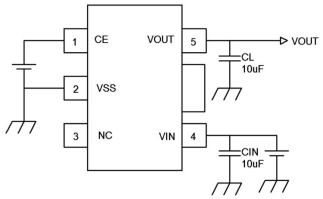


$$R_1 = \frac{(V_{OUT} - V_{REF}) \times R_2}{V_{REF}} \quad (1)$$

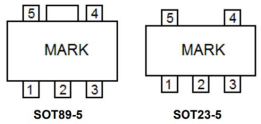
where:

- V_{REF} is the feedback reference voltage, typical 0.8V

Table 3. Feedback Resistor Value for Output Voltage

Table 3. Feedback Resistor Value for Output Voltage

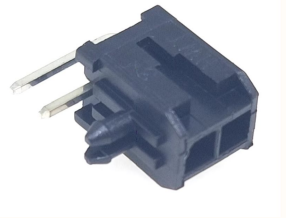
Vout	L1	COUT	R1	R2	R3	R5	C8
3.3V	6.5uH	3*22uF	93.5k	30k	49.9	2k	68p
5V	10uH	3*22uF	158k	30k	49.9	2k	68p
12V	22uH	3*22uF	422k	30k	49.9	2k	330p



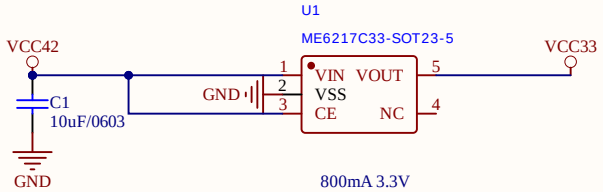
SOT89-5 SOT23-5

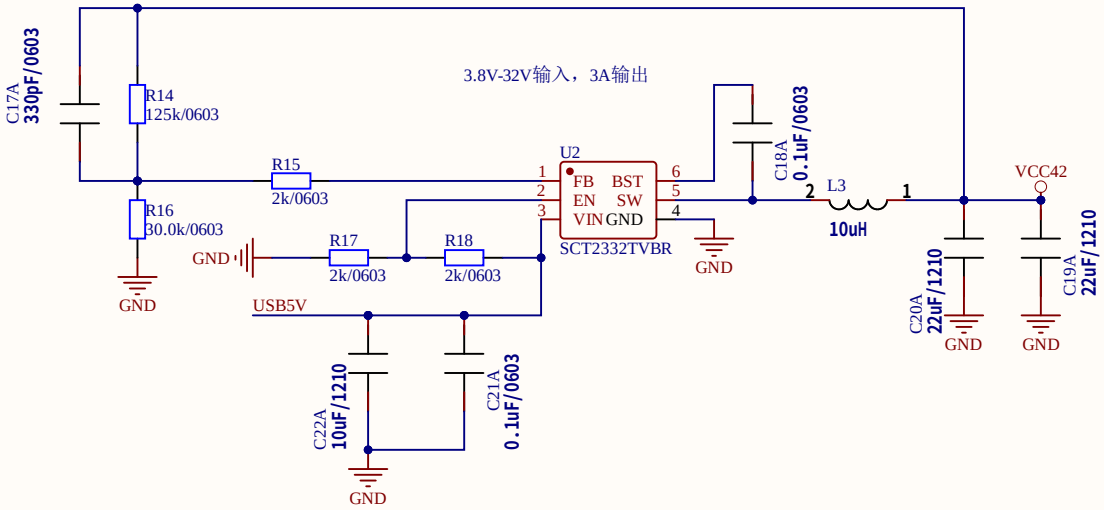
Pin Assignment

Pin Num		Symbol	Function
SOT89-5	SOT23-5		
1	3	CE	ON / OFF Control
2	2	V_{SS}	Ground
3	4	NC	No Connect
4	1	V_{IN}	Input Voltage
5	5	V_{OUT}	Output Voltage



南京微盟：http://www.microne.com.cn/product/23.html





Vout:93.5k-3.3v;93.1k-3.28v

芯洲科技 Vout:113k-3.8v;120k-4.0v;127k-4.2v；125k-4.13v

https://www.silicontent.com/uploads/admin/file/20220509/20220509144229_42598.pdf

https://easyeda.com/component/692789298457413191 3d5314f43f1f05

https://item.taobao.com/item.htm?abbucket=8&id=677857250084&ns=1&spm=a21n57.1.item.53.6a77523coXnXqK

