

RS232 INTERFACE SECTION

The schematic diagram illustrates the RS232 interface section, centered around the MAX3232 (U2) RS232 transceiver. The transceiver is connected to the microcontroller's UART pins (TX1D, TX2D, RX1D, RX2D) and the RS232 signal lines (T1OUT, T2OUT, R1IN, R2IN). The circuit includes various passive components: capacitors (C1-C8) for decoupling and timing, resistors (R1-R8) for pull-up/pull-down and termination, and diodes (D9, D10) for signal protection. Power is supplied by a +3V3 regulator (Q6) and a +24V regulator (Q5). The RS232 signals are connected to a 4-pin connector (J6) for TX1OUT, TX2OUT, RX1IN, and RX2IN. The circuit also includes a GND_V pin and a GND_END pin for ground connections.

Legend:

- U2: MAX3232
- Q5: SI2302-HXY
- Q6: DMP3056L-7
- U10, U11, U6, U7: PC817
- D9, D10: PESD1CAN_215
- C1-C8: Capacitors
- R1-R8: Resistors
- L1, L2, L3, L4, L5, L6, L7, L8: Inductors
- J6, J7: Connectors

Rev: 2.0

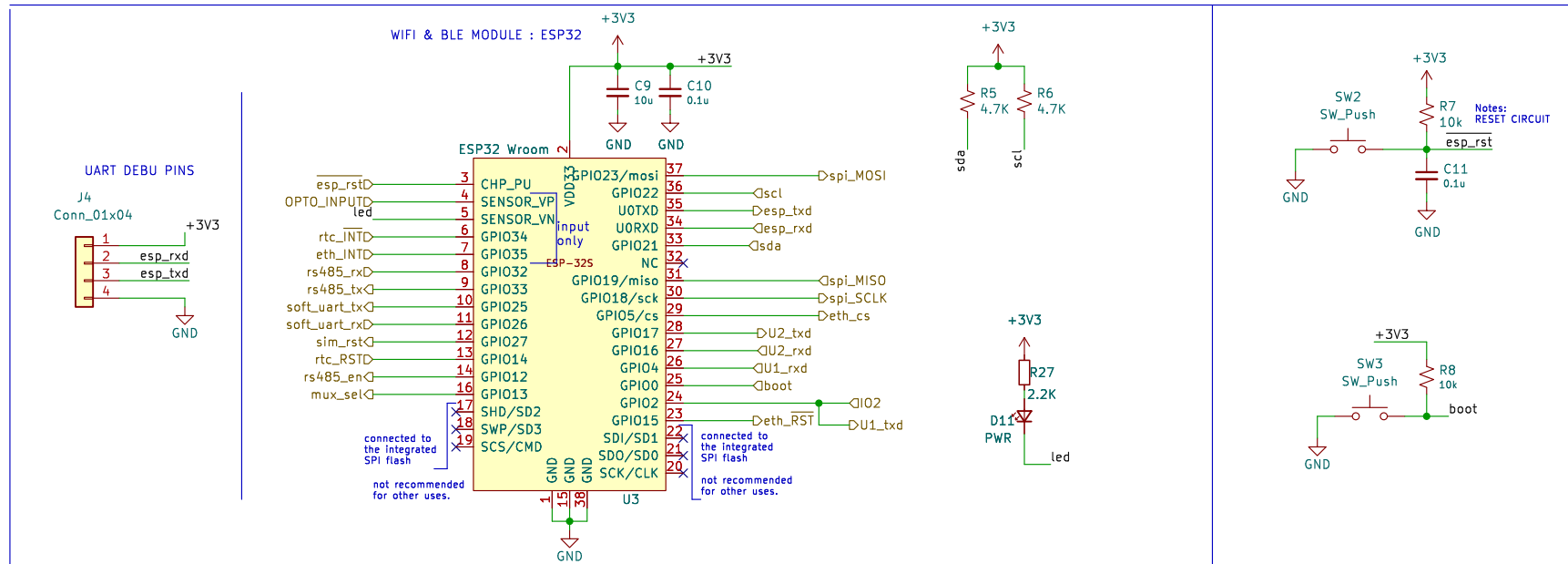
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ESP32 MCU



PLEASE USE THIS VIDEO TO SETUP SERIAL PINS FOR ESP32

<https://techoverflow.net/2021/11/19/which-pins-can-you-use-for-uart-on-the-esp32/>
<https://microcontrollerslab.com/esp32-uart-communication-pins-example/>

