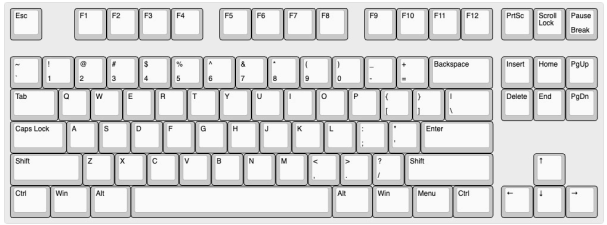
Wireless Keyboard

About Keyboard



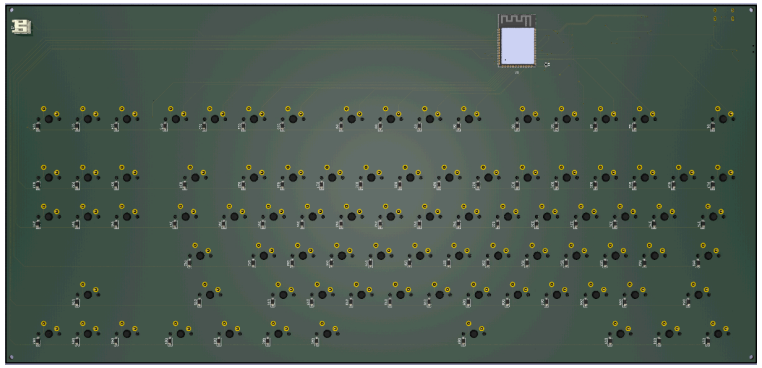
Keyboard Layout :- We have designed the above layout which is also know as Tenkeyless Keyboard

Keys and Switches:- There are 87 keys in the keyboard and mx switches are being used