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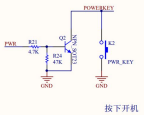
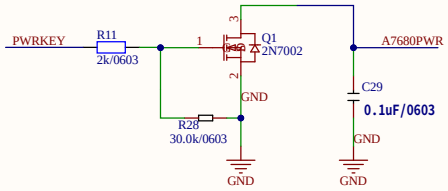
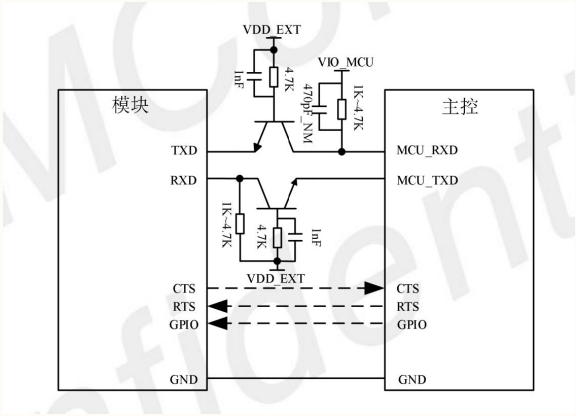
https://www.waveshare.com/w/upload/c/c8/SIM7600E-H-4G-HAT-Schematic.pdf

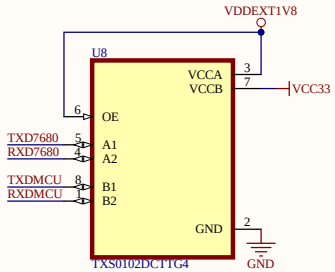


KEY

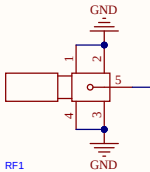


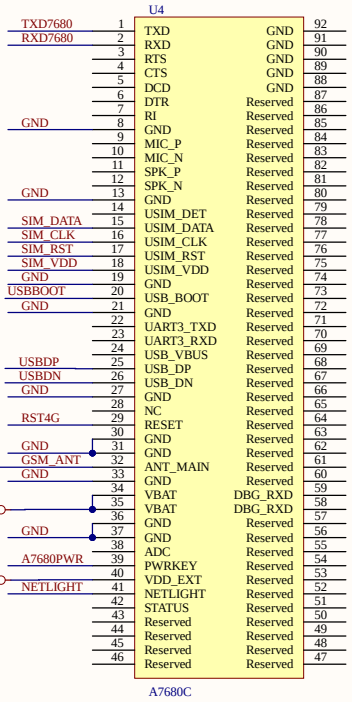
使用双路2N7002芯片，实现PWRKEY和RESET控制

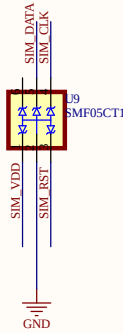


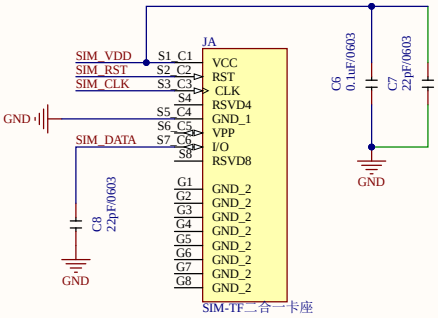


TXS0102可以用于高速串口，比三极管搭的快









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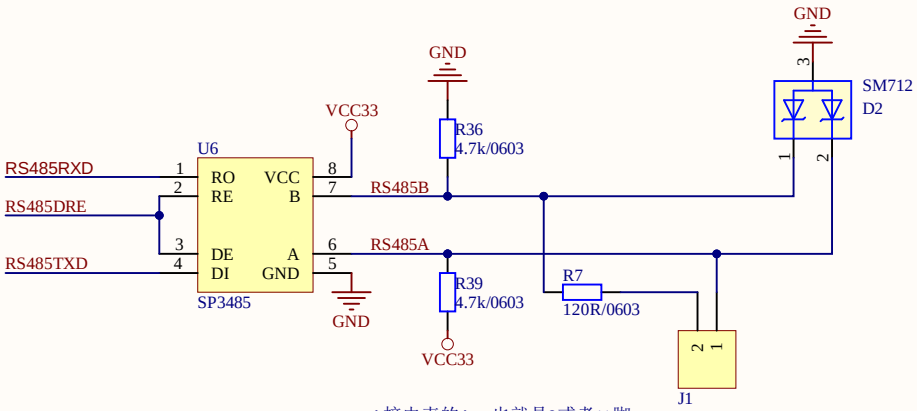
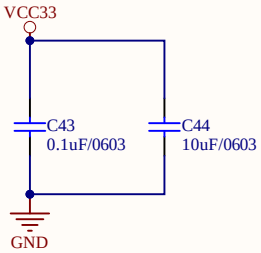
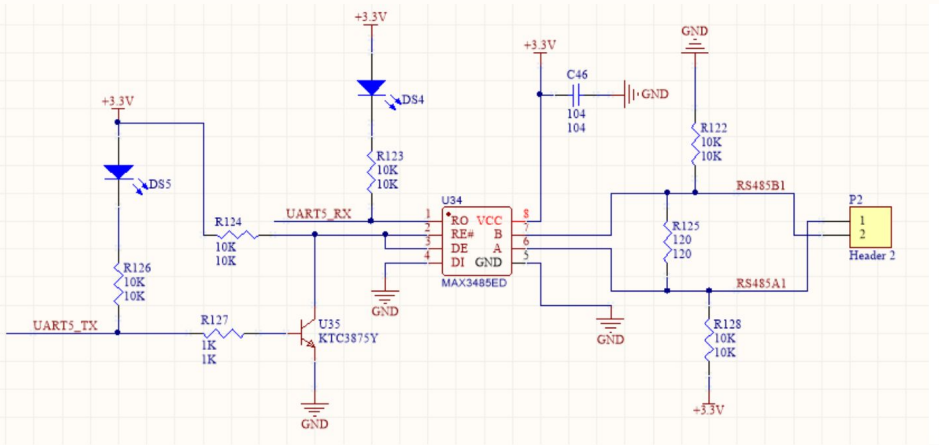


A接电表的A，也就是9或者11脚