ELIESTAR

Designed By: Robert Mutura

Reviewed By: Timoty Kyalo

GEVITON

Sheet: /ESP32_MCU/

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USB To TTL Converter Section

The schematic diagram illustrates a USB To TTL Converter Section. It features a Micro USB Interface (J5) connected to a USB_B_Micro module. The circuit includes a USB To TTL converter chip (U4, CH340T(SSOP20W)) with various pins connected to a +5V supply, ground, and TTL signals (TXD, RXD, RTS, DTR). The circuit also includes an Auto Reset Circuit with two transistors (Q1, Q2), diodes (D3, D4, D5), and resistors (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14). A table titled 'Auto program' shows the configuration for DTR, RTS, EN, and IO0.

DTR	RTS->EN	IO0
1	1	1
0	0	1
1	0	1
0	1	0

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 Reviewed By: Timoty Kyalo

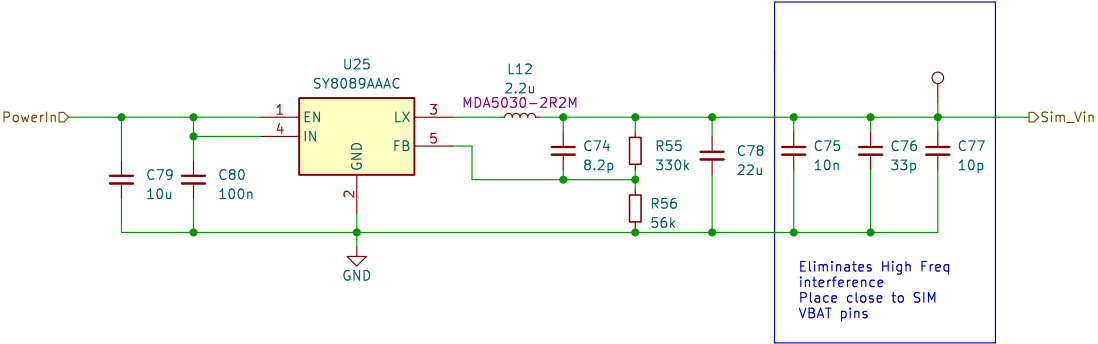
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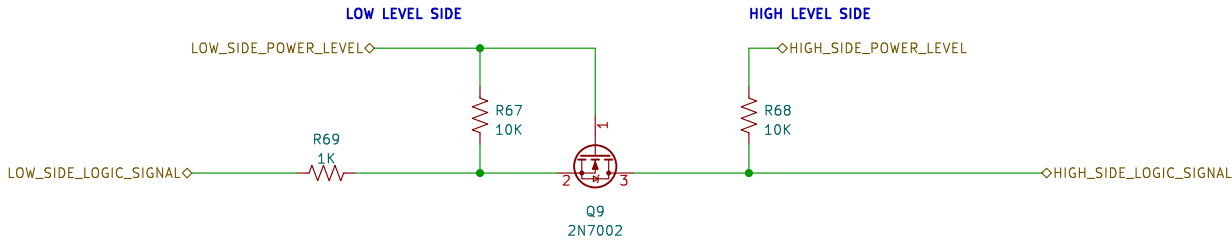
SIM MODULE POWER SUPPLY 4.2V/2A



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Reviewed By: Timoty Kyalo		
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File: Sim_Power_Supply.kicad_sch		
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BI-DIRECTIONAL LEVEL TRANSLATOR

