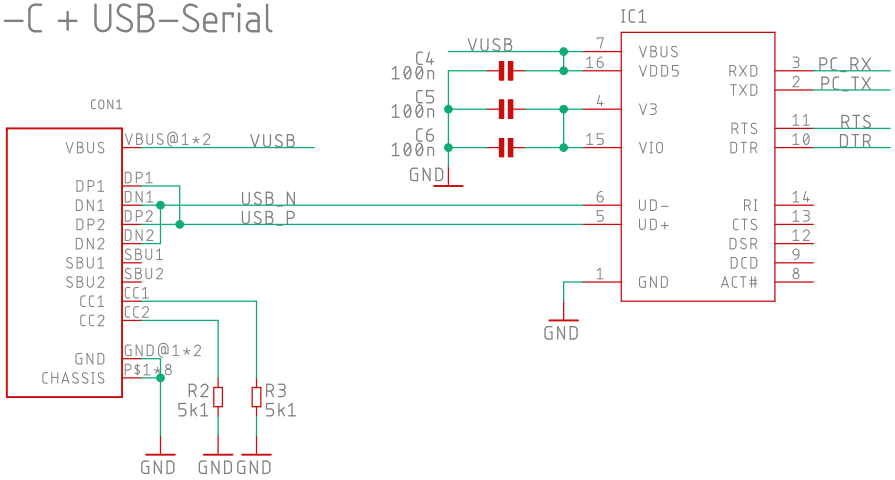
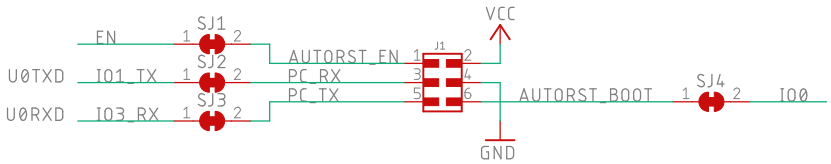
USB–C + USB–Serial

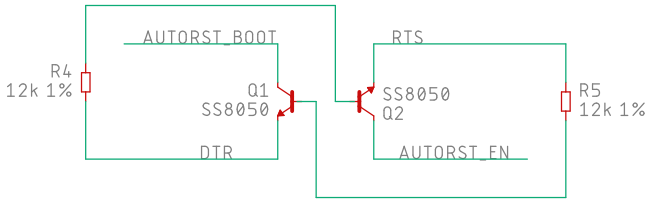


UART/ESP–Prog Header



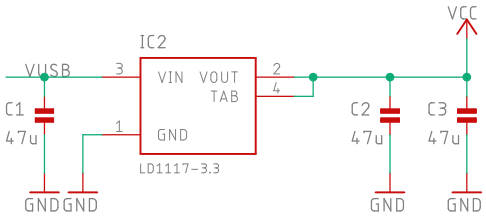
Cut solder jumpers to turn this into an ESP–PROG compatible programmer
(isolates the on–board ESP module and chip from CH343 UART)

ESP Auto–Reset

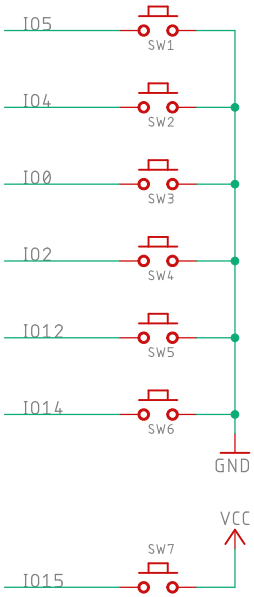


DTR	RTS	–>	Q1	Q2	EN	BOOT
1	1		on	on	1	1
0	0		off	off	1	1
1	0		on	off	0	1
0	1		off	on	1	0

5V –> 3.3V LDO

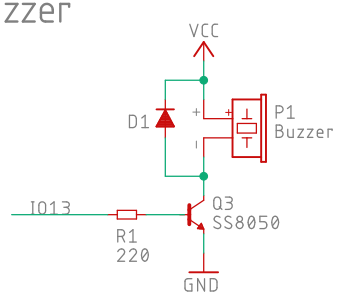


Pushbuttons

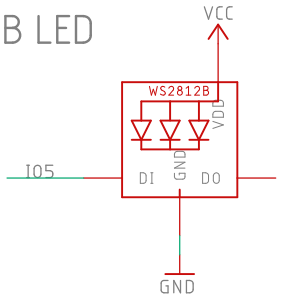


IO15 is a bootstrap pin that needs to be pulled
high at boot, hence the reason why it is different.