Mode:- Works as wired and wireless(bluetooth) keyboard

TOP VIEW

BACK VIEW



Block Level Architecture

File: level_1.kicad_sch

TEAM:
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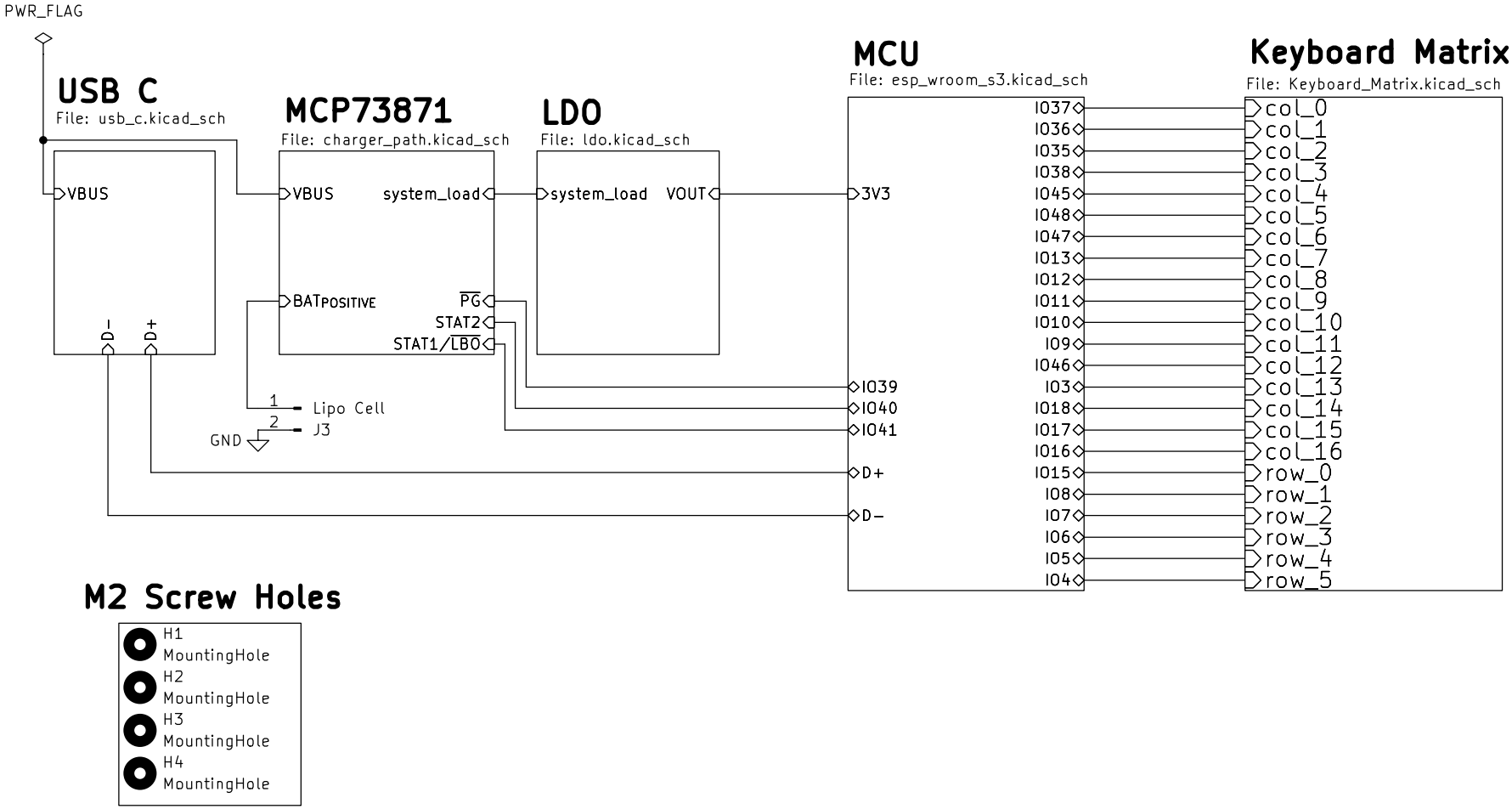
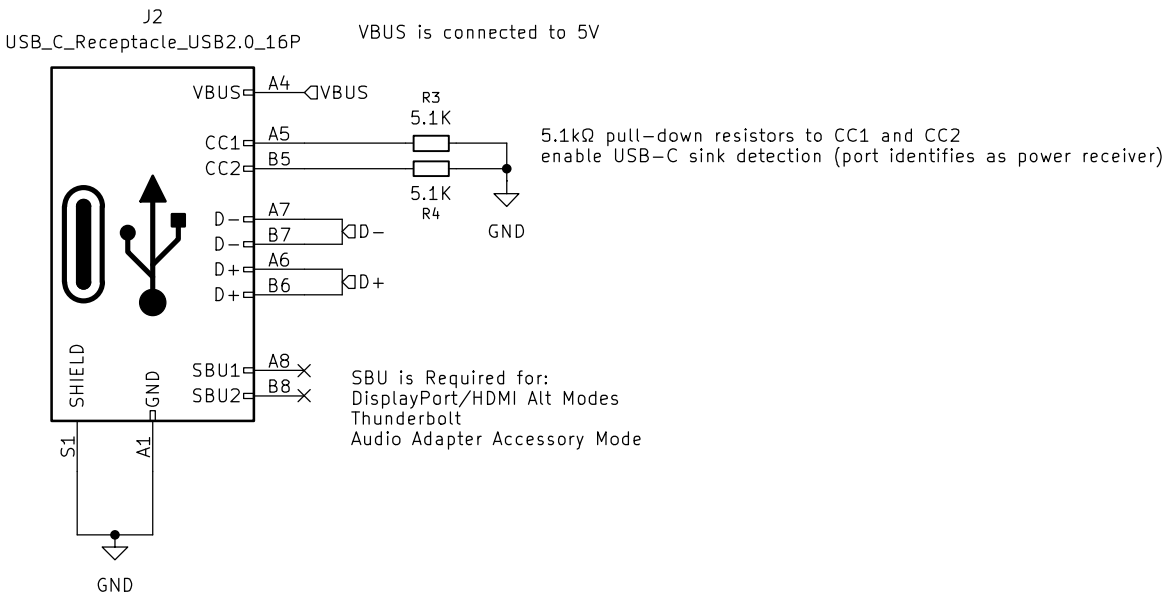
2) UTKARSH JAIN
3) SHASHWAT SABARWAL

