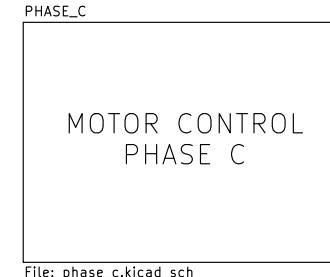
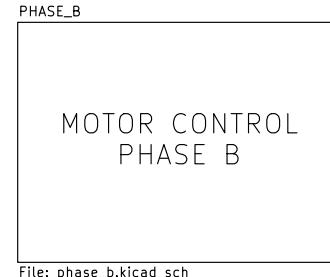
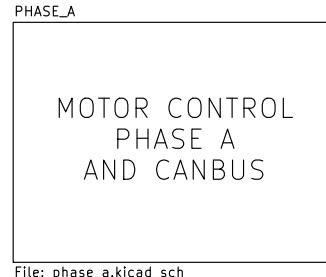
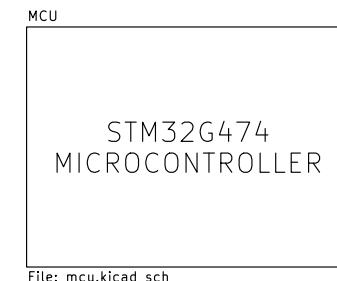
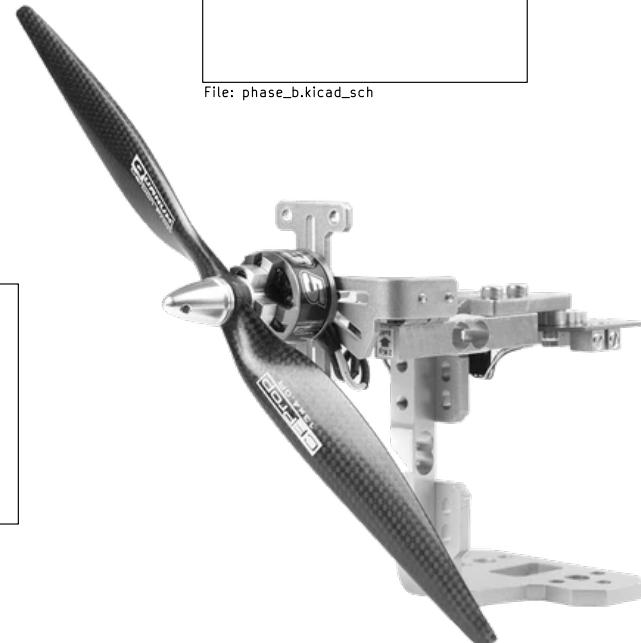
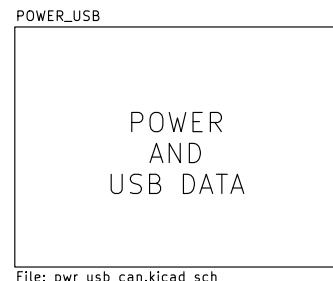


A



B



C

DRAWN BY: N.PHILIPENKO
GITHUB: /nikphillydev

REVIEWED BY:

Sheet: /
File: ESC_KiCAD.kicad_sch

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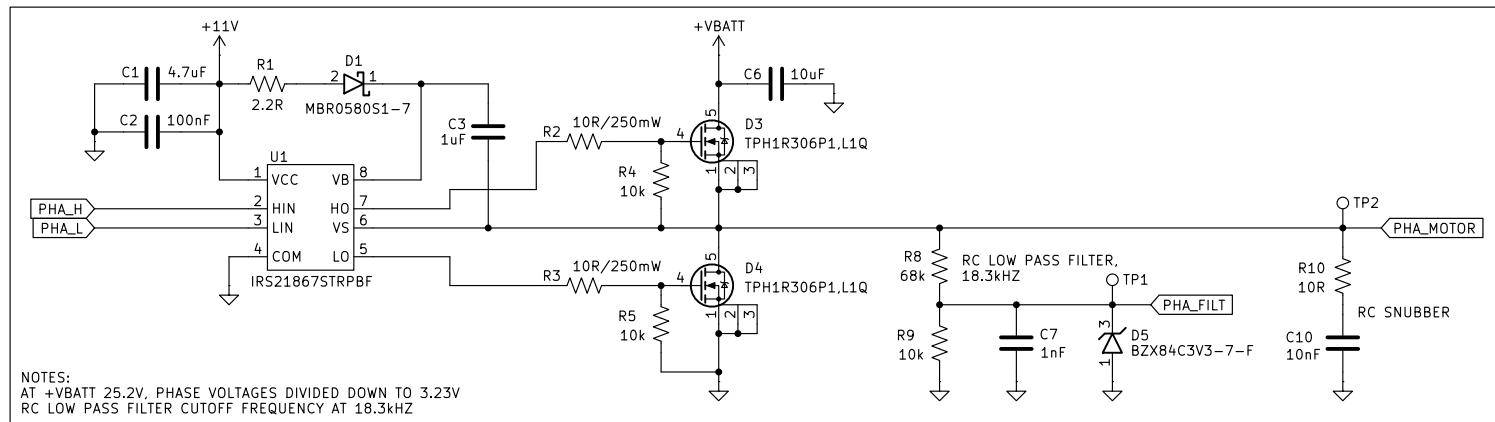
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KiCad E.D.A. 8.0.9	