MOSFET - IMPLEMENTATION



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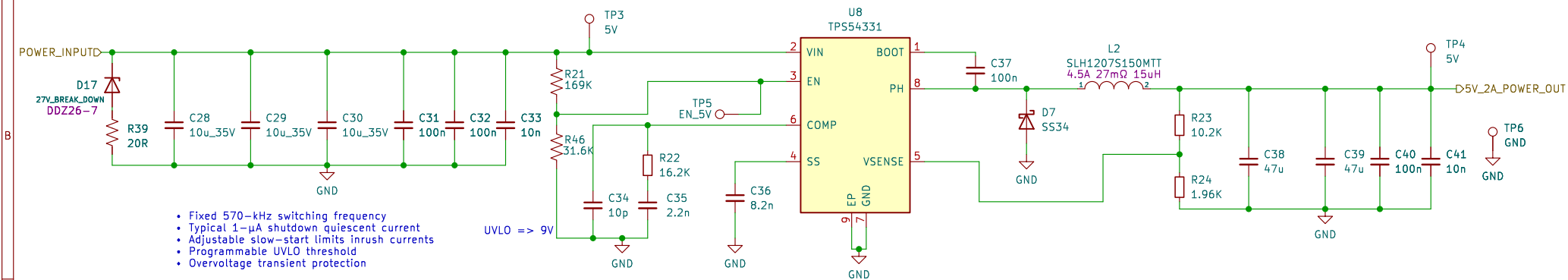
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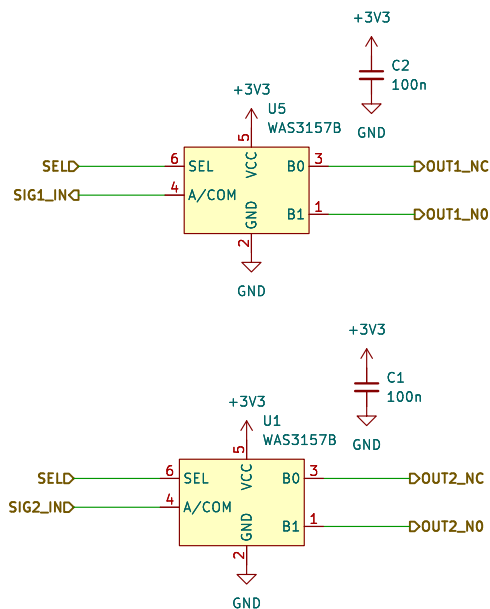
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BUCK CONVERTER 24V MAX INPUT 2A 5V OUTPUT



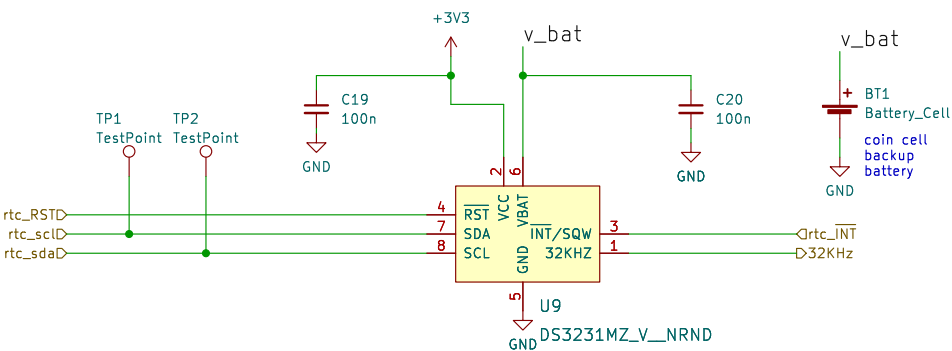
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Reviewed By: Timoty Kyalo	
GEVITON	
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Size: A4	Date: 2023-06-20
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ANALOG SWITCH / MULTIPLEXER IC



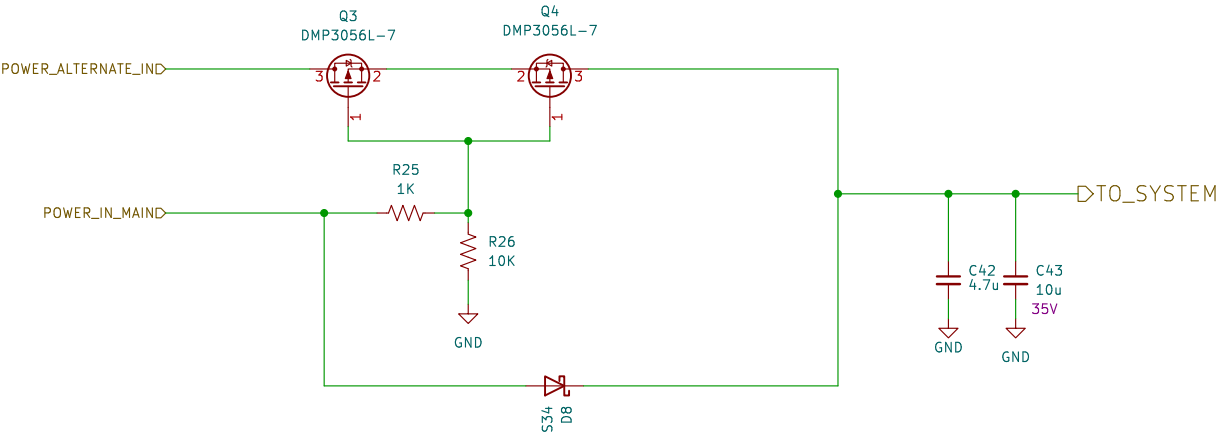
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RTC MODULE DS3231