Block Level Architecture



M2 Screw Holes

USB C 2.0

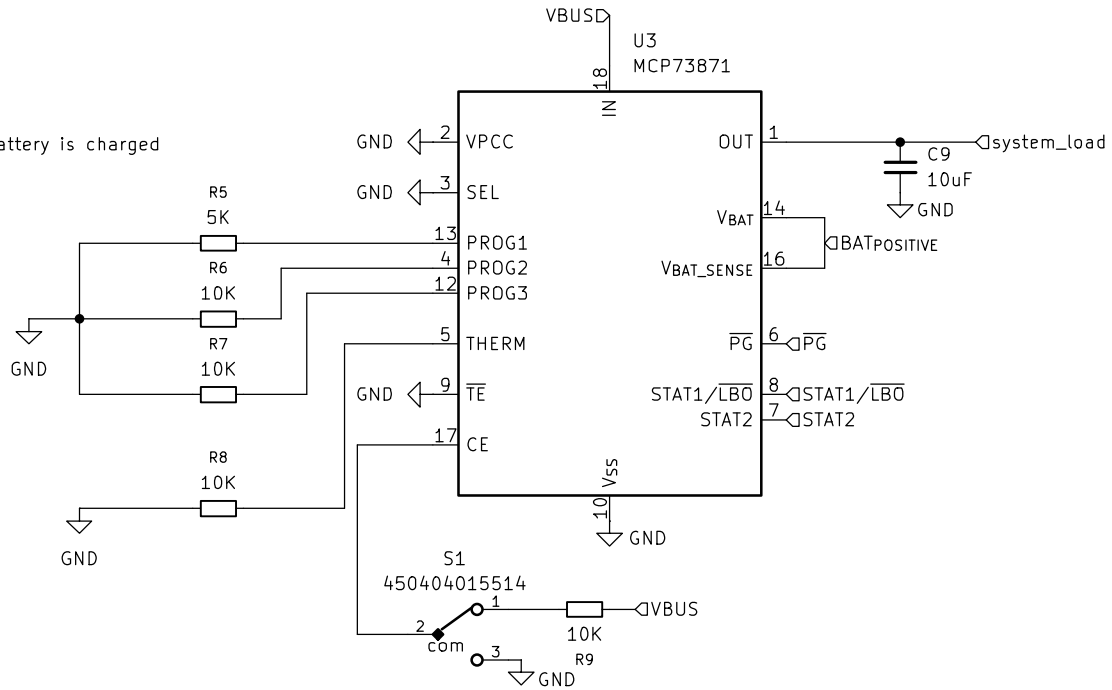


https://www.mouser.in/ProductDetail/GCT/USB4215-03-A?qs=IKkN%2F947nfBipec8wvDabA%3D%3D

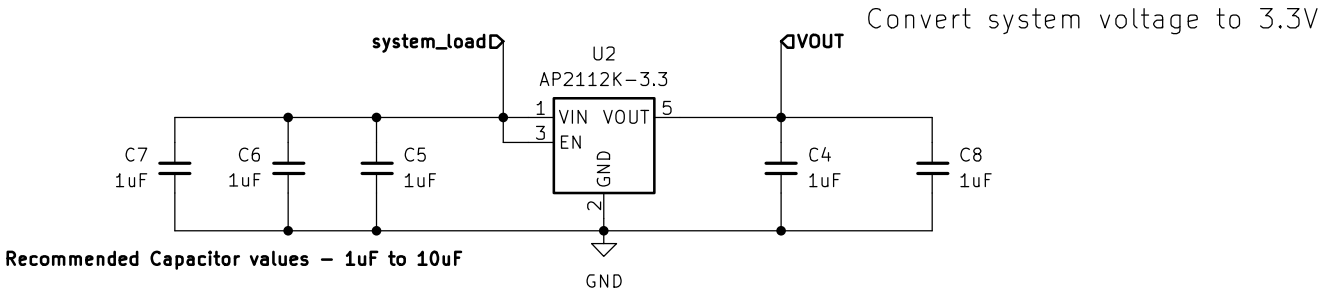
Power Path Management

$I_{REG} = 1000/R_{PROG1}$
I_{REG} – > Current at which battery is charged
Current = 200mA

