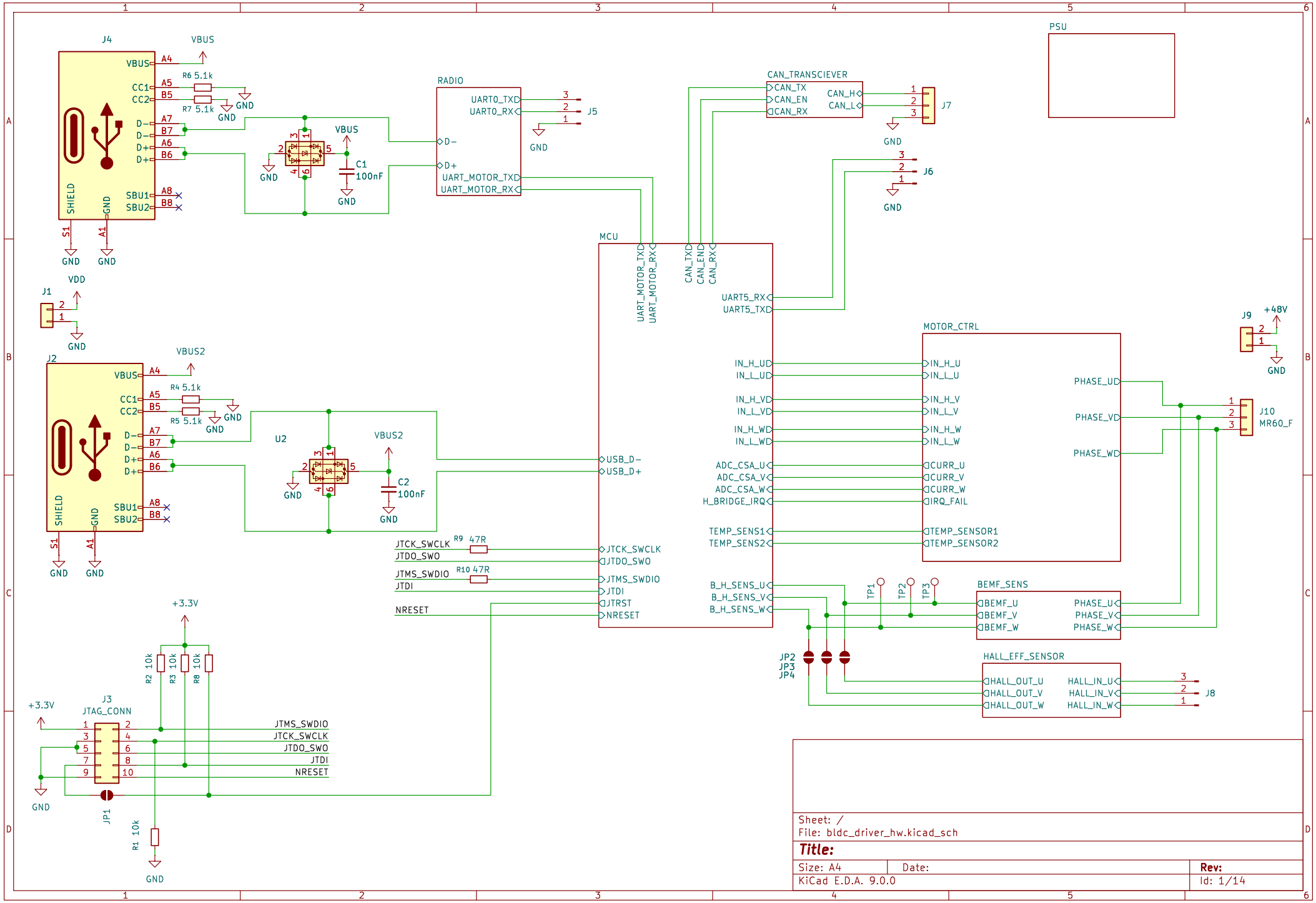
J4
VBUS
R6 5.1k
R7 5.1k
GND
SHIELD
S1
A1
J1
VDD
J2
VBUS2
R4 5.1k
R5 5.1k
U2
C1
100nF
C2
100nF
RADIO
UART0_TX
UART0_RX
J5
D−
D+
UART_MOTOR_TX
UART_MOTOR_RX
CAN_TRANSCIEVER
CAN_TX
CAN_EN
CAN_RX
CAN_H
CAN_L
J7
J6
PSU
MCU
UART5_RX
UART5_TX
IN_H_U
IN_L_U
IN_H_V
IN_L_V
IN_H_W
IN_L_W
ADC_CSA_U
ADC_CSA_V
ADC_CSA_W
H_BRIDGE_IRQ
TEMP_SENS1
TEMP_SENS2
B_H_SENS_U
B_H_SENS_V
B_H_SENS_W
USB_D−
USB_D+
JTCK_SWCLK
JTDO_SWO
JTMS_SWDIO
JTDI
JTRST
NRESET
R9 47R
R10 47R
MOTOR_CTRL
CURR_U
CURR_V
CURR_W
IRQ_FAIL
TEMP_SENSOR1
TEMP_SENSOR2
PHASE_U
PHASE_V
PHASE_W
J9
+48V
J10
MR60_F
BEMF_SENS
BEMF_U
BEMF_V
BEMF_W
TP1
TP2
TP3
JP2
JP3
JP4
HALL_EFF_SENSOR
HALL_OUT_U
HALL_OUT_V
HALL_OUT_W
HALL_IN_U
HALL_IN_V
HALL_IN_W
J8
+3.3V
J3
JTAG_CONN
R2 10k
R3 10k
R8 10k
R1 10k
JP1
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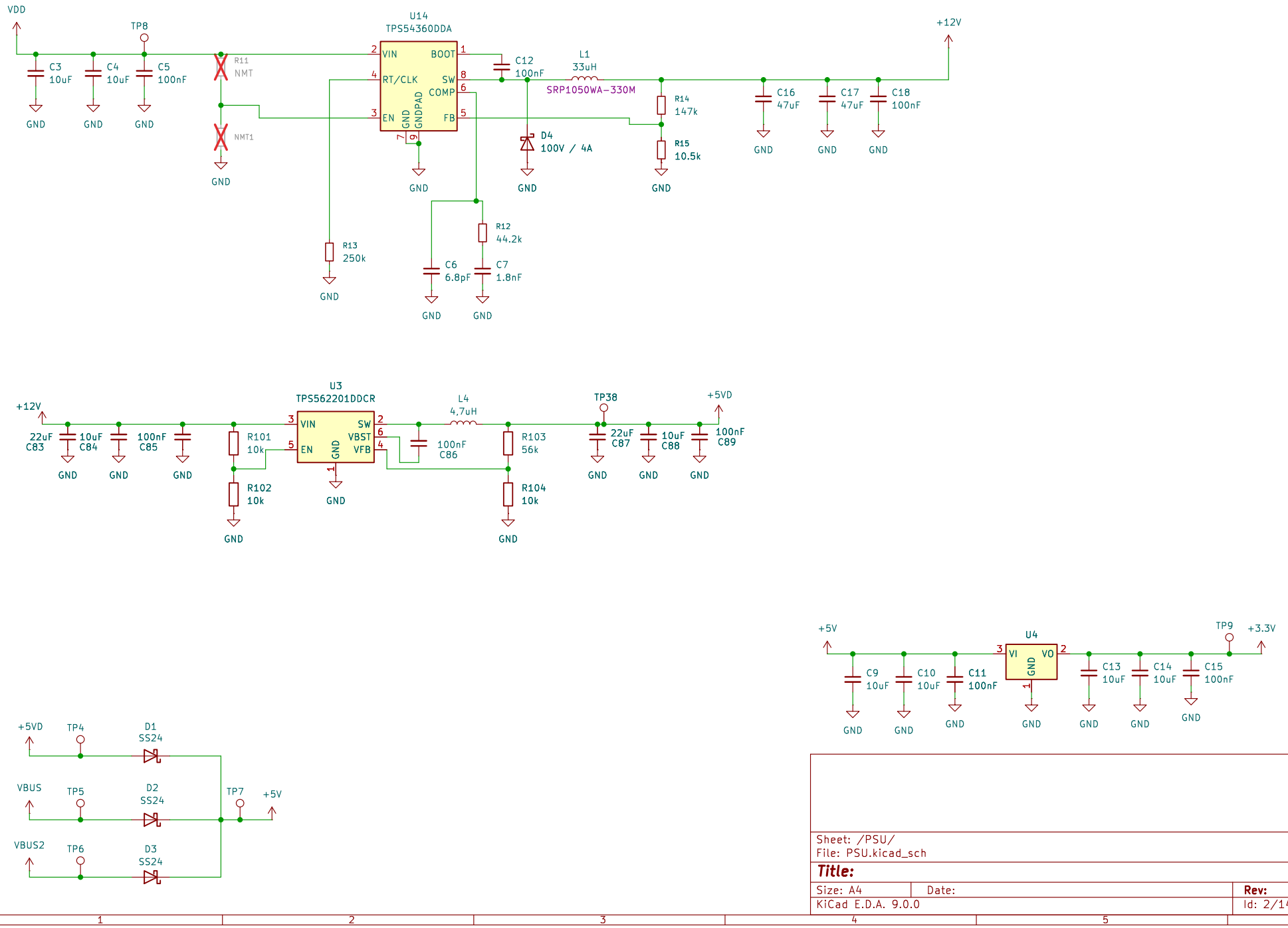