Rev: A
Id: 1/6

DESIGNED FOR 4S, 6S BATTERIES
60A PEAK CURRENT

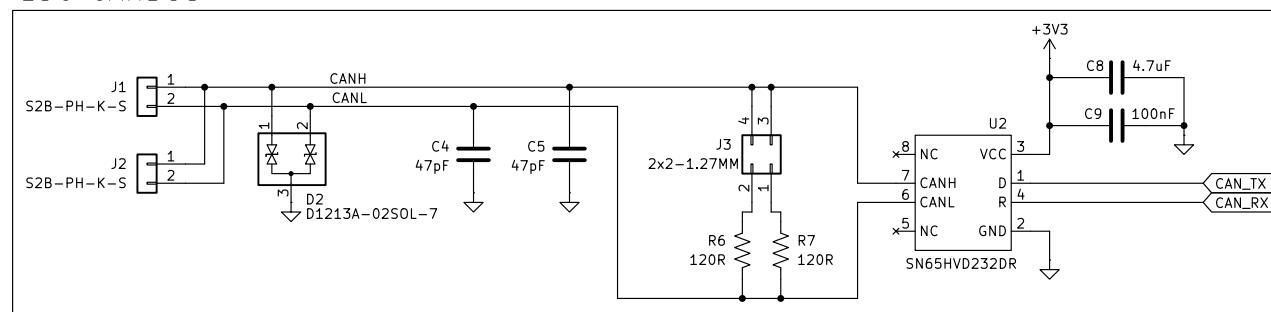
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PHASE A HALF-BRIDGE



B

ESC CANBUS



C

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GITHUB: /nikphillydev

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Sheet: /PHASE_A/
File: phase_a.kicad_sch

