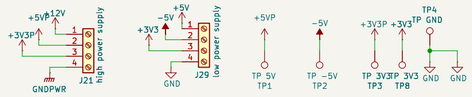
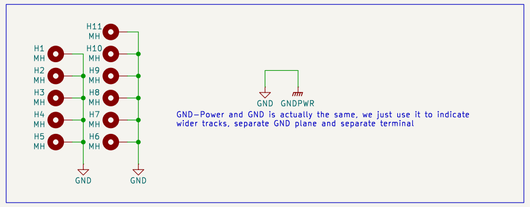
Supply IN Terminals (from supply-board)

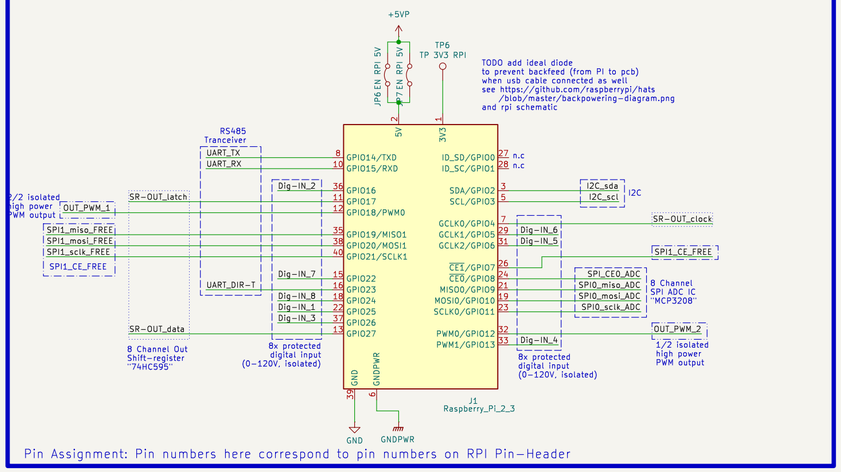




TODO Next Version:

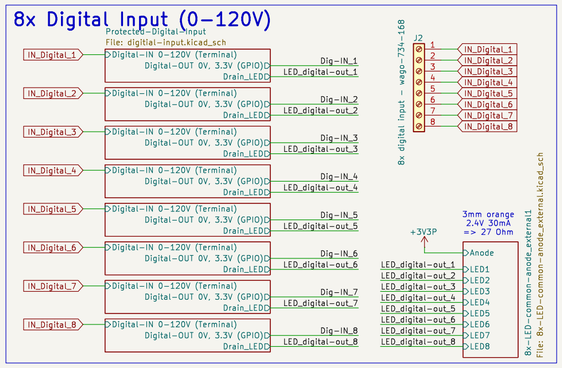
- Digital inputs: Isolate GND (separate GND terminal for opamp diodes)
- Fixed voltage digital inputs (24V) with voltage divider + protection diode, since some 24V sensors might consider 5V as low
- Pulldown R analog input (currently leds randomly on when input unused)
- UART: Add RX TX leds
- Add diode to prevent backfeeding when USB supply connected too
- Pin Assignment: Swap PWM1 with DIG-IN_4 so pwm outputs are on different RPI pwm-channels if thats an issue
- Re-evaluate LED board open drain outputs (8x DO, 2x PWM):
  When connecting large voltage e.g. 48V motor
  the led reverse voltage might be too high in off state?
  -> Add additional normal diode in series + use 5V?

Connect to Raspberry Pi 40x pin-header

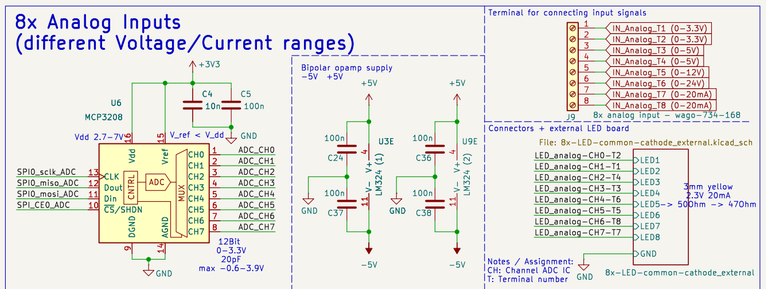


Pin Assignment: Pin numbers here correspond to pin numbers on RPI Pin-Header

8x Digital Input (0-120V)