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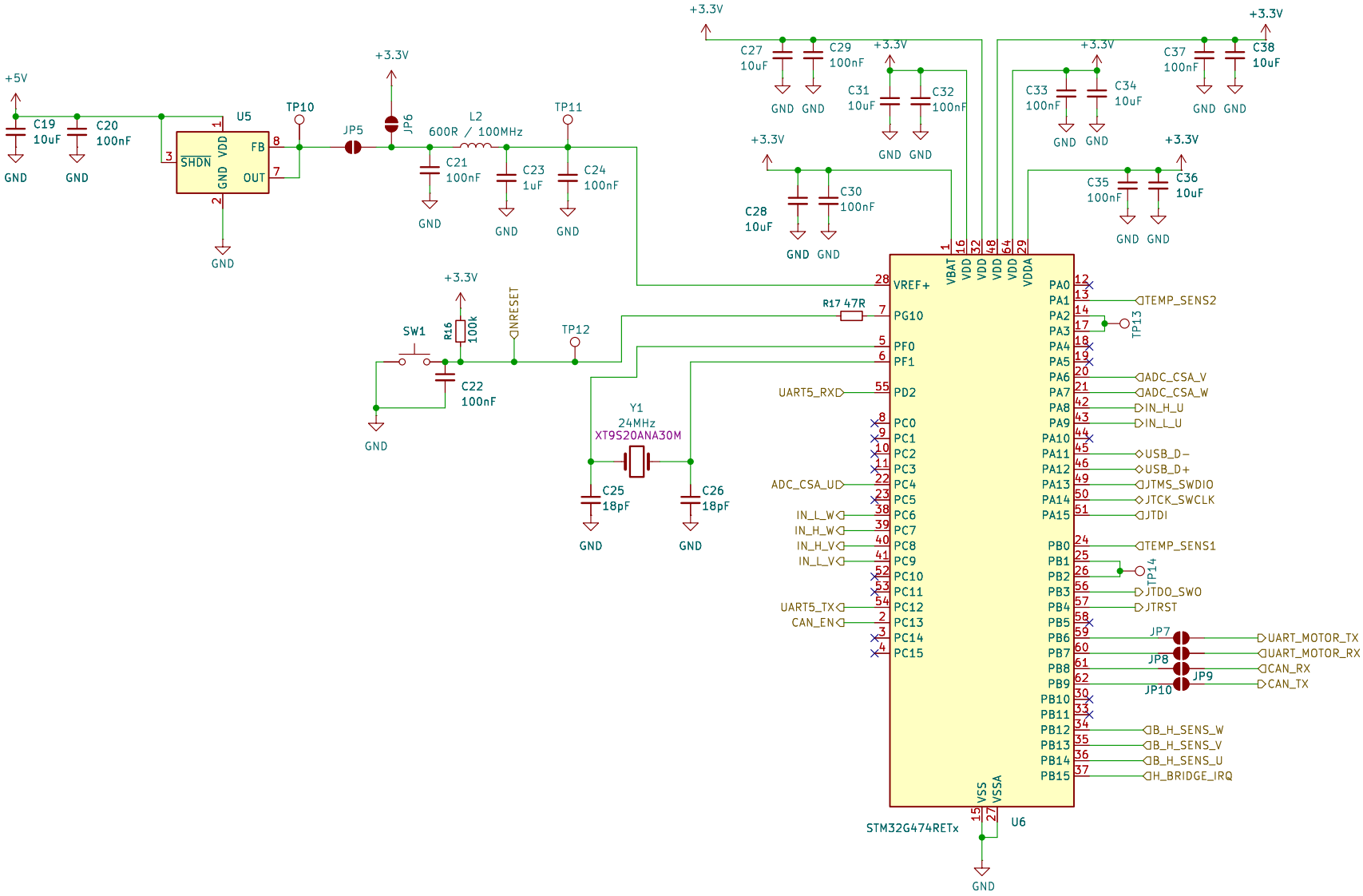