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GEVITON		
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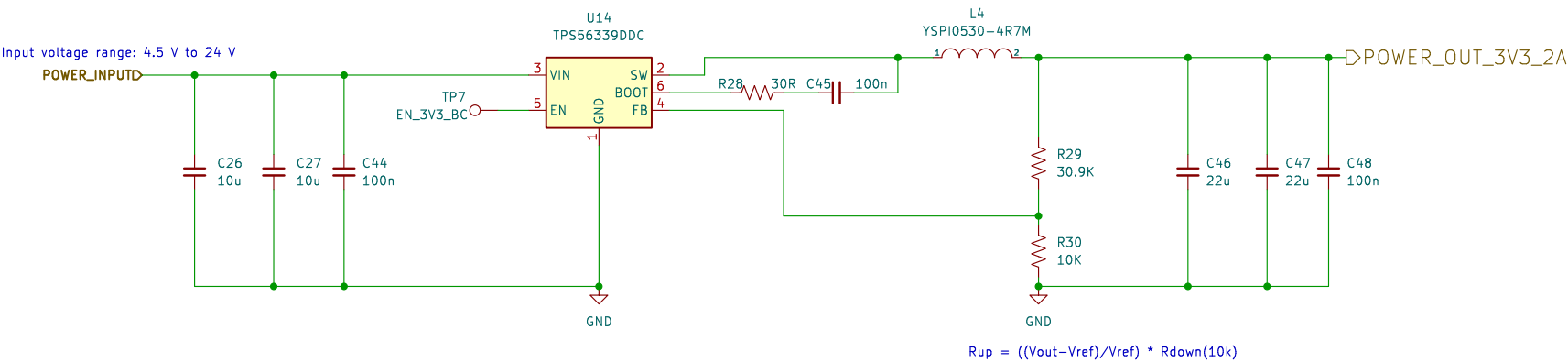
POWER PATH SELECTOR WITH LOW QUIESCENT/LEAKAGE CURRENT



WHEN CIRUCIT IS ON 24v is ocnected
- voltage across the gate is at a max of 20V(our gate can handle upto 25v)
- when not connected the gateis at 0V and source at 5V which enable power to flow through the circuit

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Designed By: Robert Mutura		
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GEVITON		
Sheet: /custom_power_path_selector/		
File: custom_power_path_selector.kicad_sch		
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3V3 2A BUCK CONVERTER TPS56339DDCR



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Designed By: Robert Mutura
Reviewed By: Timoty Kyalo