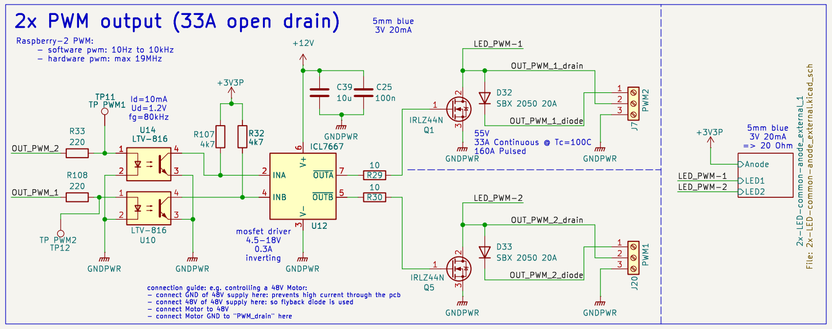


8x Analog Inputs (different Voltage/Current ranges)

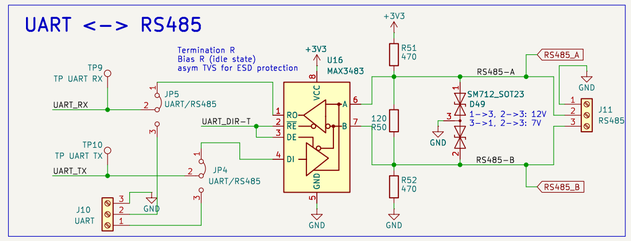


2x Relay output

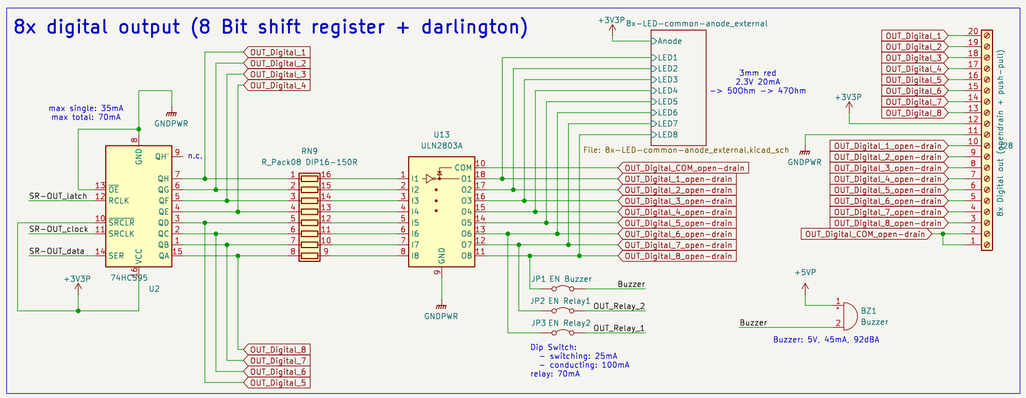
2x PWM output (33A open drain)



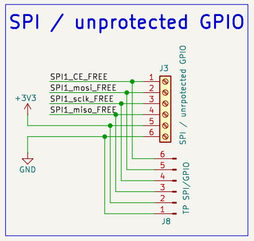
UART <-> RS485



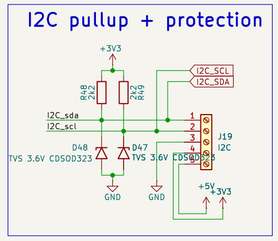
8x digital output (8 Bit shift register + darlington)



SPI / unprotected GPIO



I2C pullup + protection



Changelog since V0.1_milled:

- Footprint: Digital-in TVS diodes too large -> rotated footprint, increased drill dia
- Footprint: Increased Pitch Buzzer
- Footptint: Diodes PWM increased drill dia
- Swap Labels for PWM1 <-> PWM2 and Relay1 <-> Relay2
  so order is from left to right in housing