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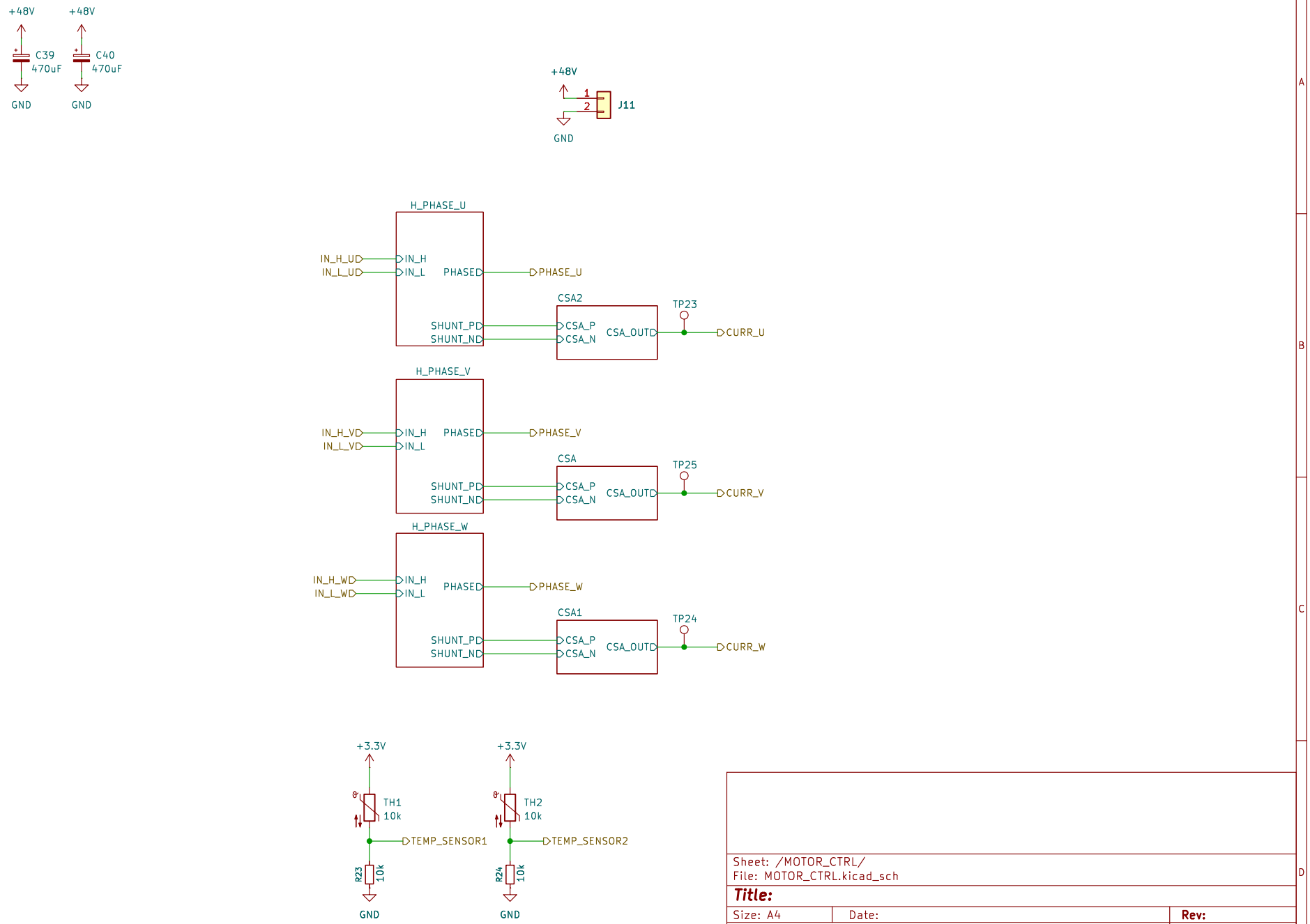
+48V
+48V
C39
470uF
C40
470uF
GND
GND
+48V
1
2
J11
GND
H_PHASE_U
IN_H_U
IN_L_U
IN_H
IN_L
PHASE
PHASE_U
CSA2
TP23
SHUNT_P
SHUNT_N
CSA_P
CSA_N
CSA_OUT
CURR_U
H_PHASE_V
IN_H_V
IN_L_V
IN_H
IN_L
PHASE
PHASE_V
CSA
TP25
SHUNT_P
SHUNT_N
CSA_P
CSA_N
CSA_OUT
CURR_V
H_PHASE_W
IN_H_W
IN_L_W
IN_H
IN_L
PHASE
PHASE_W
CSA1
TP24
SHUNT_P
SHUNT_N
CSA_P
CSA_N
CSA_OUT
CURR_W
+3.3V
TH1
10k
TEMP_SENSOR1
R23
10k
GND
+3.3V
TH2
10k
TEMP_SENSOR2
R24
10k
GND
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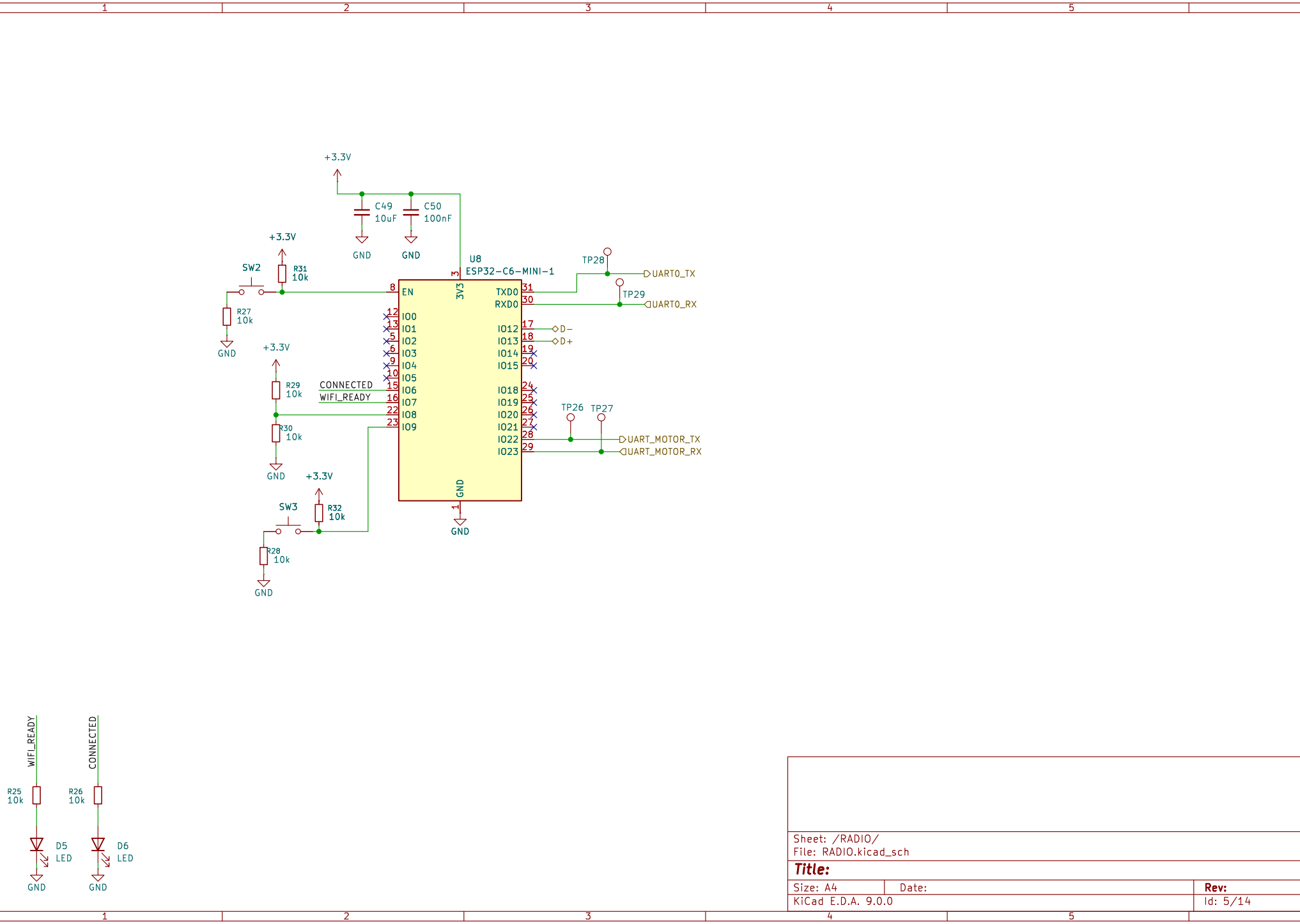