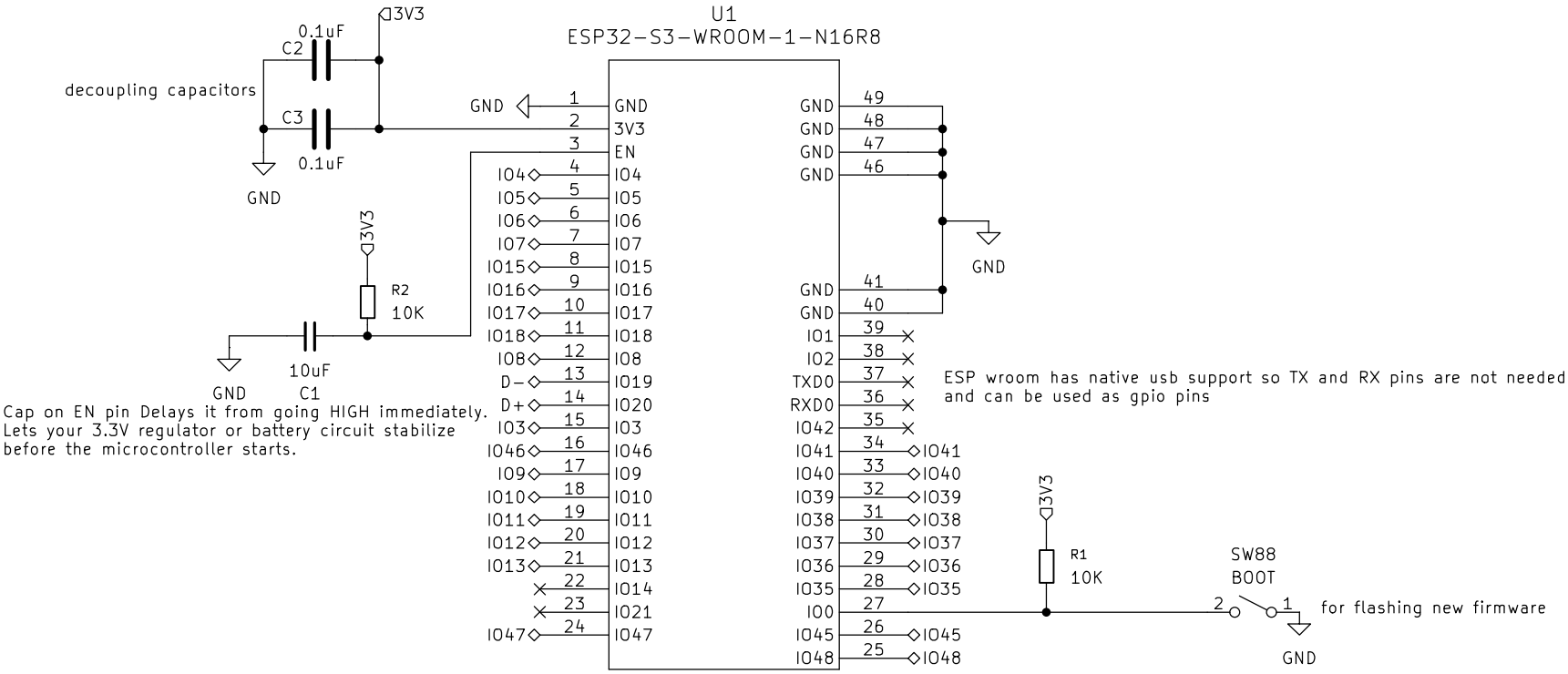
Under ideal condition:–
Lipo cell – 1000mah
Time for charging = 5 hours