A Raspberry Pi-compatible PCB that extends the GPIO header
with protected I/O, relays, and various features
for versatile use in prototyping and project development

Sheet: /
File: pi-interface-board_v1.0.kicad_sch

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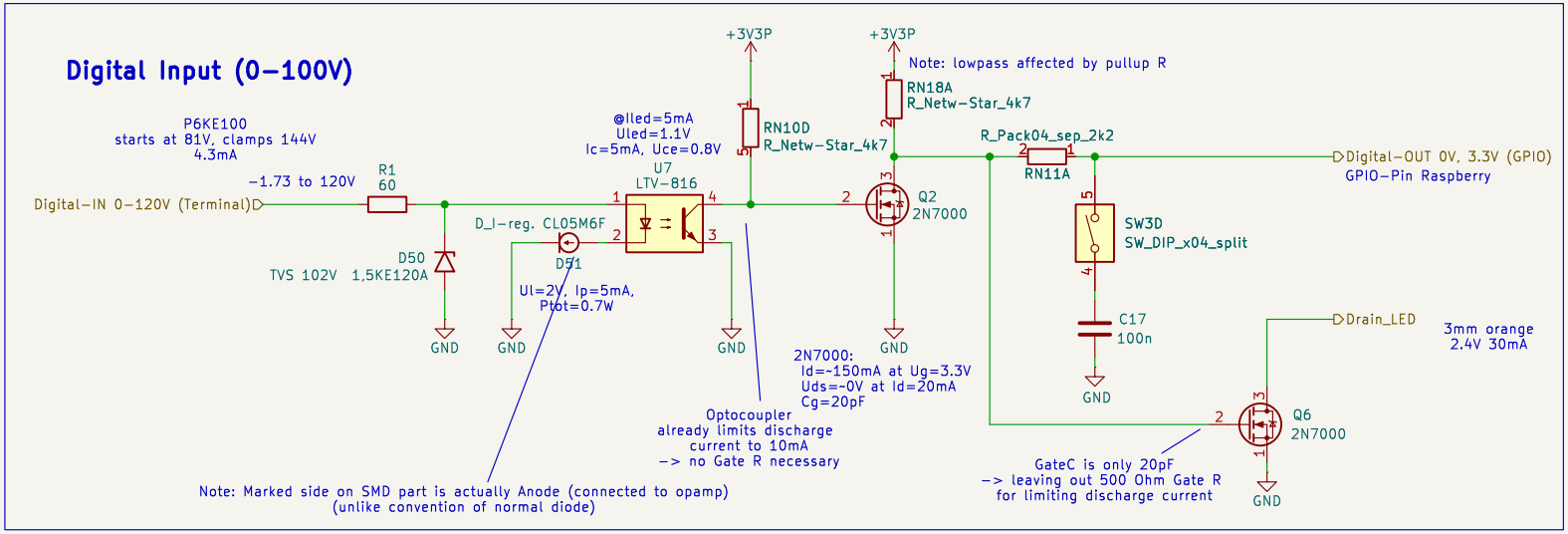
KiCad E.D.A. 8.0.7		Id: 1/14



