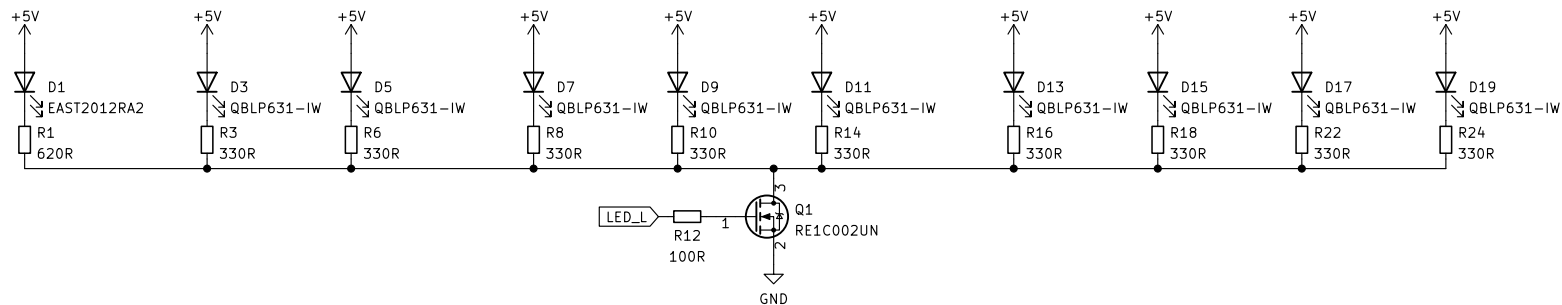
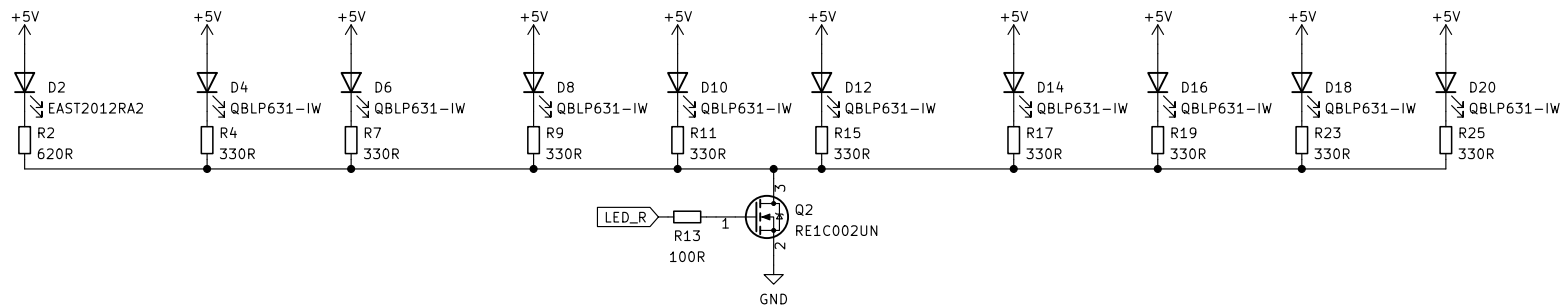


Left-side LEDs



Vfwd(RED)-2V
Vres-Vsup-5V-2V=3V
Idesired=5mA
 $R = Vres / Idesired = 3V / 5mA = 600R - 620R$

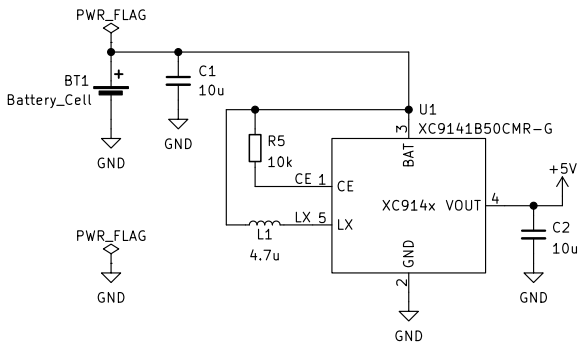
Right-side LEDs



Vfwd(WHITE)-3.4V
Vres-Vsup-5V-3.4V=1.6V
Idesired=5mA
 $R = Vres / Idesired = 3V / 5mA = 320R - 330R$

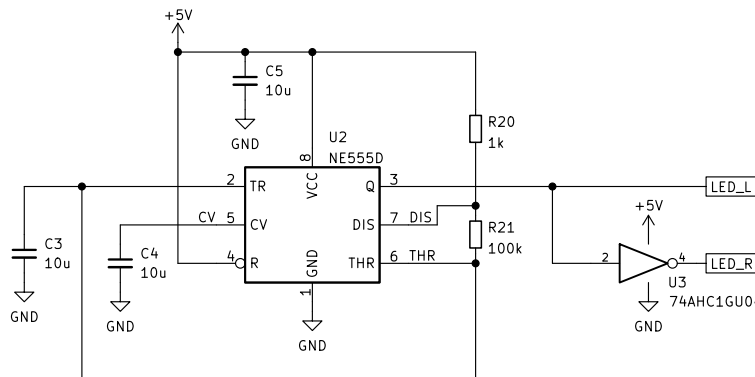
Errata:
1) Vfwd(RED) = 1.8 V, Vfwd(WHITE) = 1.75V;
resistors should be ~660R
3) Transistor footprint is SOT-416 (not SOT-89)
4) Should have made top 5V plane

Power



XC914x supplies ~800 mA

Timer Circuit



~50% duty cycle
~1s on/off time

Errata:
1) C3 is supposed to 15u

J. Cao

Sheet: /
File: sam-bday-21.kicad_sch

Title: Sam Bday 21 PCB

Size: A4 Date: 2022-07-30
KiCad E.D.A. kicad (6.0.0-0)

Rev: v1
Id: 1/1