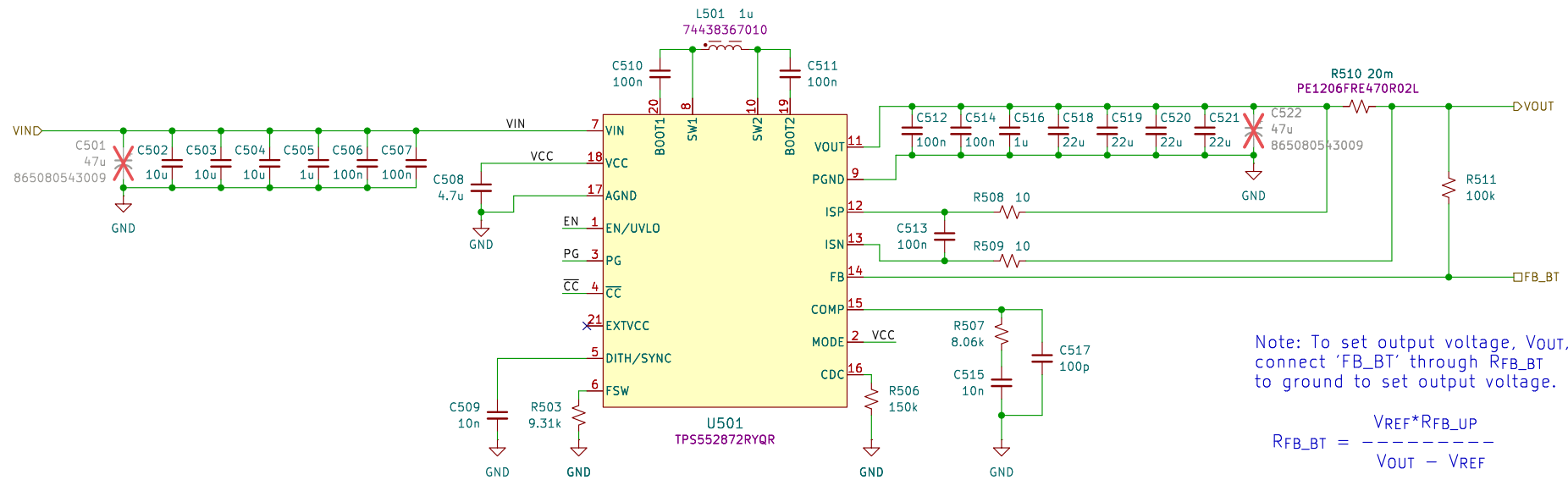
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KiCad E.D.A. 8.0.6

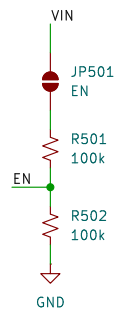
Date:

Rev:
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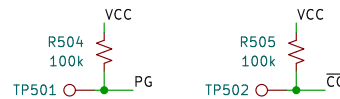
Buck-Boost Converter