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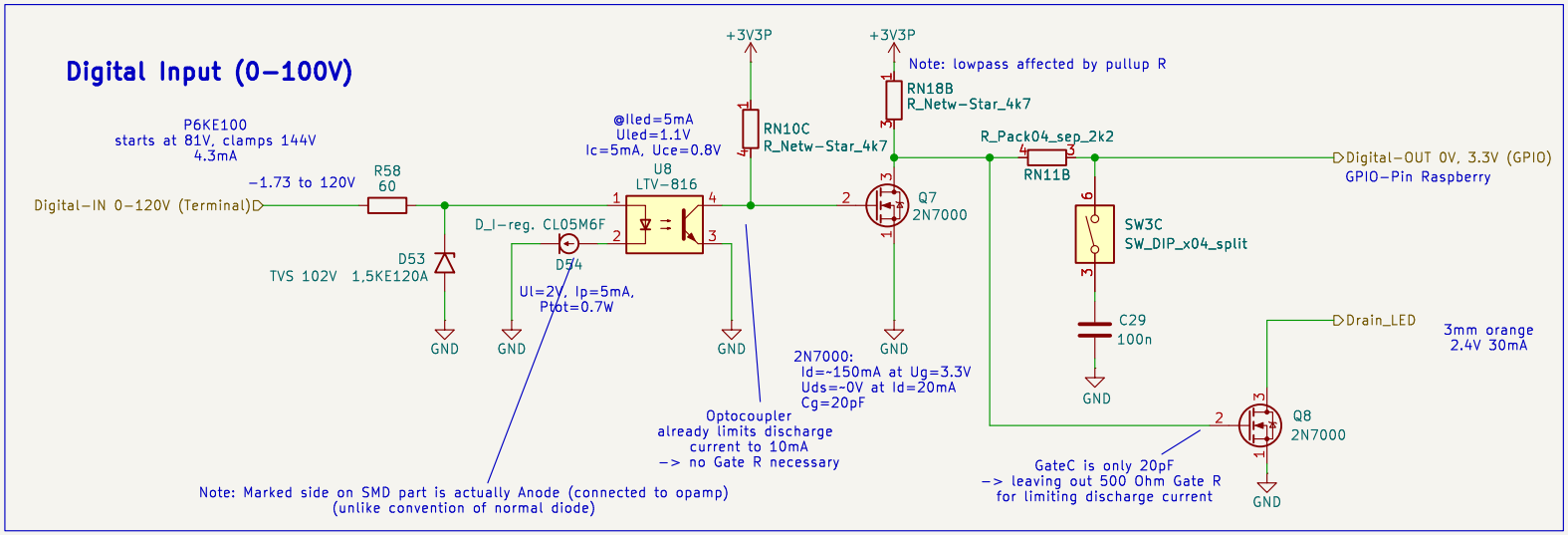
KiCad E.D.A. 8.0.7		Id: 2/14



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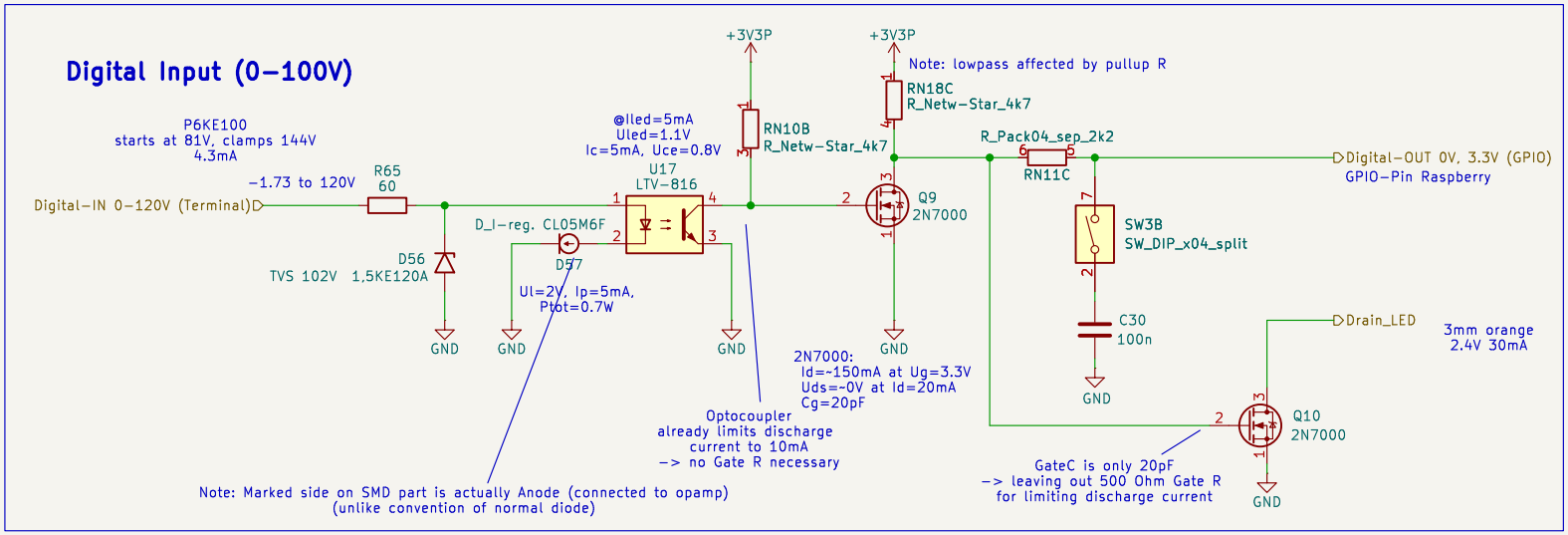