Title: PHASE A HALF-BRIDGE AND CANBUS

Size: A4 Date: 2025-12-20
KiCad E.D.A. 8.0.9

Rev: A
Id: 2/6

A

A

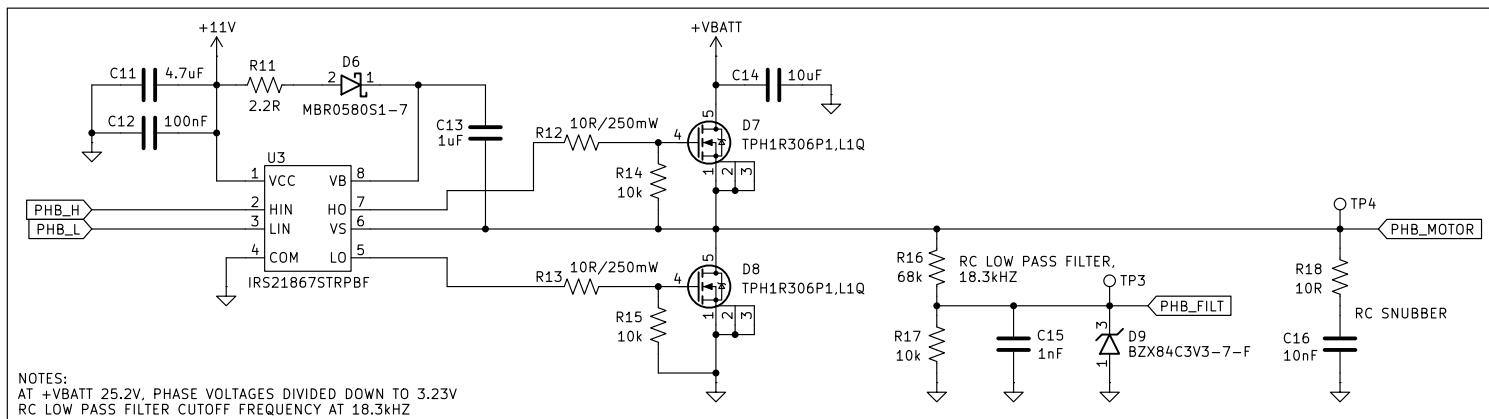
B

B

C

C

PHASE B HALF-BRIDGE



NOTES

AT +VBATT 25.2V, PHASE VOLTAGES DIVIDED DOWN TO 3.23V
RC LOW PASS FILTER CUTOFF FREQUENCY AT 18.3kHz

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GITHUB: /nikphillydev

REVIEWED BY:

Sheet: /PHASE_B/
File: phase_b.kicad_sch

Title: PHASE B HALF-BRIDGE

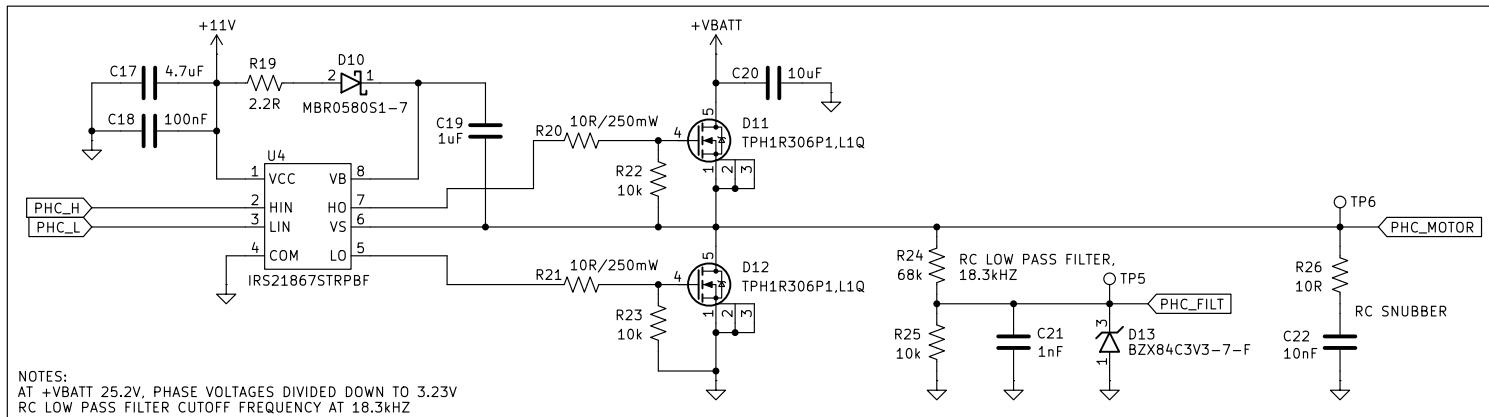
Size: A4 Date: 2025-12-20

Rev: A
Id: 3/6

A

A

PHASE C HALF-BRIDGE



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GITHUB: /nikphillydev

REVIEWED BY:

Sheet: /PHASE_C/
File: phase_c.kicad_sch

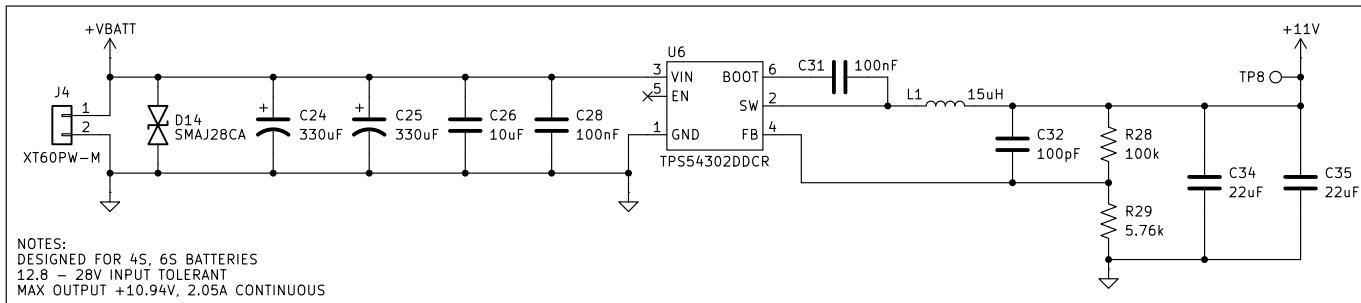
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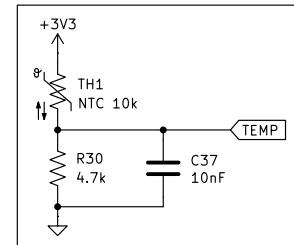
Rev: A
Id: 4/6

