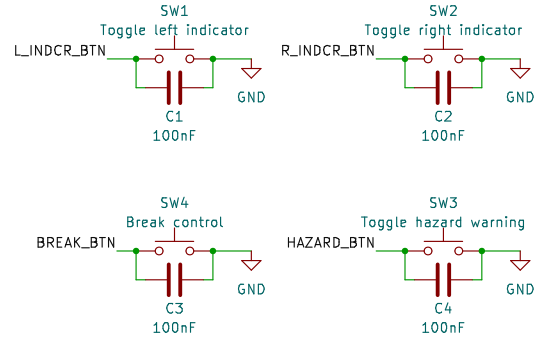
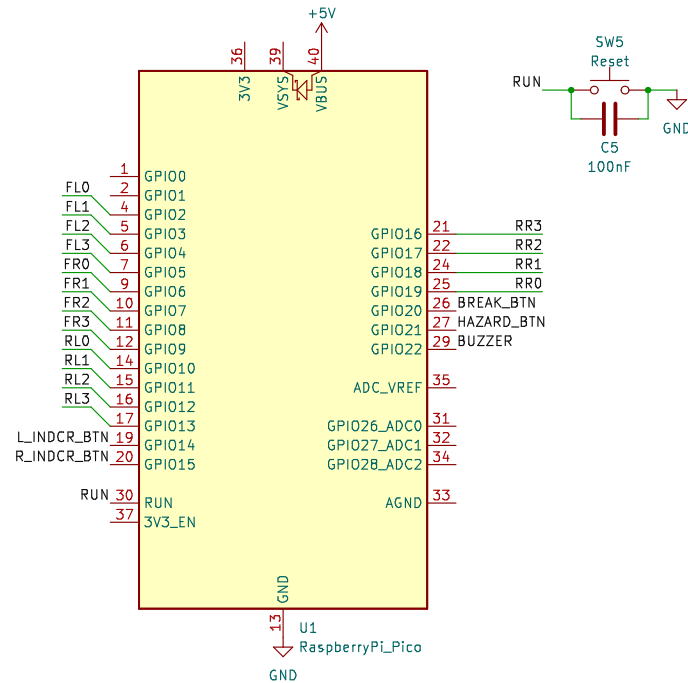


Control panel

For push buttons, use internal pull-up from MCU.
Use capacitors to debounce.

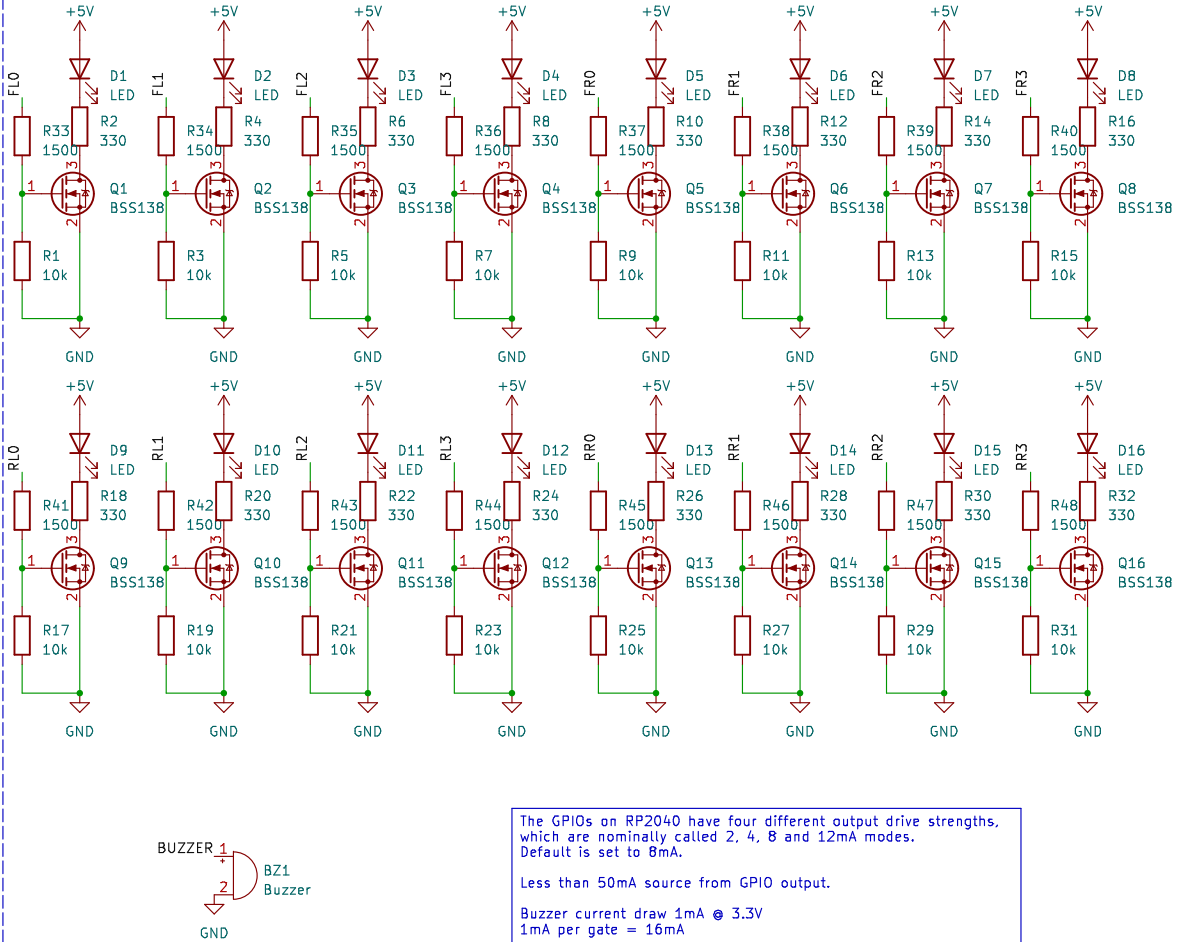


RPI Pico ext. board



Tell-tale

LED values: 330 Ohm @ 10mA forward current (very bright)
MOSFET resistor values: 10k



The GPIOs on RP2040 have four different output drive strengths, which are nominally called 2, 4, 8 and 12mA modes. Default is set to 8mA.

Less than 50mA source from GPIO output.

Buzzer current draw 1mA @ 3.3V
1mA per gate = 16mA

from Wikipedia about USB current draw: A device may draw a maximum of 5 unit loads (500 mA) from a port in USB 2.0; 6 (900 mA) in USB 3.0

Max power consumption 411mA:
- ~90mA from RPI pico (based on popcorn test)
- max 10mA per LED (very bright) * 16 = 320mA
- 1mA @ 3.3V buzzer current draw
- 35.2mA Gate drive current

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