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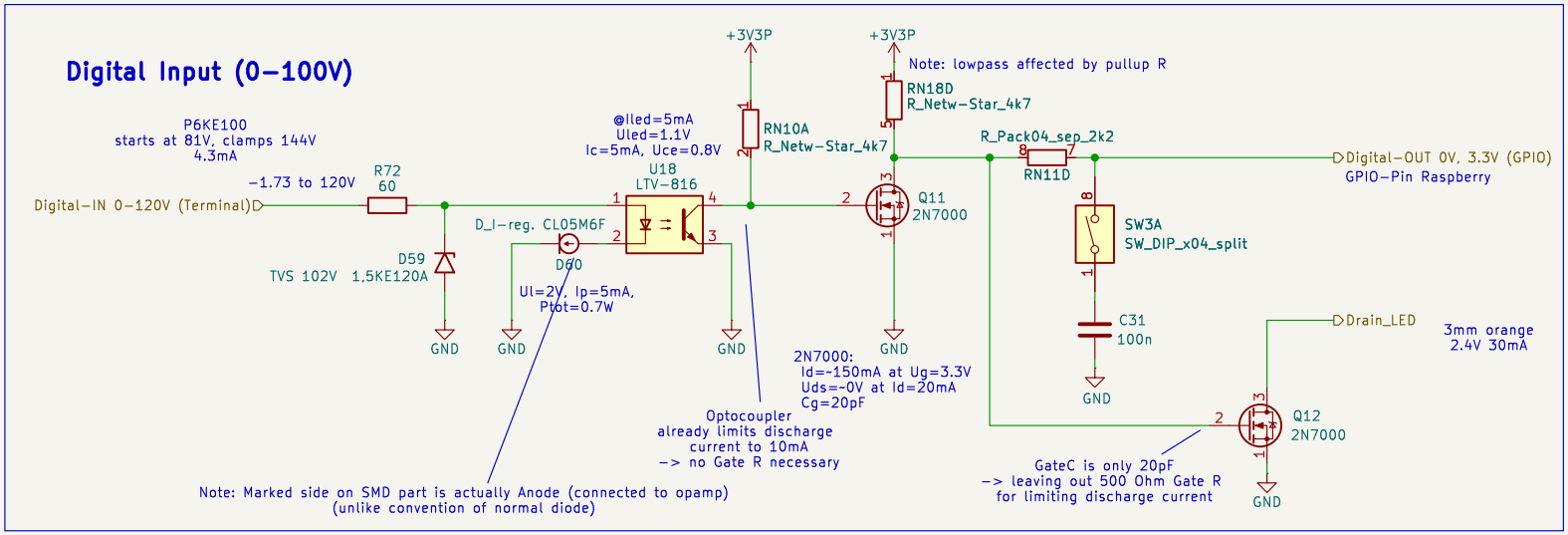
KiCad E.D.A. 8.0.7		Id: 4/14