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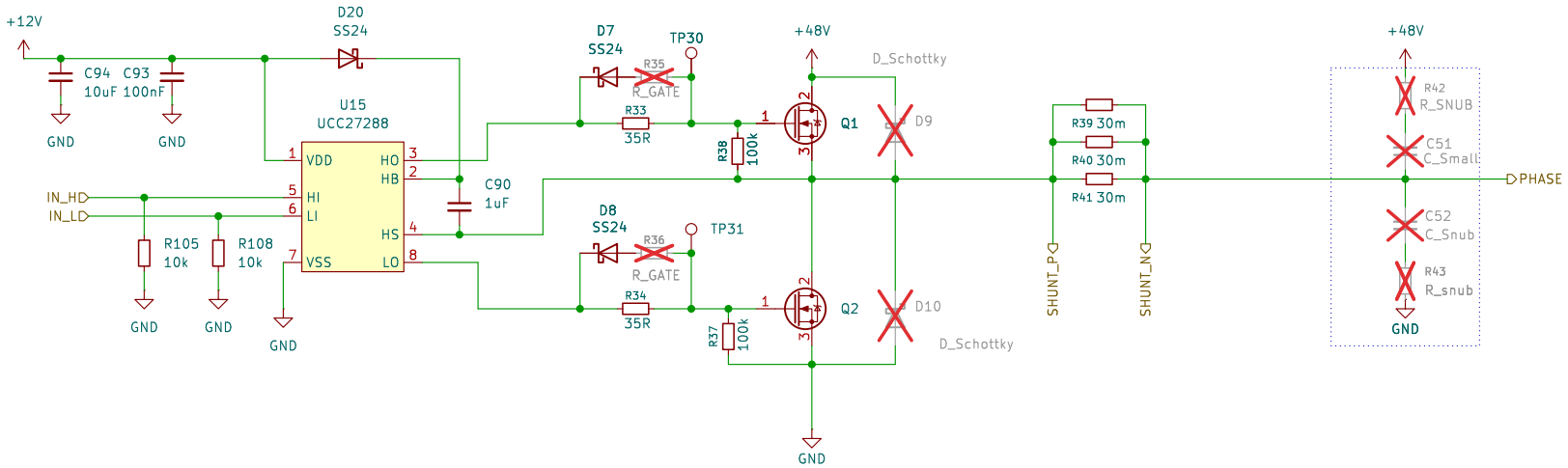