GEVITON

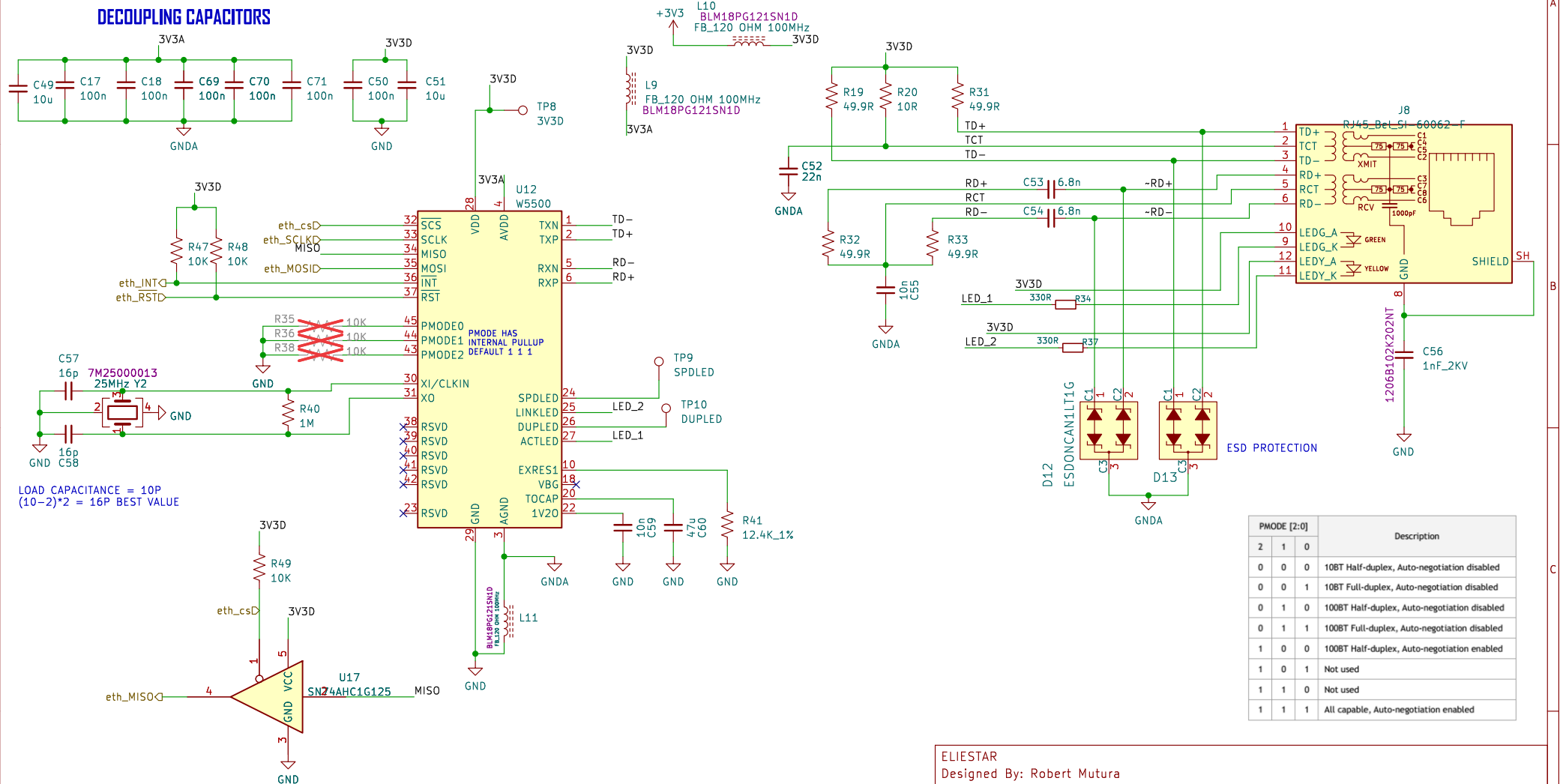
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ETHERNET TO SPI INTERFACE ID W5500



PMODE [2:0]			Description
2	1	0	
0	0	0	10BT Half-duplex, Auto-negotiation disabled
0	0	1	10BT Full-duplex, Auto-negotiation disabled
0	1	0	100BT Half-duplex, Auto-negotiation disabled
0	1	1	100BT Full-duplex, Auto-negotiation disabled
1	0	0	100BT Half-duplex, Auto-negotiation enabled
1	0	1	Not used
1	1	0	Not used
1	1	1	All capable, Auto-negotiation enabled