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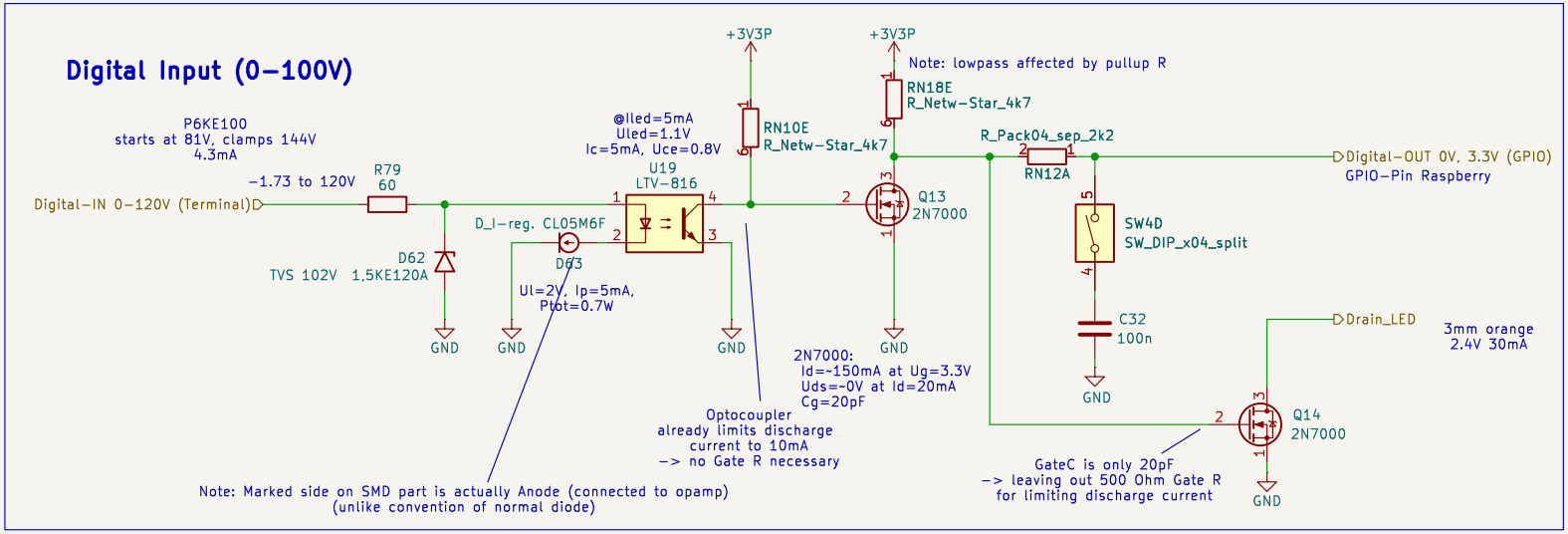
KiCad E.D.A. 8.0.7		Id: 5/14



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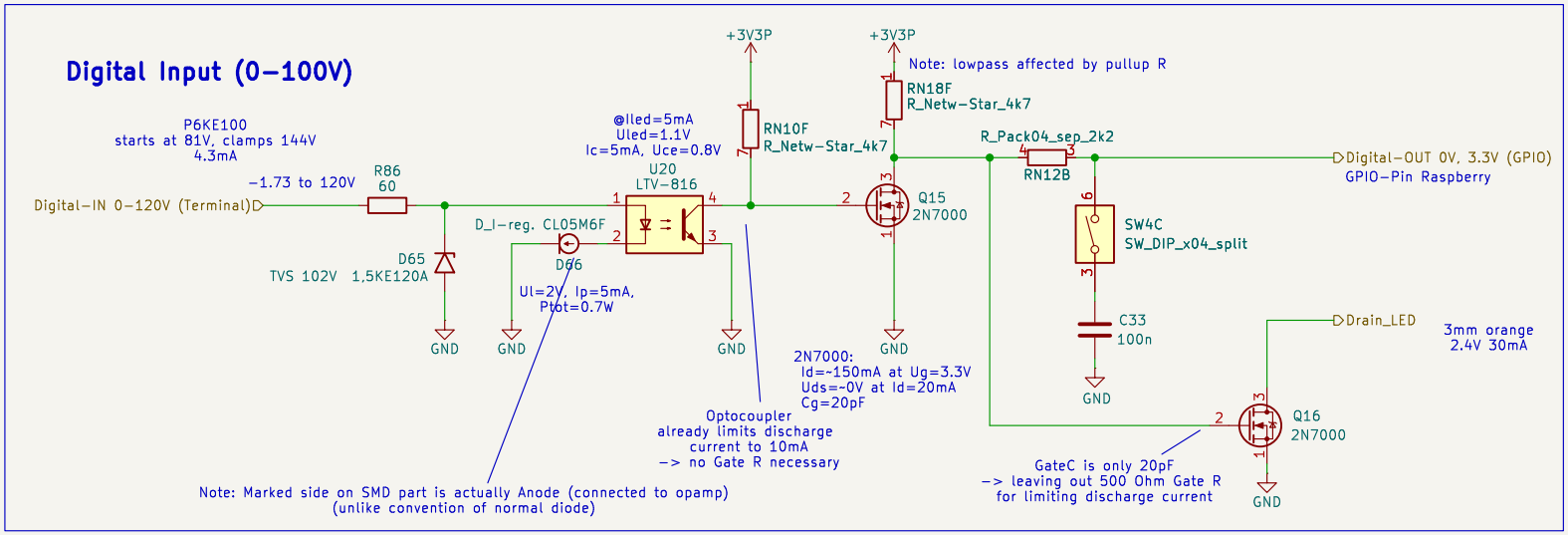
KiCad E.D.A. 8.0.7		Id: 6/14