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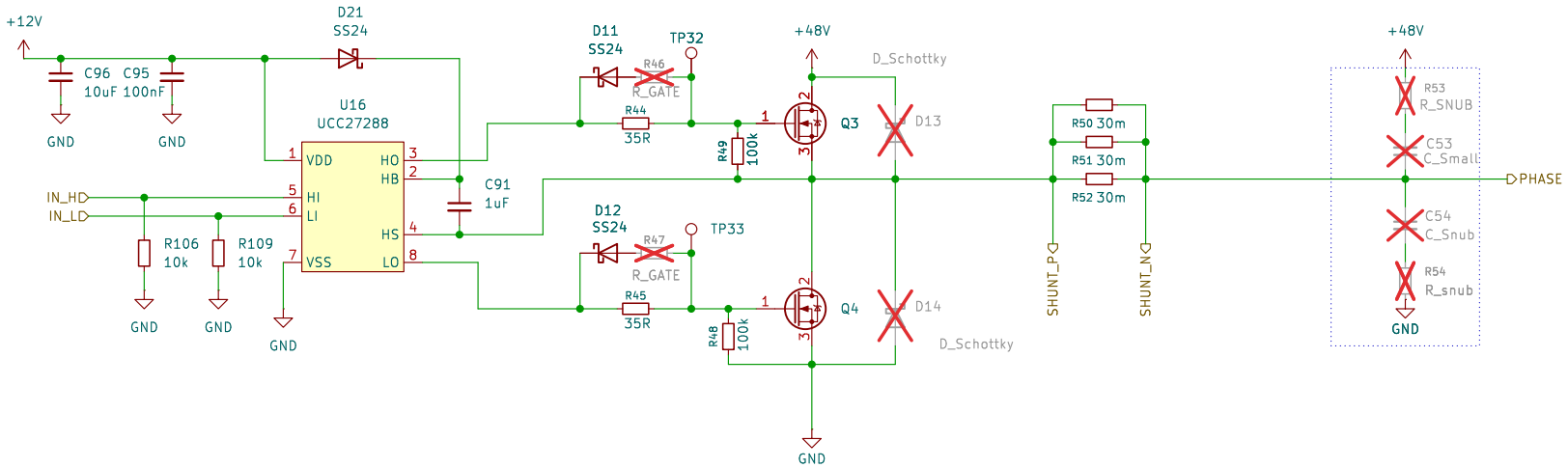

