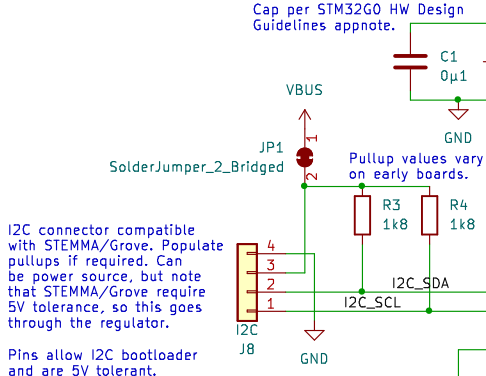


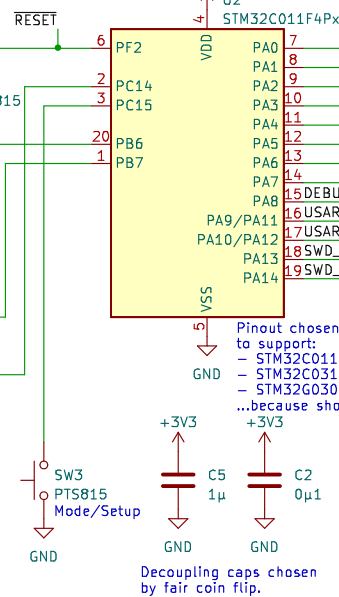
Independent power supply for running off external power. Can be bypassed using JP2 for powering from UART header.

Used this regulator because I had back stock from 2021, when it was among the only LDOs I could buy, it's total overkill for this board but, hey, if you need to power something off the board at 1A, you're set.



I2C connector compatible with STEMMA/Grove. Populate pullups if required. Can be power source, but note that STEMMA/Grove require 5V tolerance, so this goes through the regulator.  
Pins allow I2C bootloading and are 5V tolerant.

BOOT0 is on SWCLK on these parts, which effectively means BOOT0 is not available (and by default, it is not mapped in the option bits). This means it's not practical to recover from corrupted firmware w/o a SWD interface. On the up side, we can use any pin we want for boot select.

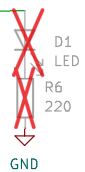


Pinout chosen carefully to support:  
- STM32C011  
- STM32C031  
- STM32G030  
...because shortages

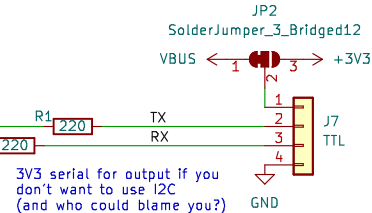
Decoupling caps chosen by fair coin flip.

Note: configuring PA0-7 as anything other than Open Drain with internal pullups is almost certainly a mistake when scanning a keyboard. (This is how you blow pin drivers.)

Intended for scanning a keypad matrix of up to 4x4 keys, but these are also a bunch of GPIO.

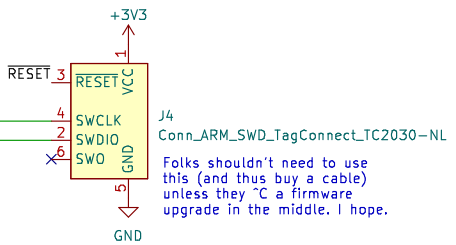


Used for bringup, not populated on later builds.



3V3 serial for output if you don't want to use I2C (and who could blame you?)

Resistors limit conflict current to 15 mA @ 3.3V. Data lines are 5V tolerant; if JP2 is overridden, power is \_not\_.



Folks shouldn't need to use this (and thus buy a cable) unless they 'C a firmware upgrade in the middle. I hope.

(C) 2023 Cliff L. Biffle

Sheet: /  
File: keybad.kicad\_sch

**Title: Keypad:GO! Revision 1**

Size: USLetter Date: 2023-10-13  
KiCad E.D.A. kicad 7.0.7

Rev: 1  
Id: 1/1