LDO Regulator

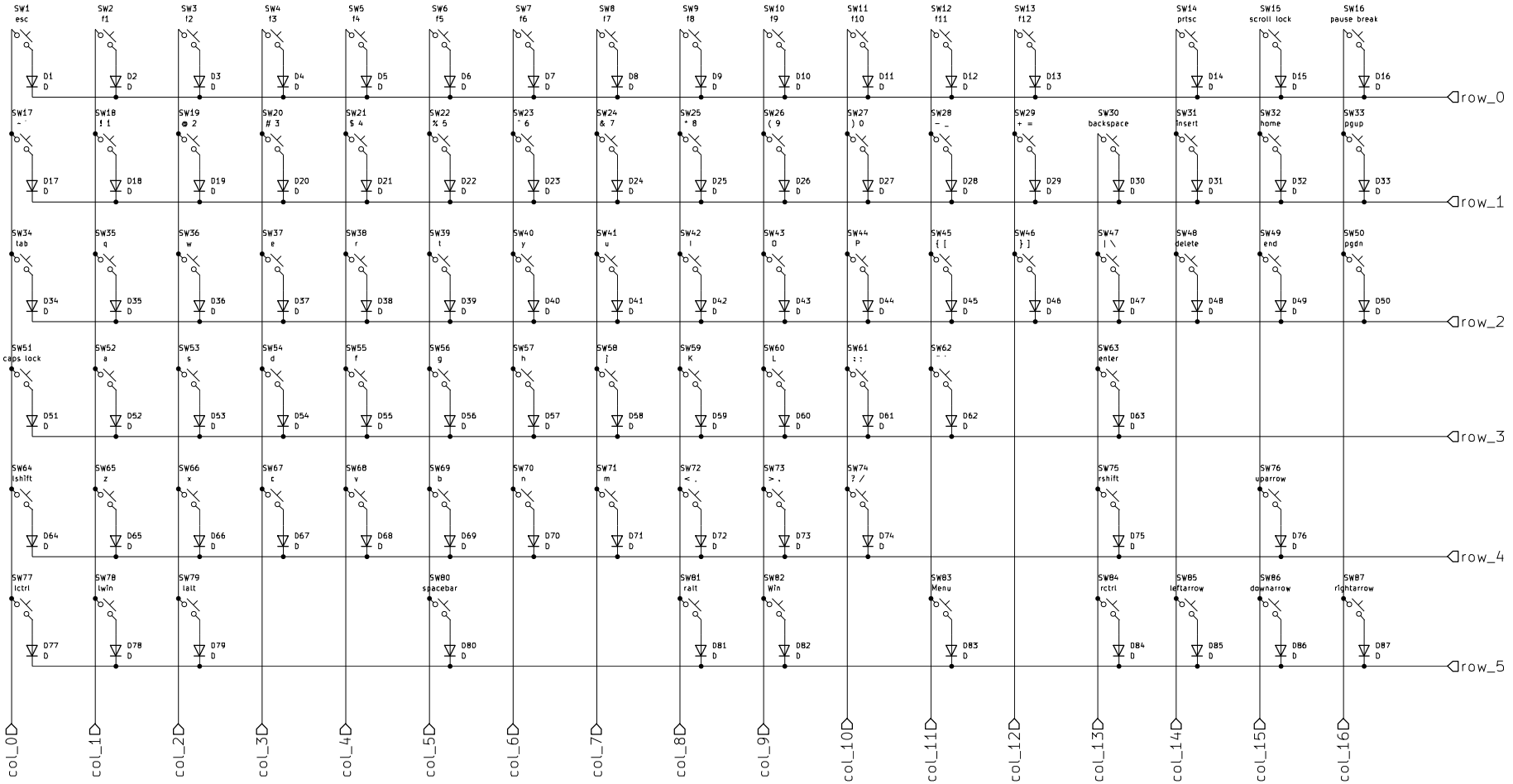


Microcontroller Unit



Keyboard Matrix

Choice for diode is 1N4148, its is cheap and widely available



Connecting each key to a separate GPIO pin is impractical for large keyboards, as it quickly exceeds available pins and complicates design. A keyboard matrix arranges keys in a grid of rows and columns. Each key connects a row to a column, allowing the microcontroller to scan keys using far fewer GPIOs—typically R + C instead of one per key.