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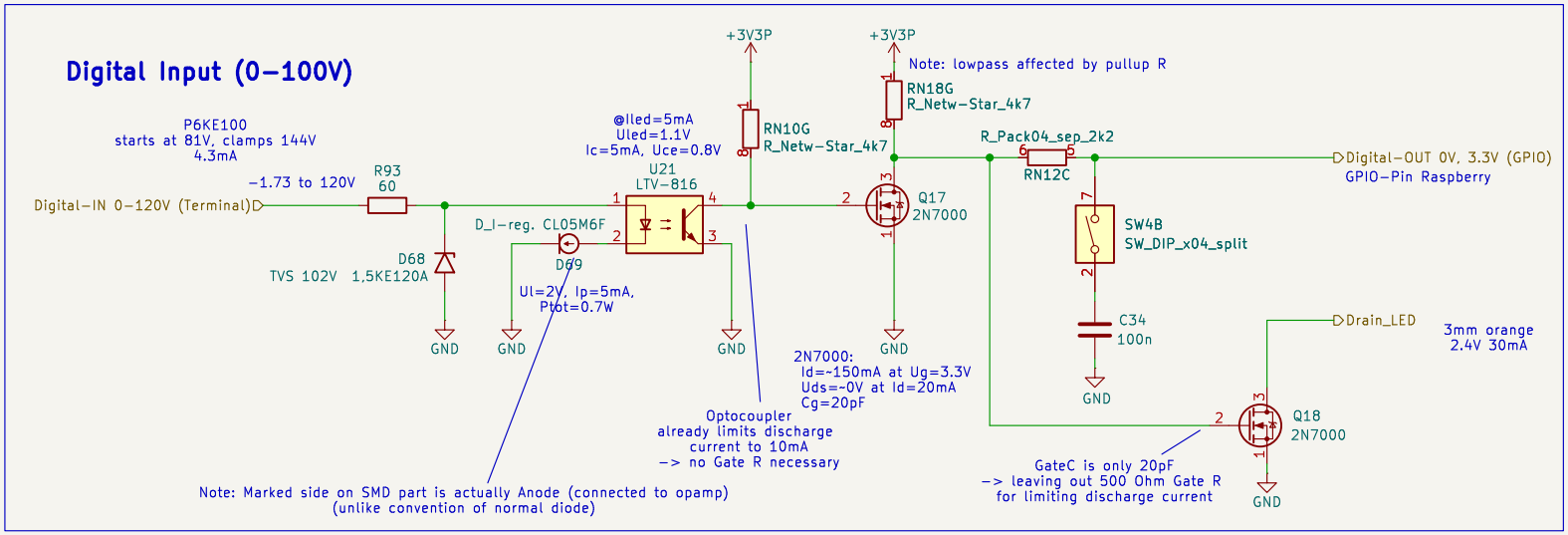