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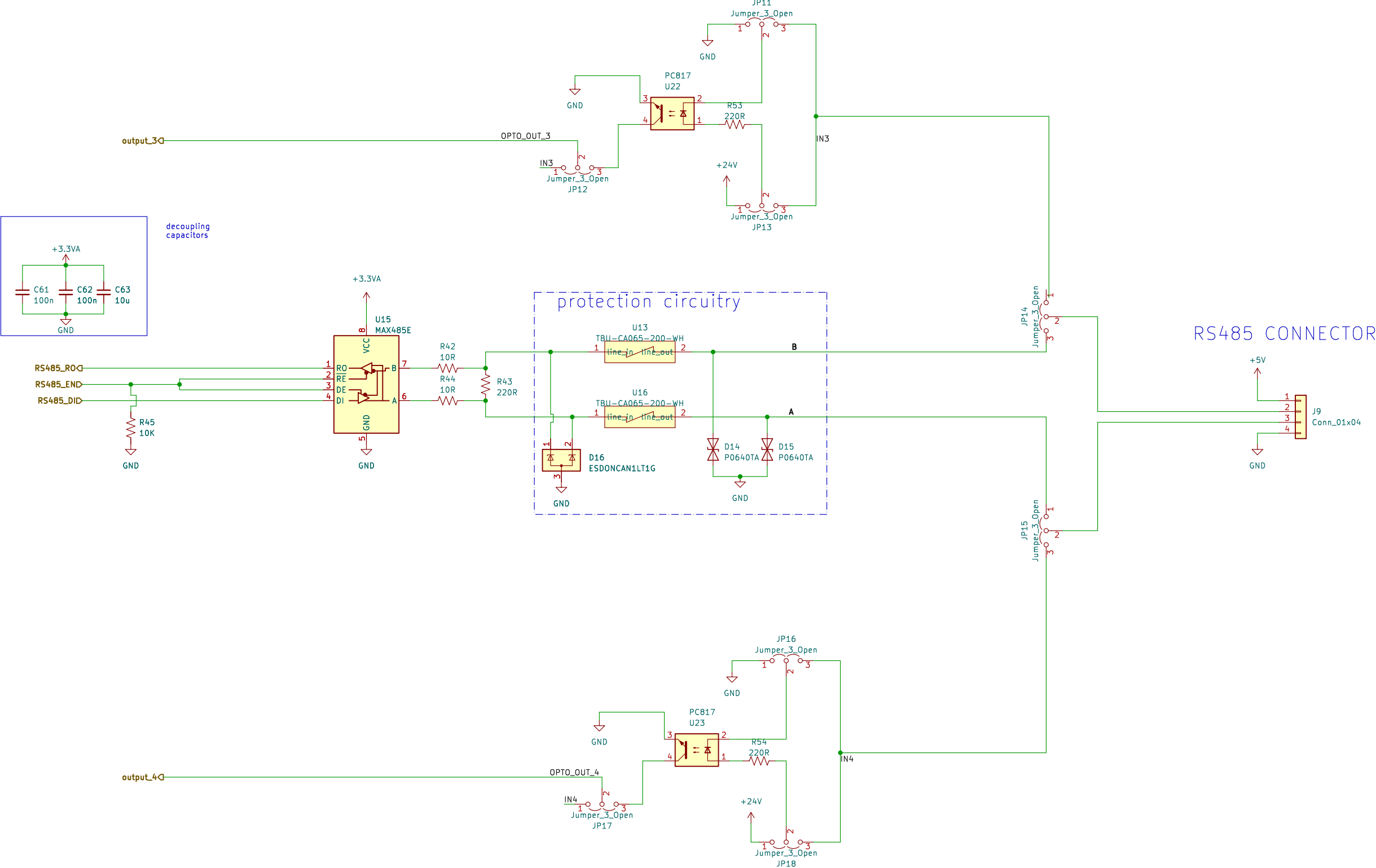
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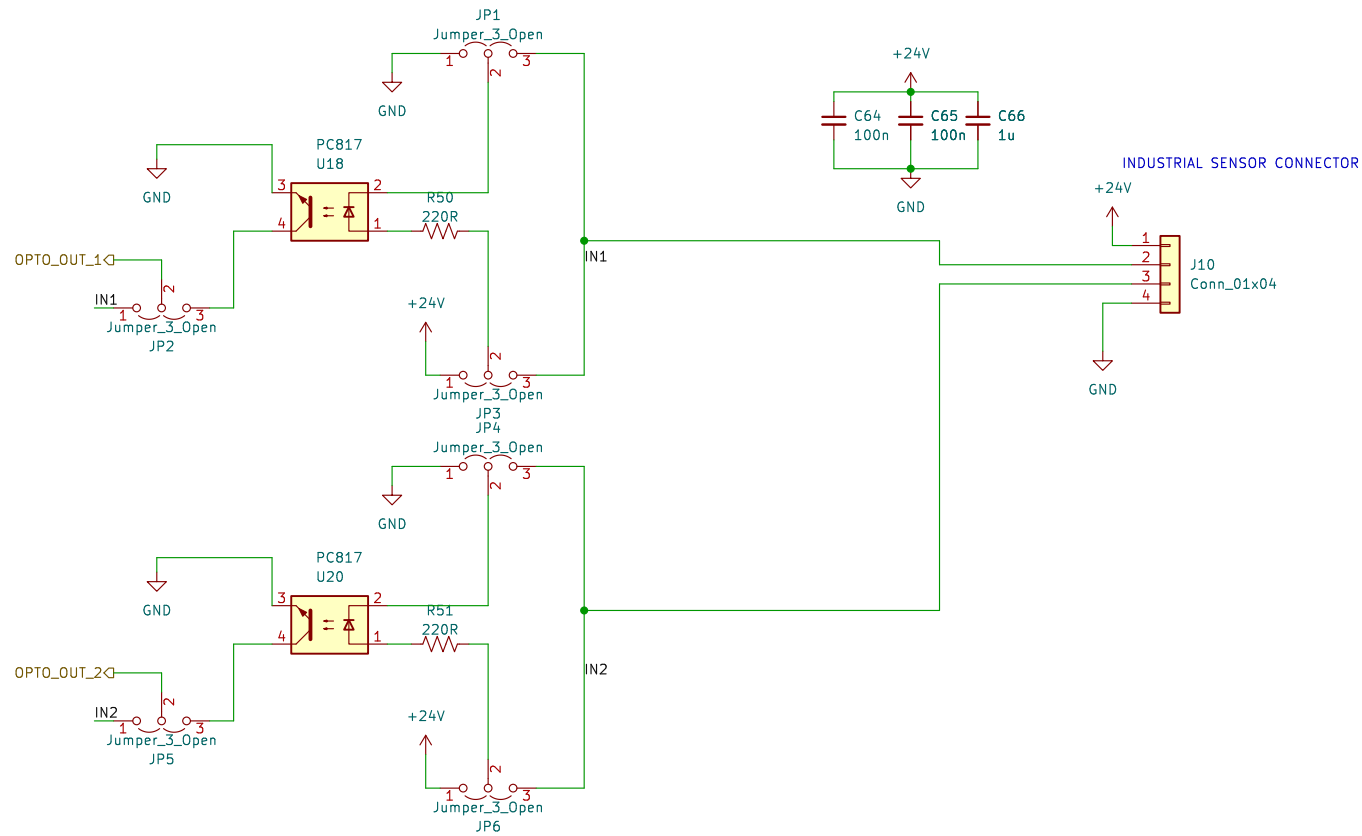
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RS485 COMMUNICATION INTERFACE WITH PROTECTION CIRCUIT