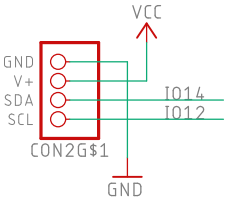
Piezo Buzzer



RGB LED



I2C Port



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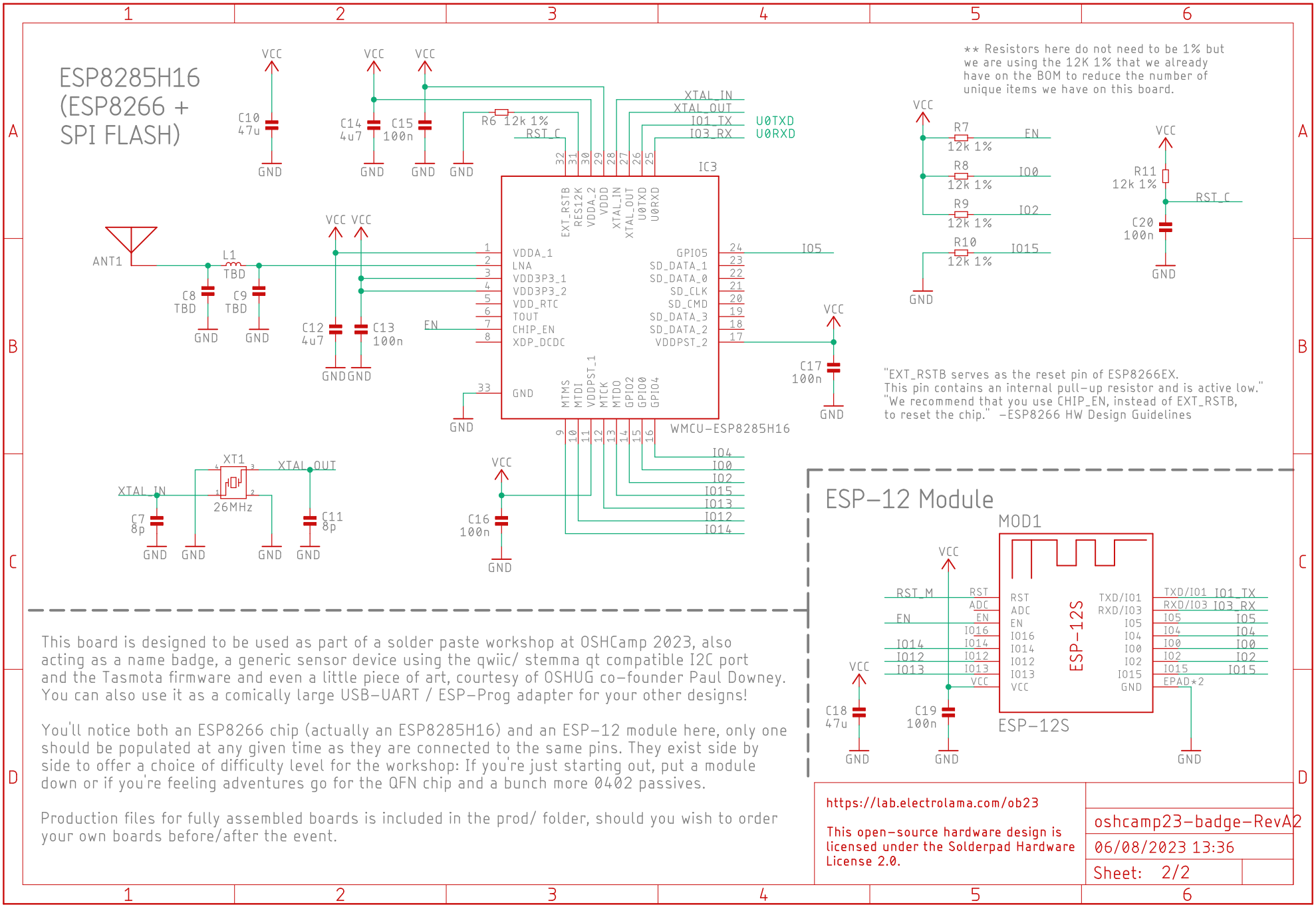
Sheet: 1/2	


ESP8285H16
(ESP8266 +
SPI FLASH)
** Resistors here do not need to be 1% but we are using the 12K 1% that we already have on the BOM to reduce the number of unique items we have on this board.
"EXT_RSTB serves as the reset pin of ESP8266EX.
This pin contains an internal pull-up resistor and is active low."
"We recommend that you use CHIP_EN, instead of EXT_RSTB, to reset the chip." -ESP8266 HW Design Guidelines
WMCU-ESP8285H16
ESP-12 Module
MOD1
ESP-12S
This board is designed to be used as part of a solder paste workshop at OSHCamp 2023, also acting as a name badge, a generic sensor device using the qwiic/ stemma qt compatible I2C port and the Tasmota firmware and even a little piece of art, courtesy of OSHUG co-founder Paul Downey. You can also use it as a comically large USB-UART / ESP-Prog adapter for your other designs!
You'll notice both an ESP8266 chip (actually an ESP8285H16) and an ESP-12 module here, only one should be populated at any given time as they are connected to the same pins. They exist side by side to offer a choice of difficulty level for the workshop: If you're just starting out, put a module down or if you're feeling adventures go for the QFN chip and a bunch more 0402 passives.
Production files for fully assembled boards is included in the prod/ folder, should you wish to order your own boards before/after the event.
https://lab.electrolama.com/ob23
This open-source hardware design is licensed under the Solderpad Hardware License 2.0.
oshcamp23-badge-RevA2
06/08/2023 13:36
Sheet: 2/2