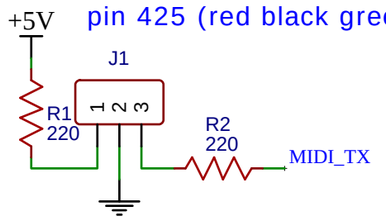
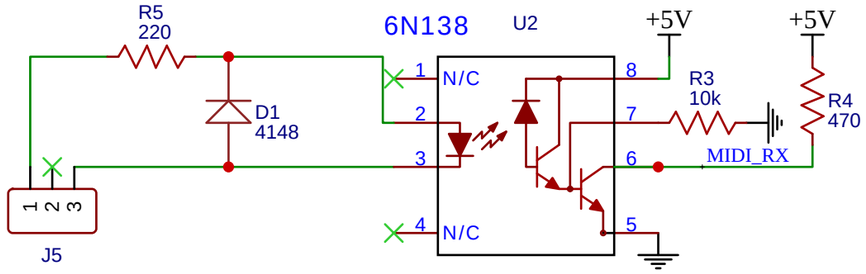
MIDI out (DIN5)



pin 425 (red black green)

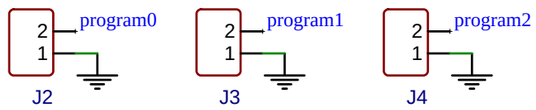
MIDI is current loop
5 mA nominal
supposing LED in opto-isolator

MIDI in (DIN5)

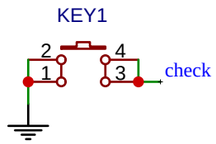


pin 425

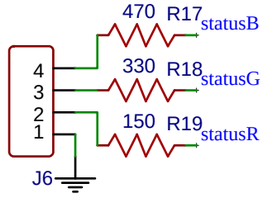
Program footswitches



Check connectivity button



RGB status LED



26 mA measured
with R+G+B on

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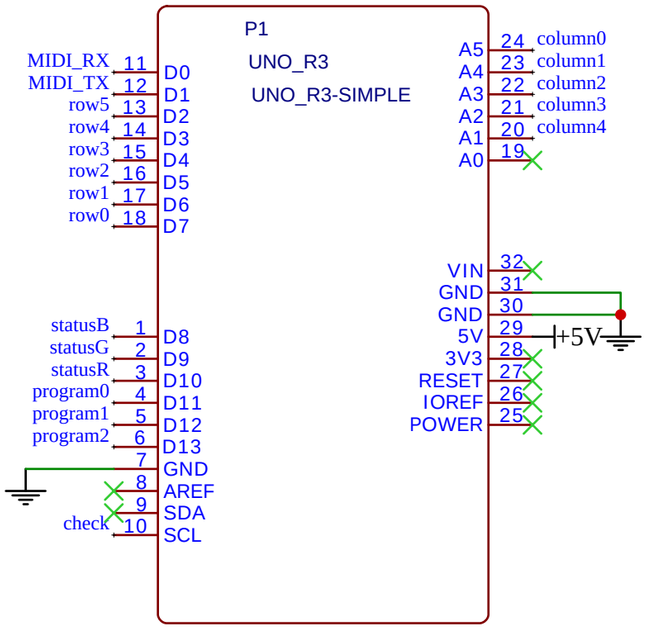
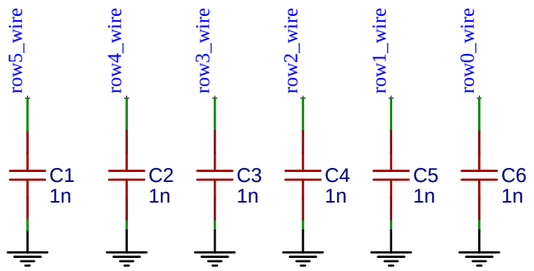
Arduino core



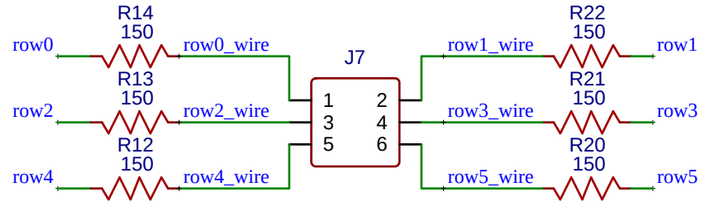
Absolute maximum ratings
200 mA total I/O current
40 mA per pin current
0.1 W for 0603 resistor (20mA @ 5V)

Green SMD LED
2.0 V threshold
6 mA max target to be safe
(1 row + 5 columns)

EMC output filtering (optional)

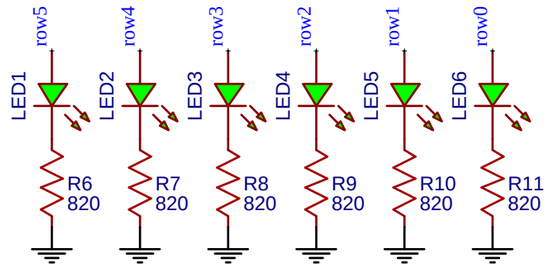


Pedal key rows (outputs)



Resistors at this side to protect outputs

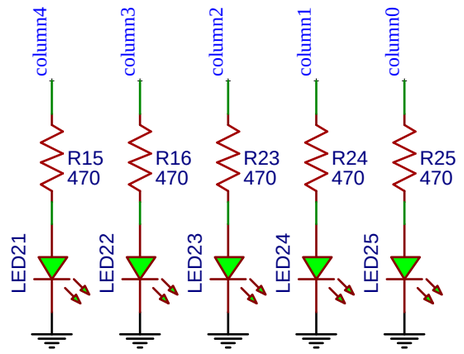
In case of short circuit, 5V over 150 ohm dissipates 166mW, but chip resistors typically fail open. Without God's blessing, I wouldn't live, anyway.



3V/4mA = 750 ohm

Pedal key columns (inputs)

Worst case two keys are pressed at the same time, and VIH threshold (0.6Vcc =) 3V. The voltage divider of the top protection resistor and the bottom input resistor applied to 5 - 0.7 - 2.0 = 2.3V should at least yield 3 - 2.0 = 1V. The top resistor is shared, so effectively 300 ohms. 231 ohm would be enough, take 470 to be safe. The about 4mA (one key pressed) is still bright enough.



TITLE: PedalShield		REV: 1.0.1
EasyEDA	Company: Sjoerd Op 't Land	Sheet: 1/1
	Date: 2022-11-09 Drawn By: Sjoerd Op 't Land	