1 2 3 4 5 6

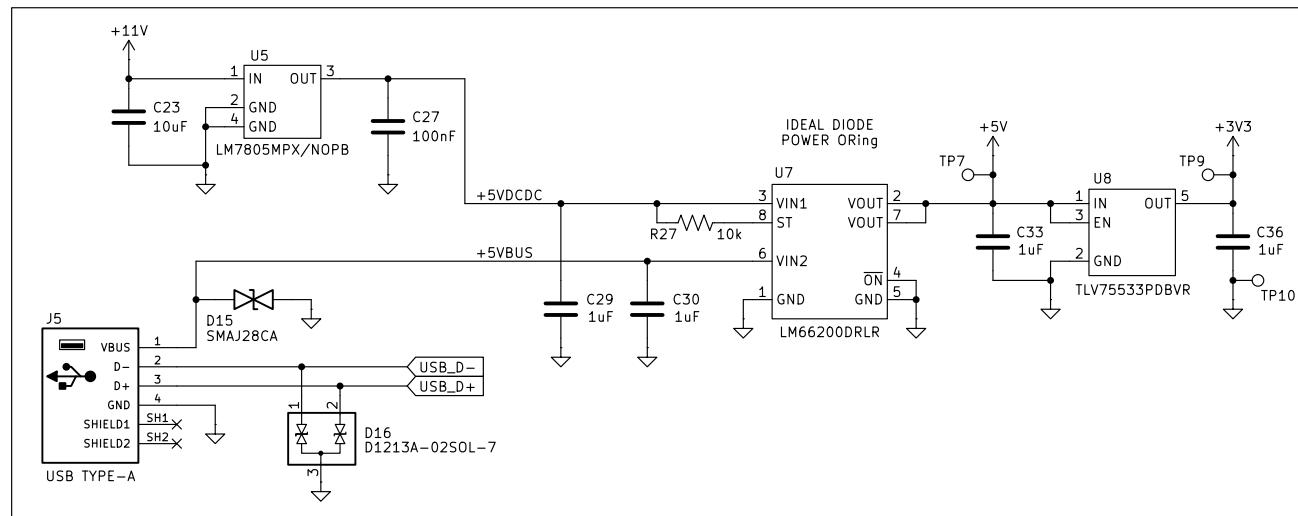
BEC STEP-DOWN CONVERTER



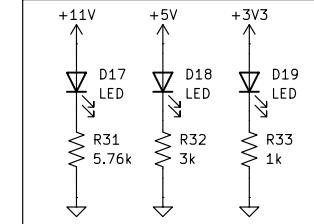
TEMPERATURE MONITORING



LOGIC POWER AND USB DATA



POWER STATUS LEDS



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GITHUB: /nikphillydev

REVIEWED BY:

Sheet: /POWER_USB/
File: pwr_usb_can.kicad_sch

Title: POWER AND USB DATA

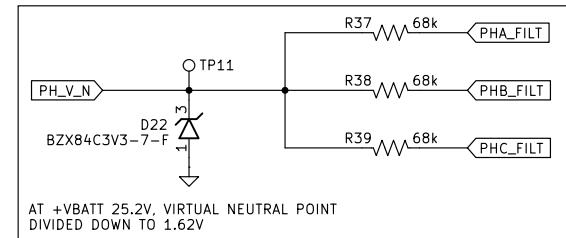
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Rev: A
Id: 5/6

