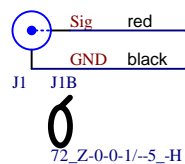
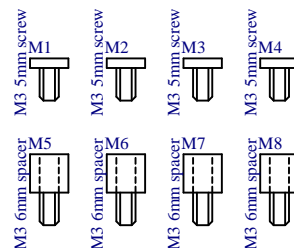
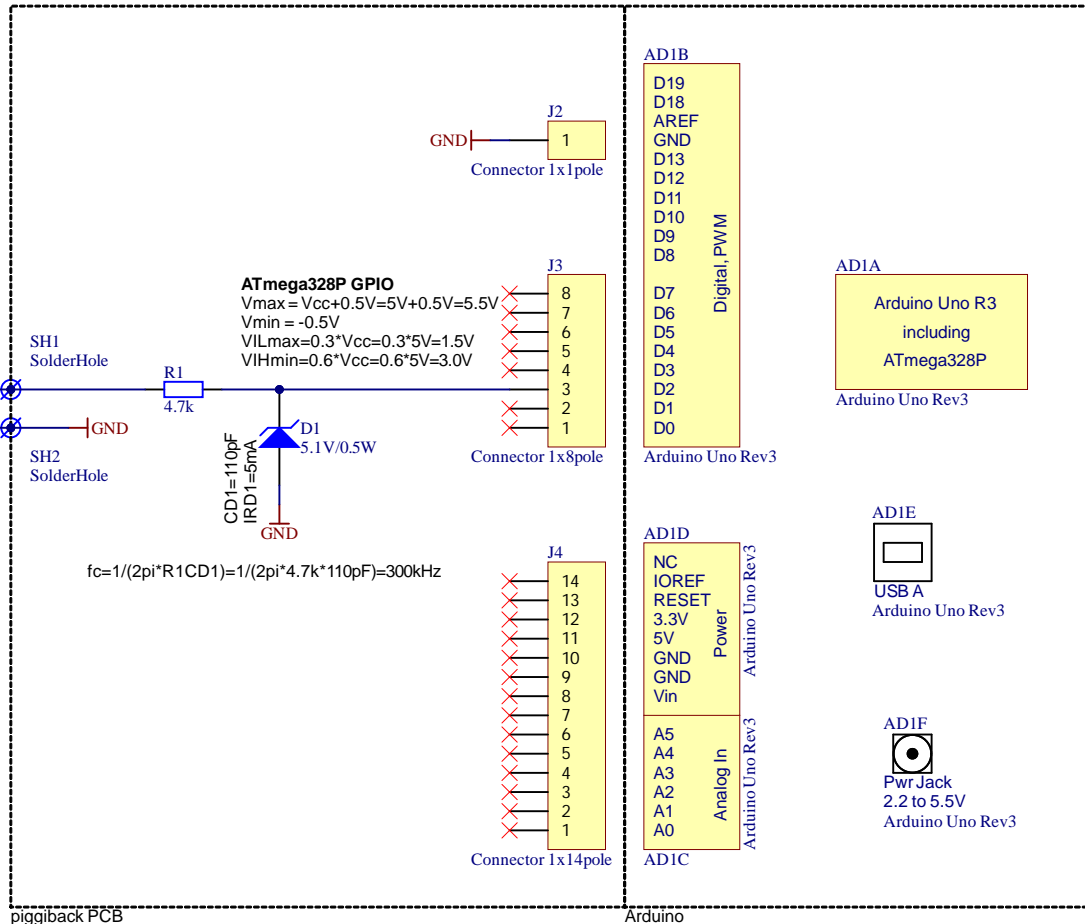


Input
 $V_{max} = U_{D1} + I_{RD1} \cdot R_1 = 5.1V + 5mA \cdot 4.7k = 28.6V$
 $V_{ILmax} < 1.5V$
 $V_{IHmin} > 3.0V$
 $f_{max} = f_c = 300kHz$



ATmega328P GPIO
 $V_{max} = V_{cc} + 0.5V = 5V + 0.5V = 5.5V$
 $V_{min} = -0.5V$
 $V_{ILmax} = 0.3 \cdot V_{cc} = 0.3 \cdot 5V = 1.5V$
 $V_{IHmin} = 0.6 \cdot V_{cc} = 0.6 \cdot 5V = 3.0V$

$CD1 = 110pF$
 $IRD1 = 5mA$
 $f_c = 1 / (2\pi \cdot R_1 \cdot CD1) = 1 / (2\pi \cdot 4.7k \cdot 110pF) = 300kHz$



ETH zürich

Physical Chemistry
 Institute of Molecular Physical Science (IMPS)

EI Box
 Project: MSC Frequency Counter
 Doc Nr.: MSC-ES-0013
 File: MSC-ES-0013_F-Counter_Arduino.SchDoc

Drawn: llbe
 Rev.: v1.0
 Date: 07.10.2024
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 Sheet: 1 of 1