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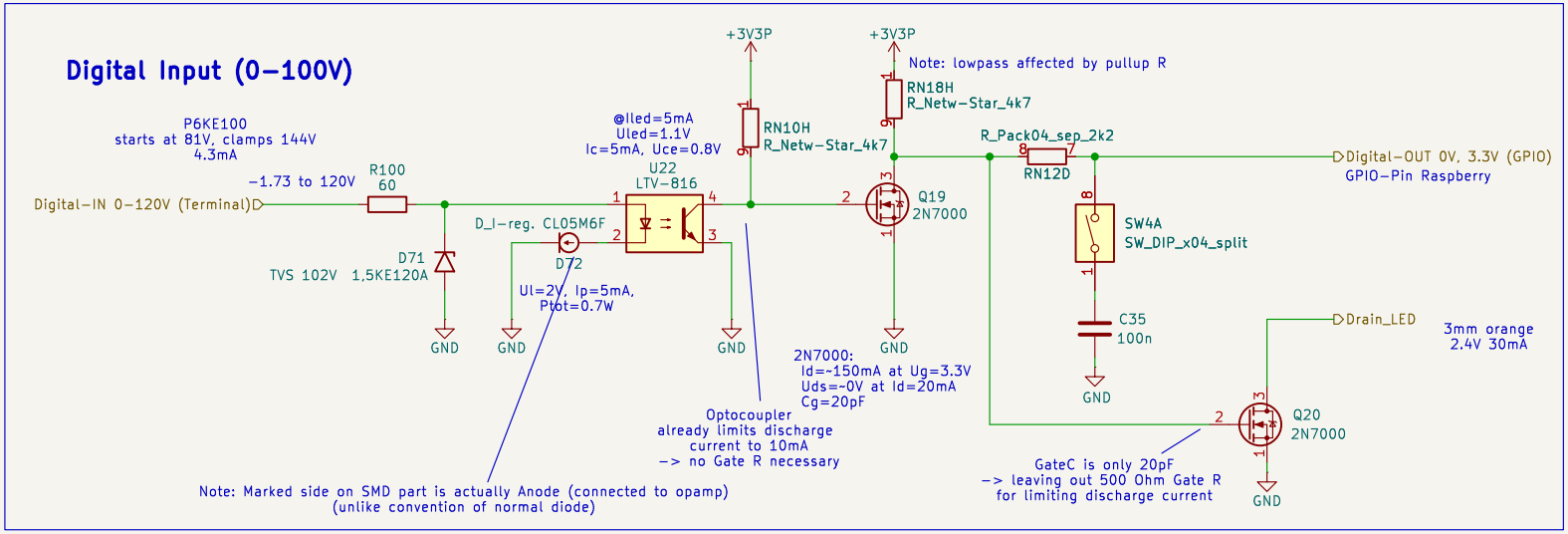

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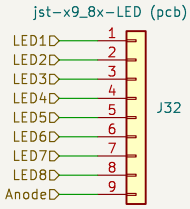
KiCad E.D.A. 8.0.7		Id: 9/14

Note: Legacy hierachial sheet
This was outsourced to separate pcb project
"led-boards_v0.1"

Connector for external LED board



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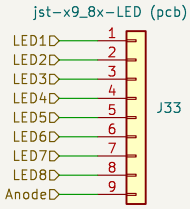
Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.7		Id: 10/14

Note: Legacy hierachial sheet
This was outsourced to separate pcb project
"led-boards_v0.1"

Connector for external LED board



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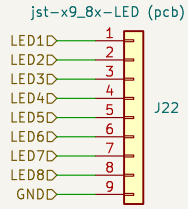
Note: Legacy hierachial sheet
This was outsourced to separate pcb project
"led-boards_v0.1"

Connectors for external LED board



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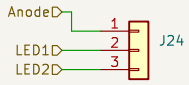
Note: Legacy hierachial sheet
This was outsourced to separate pcb project
"led-boards_v0.1"

jst-3-XH_2x-LED (pcb)



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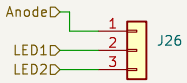
Note: Legacy hierachial sheet
This was outsourced to separate pcb project
"led-boards_v0.1"

jst-3-XH_2x-LED (pcb)



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