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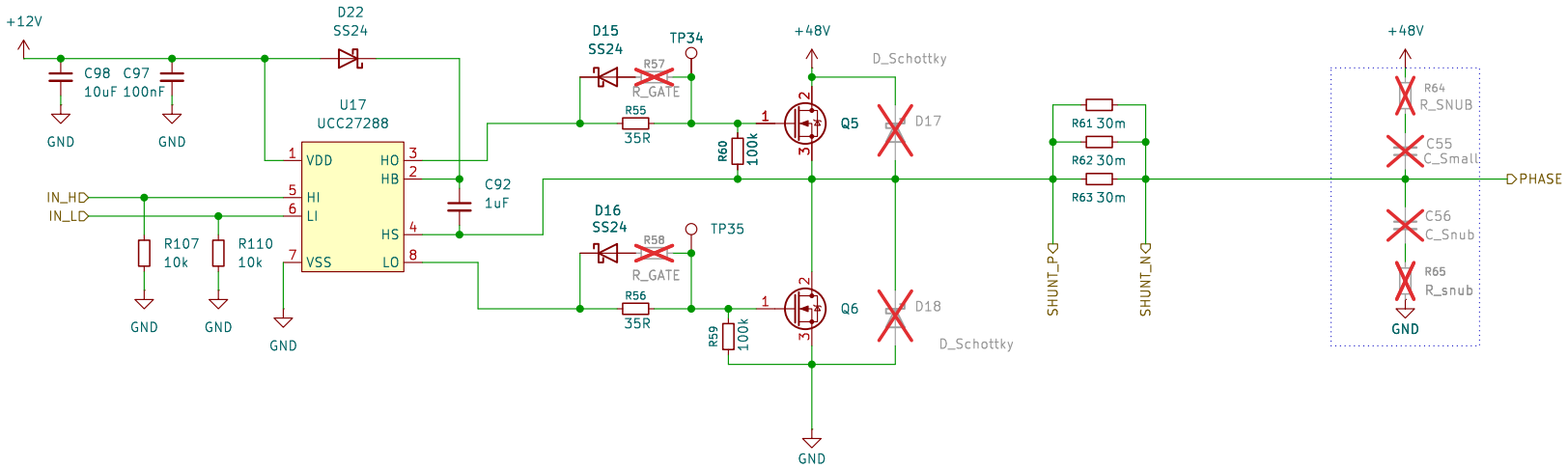

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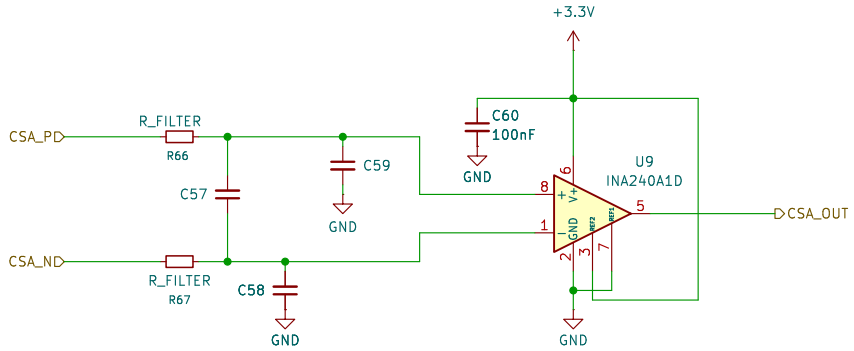