OPTO ISOLATOR INPUT



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Designed By: Robert Mutura

Reviewed By: Timoty Kyalo

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Sheet: /NPN_PNP_ISOLATED_INPUT/

File: NPN_ISOLATED_INPUT.kicad_sch

Title: ELIESTAR

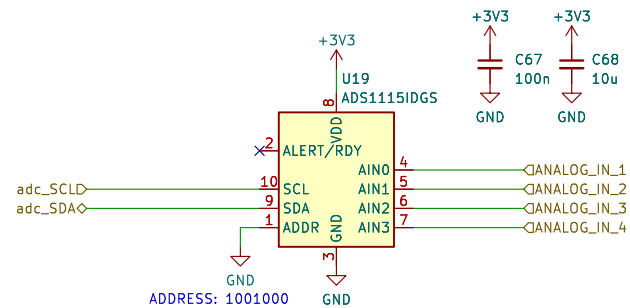
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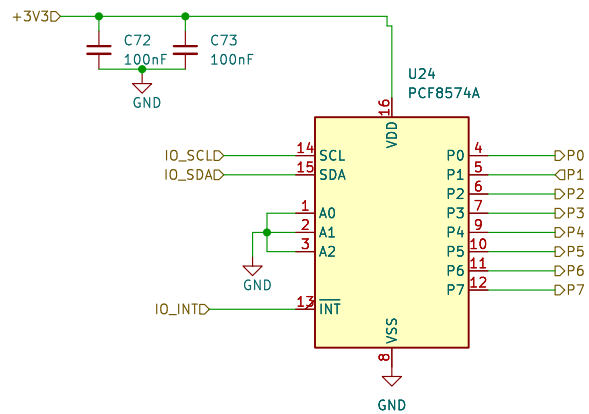
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16BIT DIGITAL TO ANALOG CONVERTER