Enable



Test Points



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

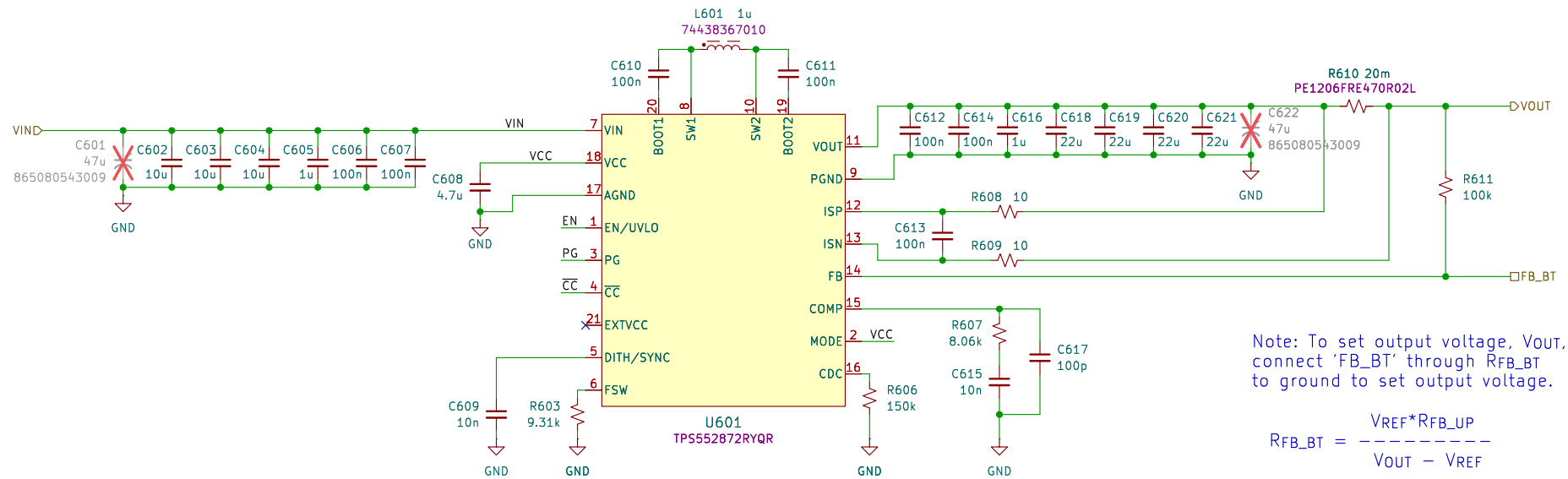
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KiCad E.D.A. 8.0.6

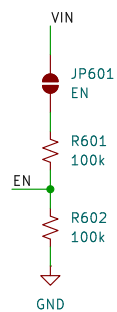
Date:

Rev:
Id: 5/7

Buck-Boost Converter



Enable



Test Points



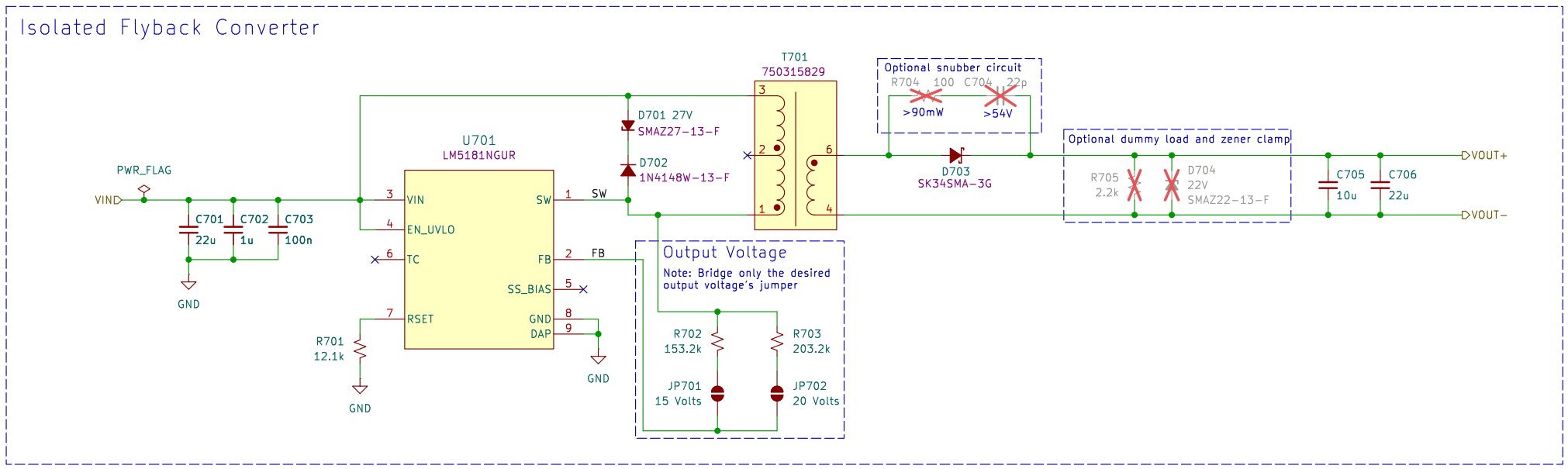
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File: buck_boost.kicad_sch

Title:

Size: A4
KiCad E.D.A. 8.0.6

Date:

Rev:
Id: 6/7



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Sheet: /Isolated Flyback/
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Rev: 0.1.0

Id: 7/7