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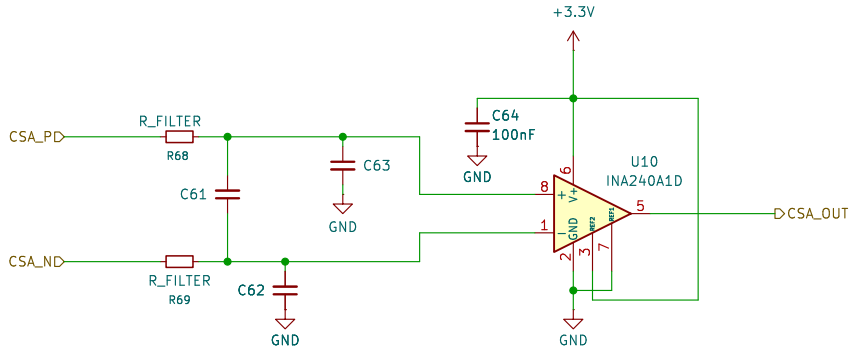

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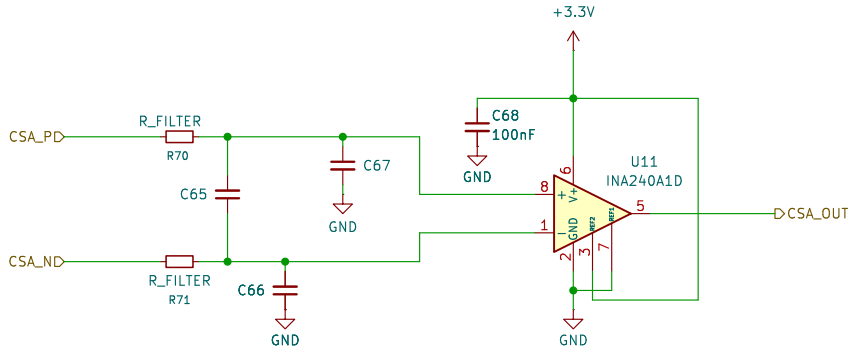

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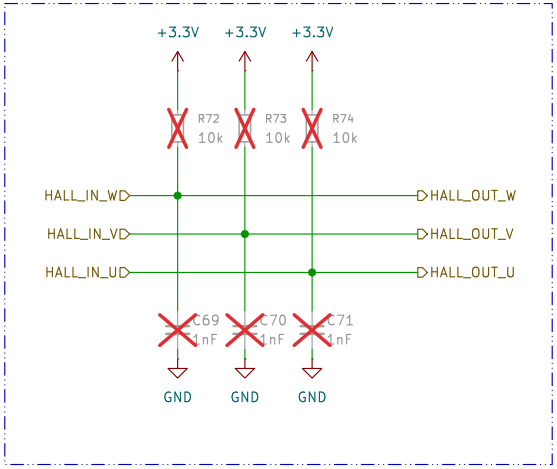
ONLY FOR MOTOR WITH HALL SENSOR



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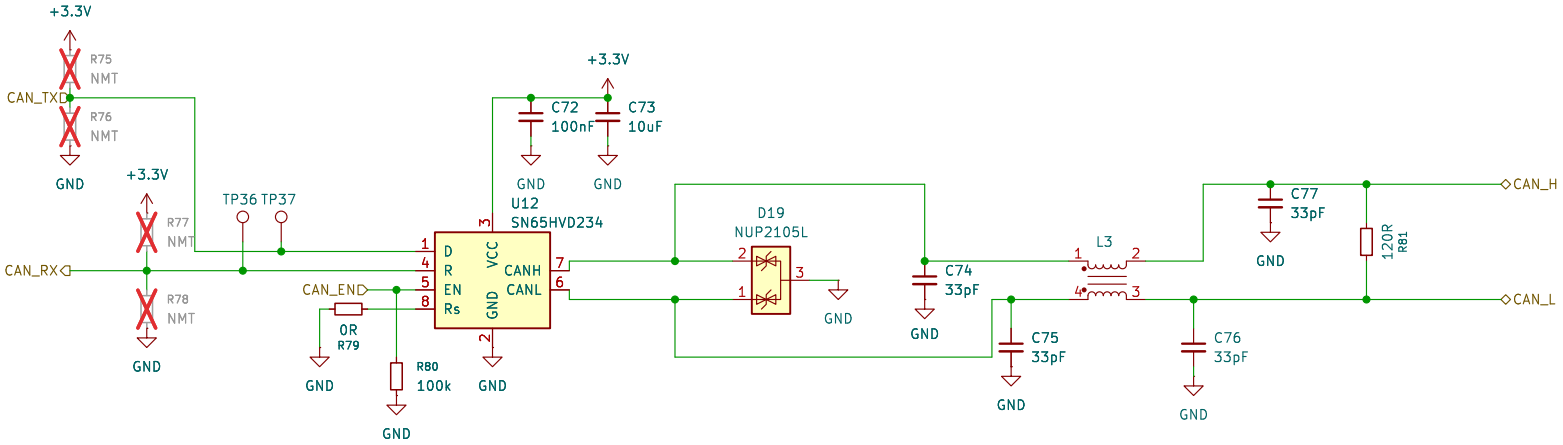