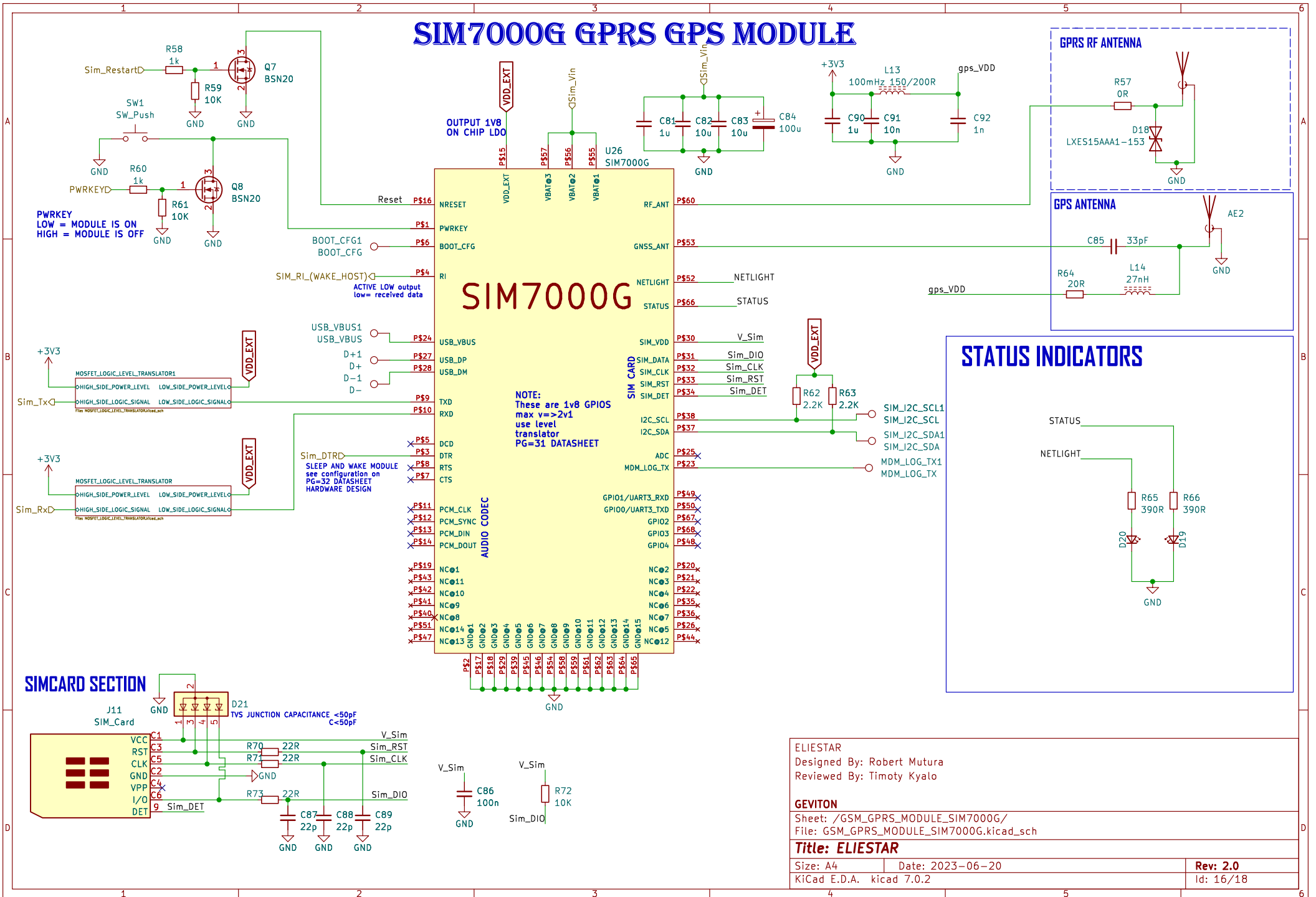


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Designed By: Robert Mutura		
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GEVITON		
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Size: A4	Date: 2023-06-20	Rev: 2.0
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SIM7000G GPRS GPS MODULE



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Reviewed By: Timoty Kyalo

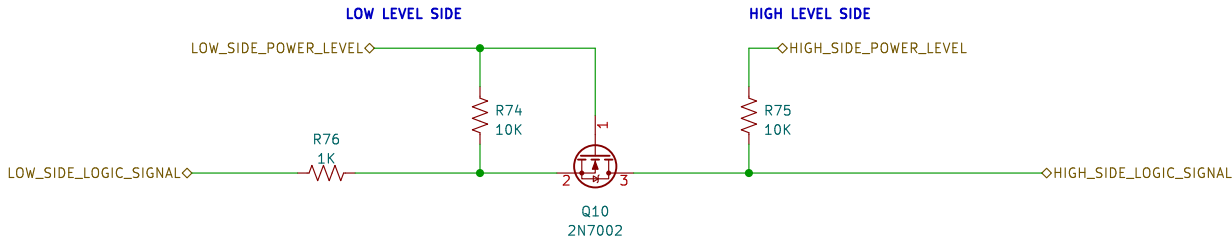
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BI-DIRECTIONAL LEVEL TRANSLATOR

MOSFET - IMPLEMENTATION



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