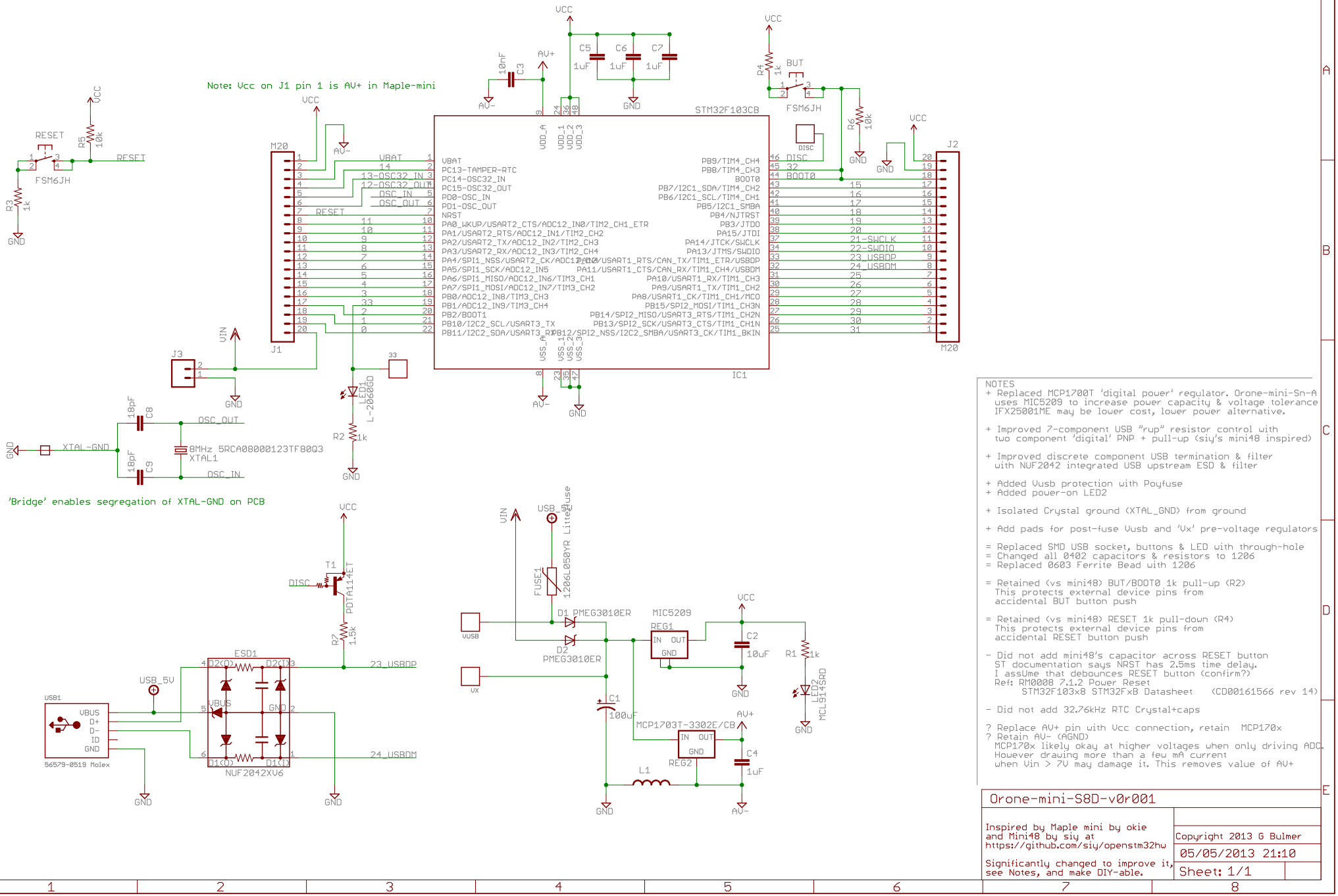


NOTES

+ Replaced MCP1700T 'digital power' regulator. Orone-mini-Sn-A uses MIC5209 to increase power capacity & voltage tolerance IFX25001ME may be lower cost, lower power alternative.

+ Improved 7-component USB "rup" resistor control with two component 'digital' PNP + pull-up (siy's mini48 inspired)

+ Improved discrete component USB termination & filter with NUF2042 integrated USB upstream ESD & filter

+ Added Vusb protection with Poyfuse
+ Added power-on LED2

+ Isolated Crystal ground (XTAL_GND) from ground

+ Add pads for post-fuse Vusb and 'Vx' pre-voltage regulators

= Replaced SMD USB socket, buttons & LED with through-hole
= Changed all 0402 capacitors & resistors to 1206
= Replaced 0603 Ferrite Bead with 1206

= Retained (vs mini48) BUT/BOOT0 1k pull-up (R2)
This protects external device pins from accidental BUT button push

= Retained (vs mini48) RESET 1k pull-down (R4)
This protects external device pins from accidental RESET button push

- Did not add mini48's capacitor across RESET button
ST documentation says NRST has 2.5ms time delay.
I assUme that debounces RESET button (confirm?)
Ref: RM0008 7.1.2 Power Reset
STM32F103x8 STM32FxB Datasheet (CD00161566 rev 14)

- Did not add 32.76kHz RTC Crystal+caps

? Replace AV+ pin with Vcc connection, retain MCP170x
? Retain AV- (AGND)
MCP170x likely okay at higher voltages when only driving ADC. However drawing more than a few mA current when Vin > 7V may damage it. This removes value of AV+

| | |
|---|---|
| Orone-mini-S8D-v0r001 | |
| Inspired by Maple mini by okie and Mini48 by siy at https://github.com/siy/openstm32hw | Copyright 2013 G Bulmer |
| | 05/05/2013 21:10 |
| Significantly changed to improve it, see Notes, and make DIY-able. | Sheet: 1/1 |