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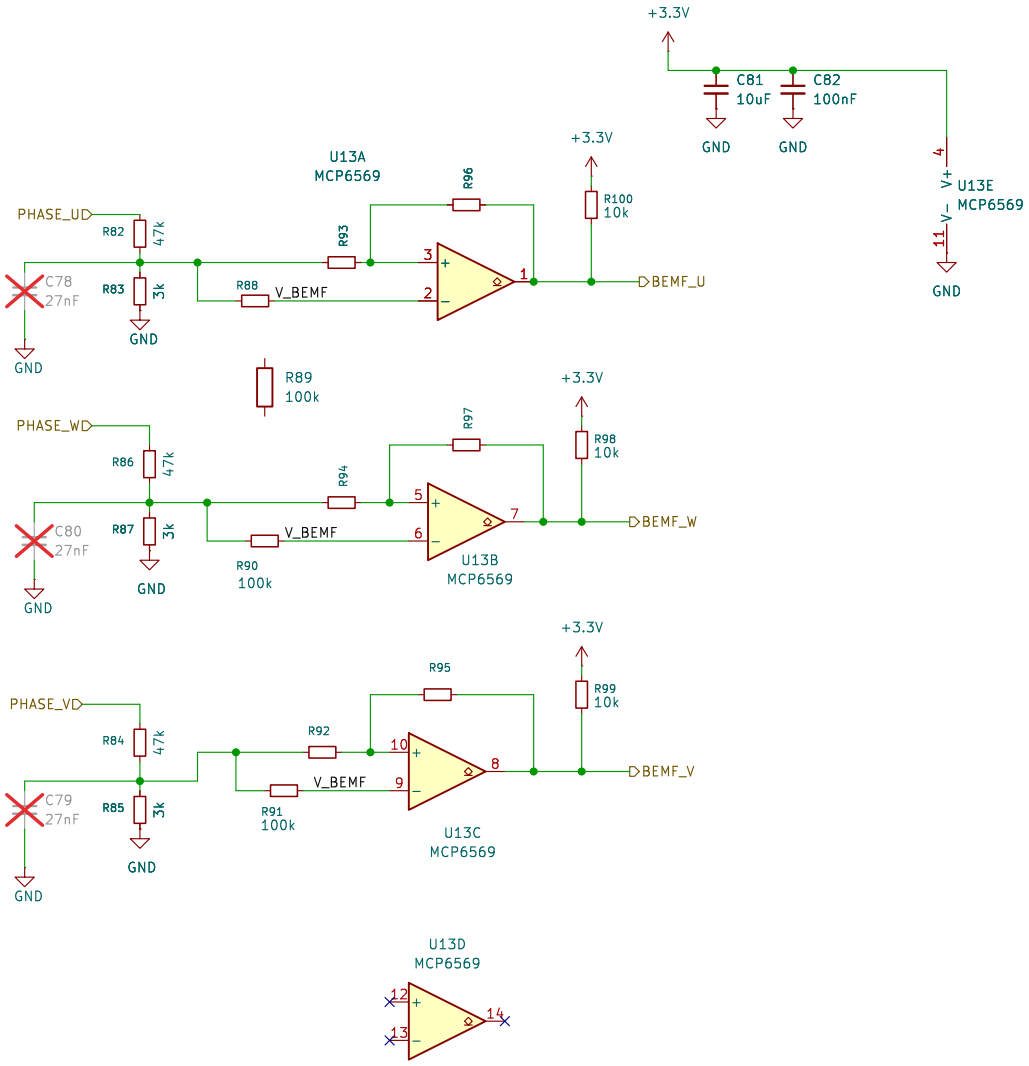

FIGURE 4-4: *Noninverting Circuit with Hysteresis for Single Supply.*

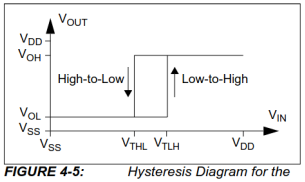

FIGURE 4-5: *Hysteresis Diagram for the Noninverting Circuit.*

The trip points for Figures 4-4 and 4-5 are:

EQUATION 4-1:

$$V_{TLH} = V_{REF}\left(1 + \frac{R_1}{R_F}\right) - V_{OL}\left(\frac{R_1}{R_F}\right)$$

$$V_{THL} = V_{REF}\left(1 + \frac{R_1}{R_F}\right) - V_{OH}\left(\frac{R_1}{R_F}\right)$$

Where:

V_{TLH} = Trip Voltage from Low-to-High

V_{THL} = Trip Voltage from High-to-Low

Sheet: /BEMF_SENS/		
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Size: A4	Date:	**Rev:**
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