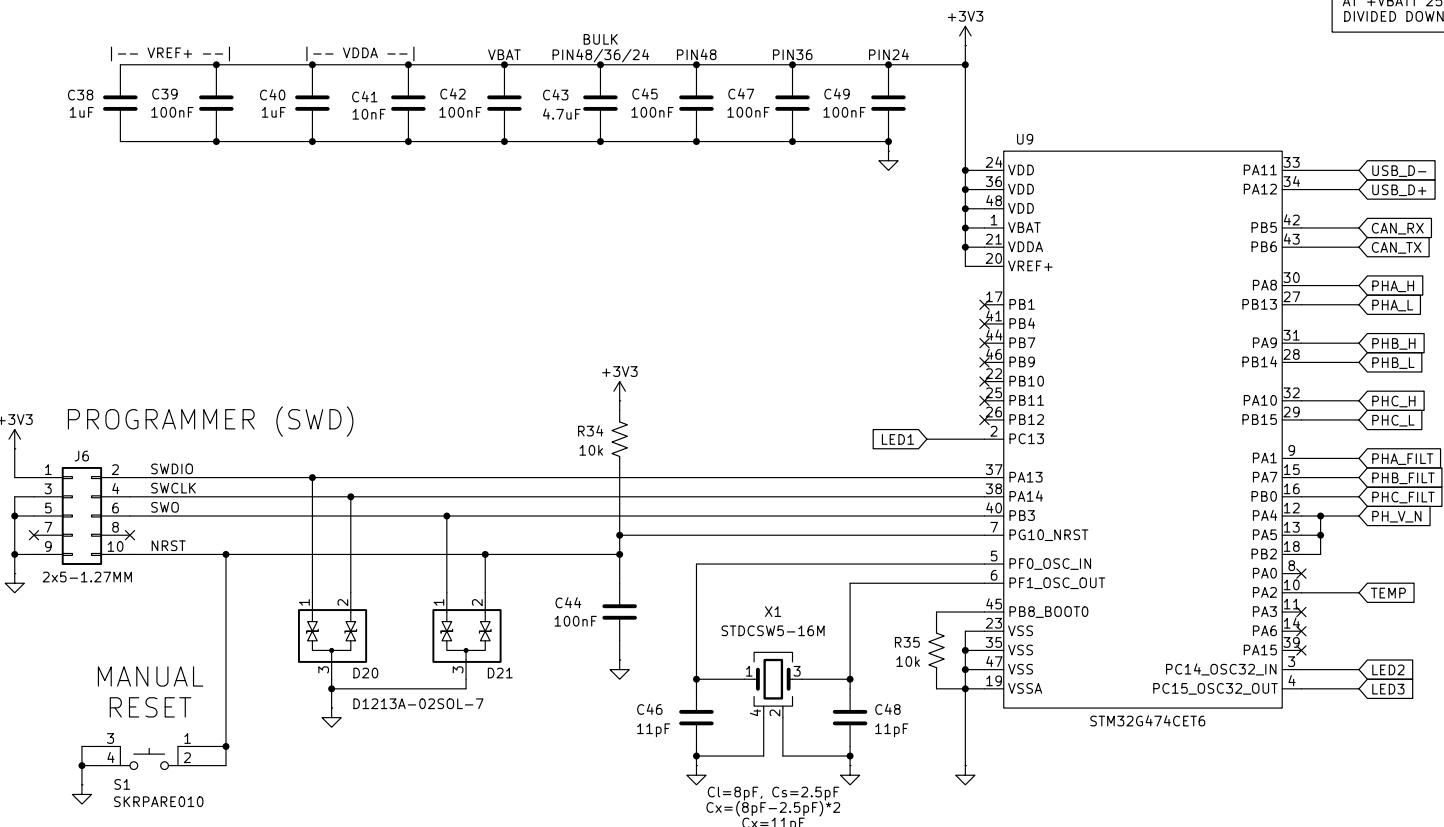
1 2 3 4 5 6

1 2 3 4 5 6

VIRTUAL NEUTRAL POINT
(BEMF ZERO-CROSSING DETECTION)



STM32G474 MCU – NP1 ESC



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GITHUB: /nikphillydev

REVIEWED BY:

Sheet: /MCU/
File: mcu.kicad_sch

Title: MICROCONTROLLER

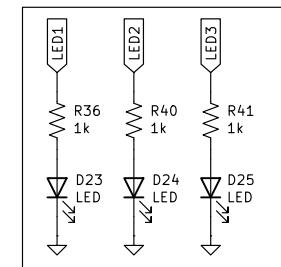
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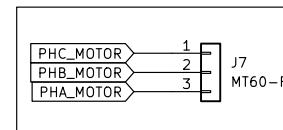
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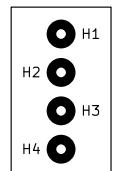
DEBUG LEDS



BLDC MOTOR OUTPUT



MOUNTING HOLES



1 2 3 4 5 6