B接电表的B，也就是10或者12脚



参考电路：https://components101.com/ics/sp3485-half-duplex-rs485-tra

这个是emodbus库推荐电路：https://github.com/eModbus/eModbus/discussions/112



RS485自动收发电路，波特率不能太高。https://blog.csdn.net/qq_33954661/article/details/124884201

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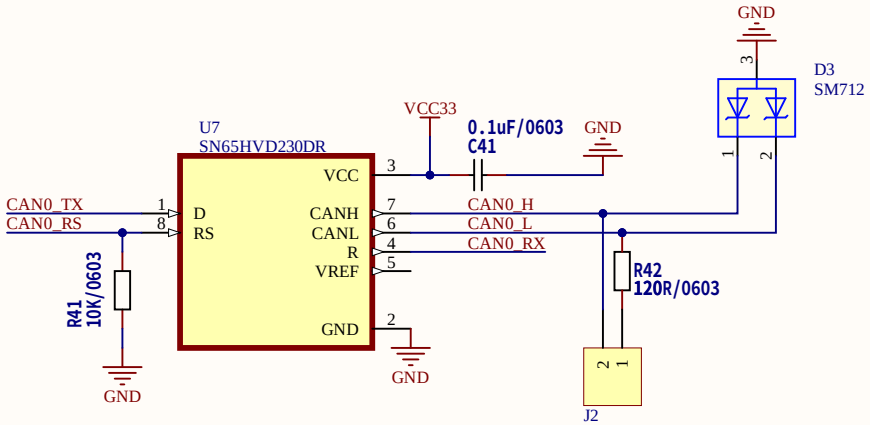

https://item.taobao.com/item.htm?ali_refid=a3_420434_1006:1110674771:N:DX2zgsJH%20SkPV%200jSWdjCA==:e5badb2c1c3f2760ff6477d404e44136&ali_trackid=1_e5badb2c1c3f2760ff6477d404e44136&id=607781739803&sku_properties=1627207:3419922;-2:-2&spm=a21n57.1.0.0

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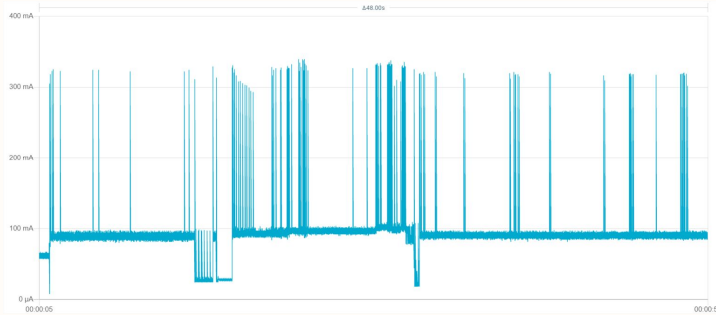
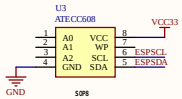
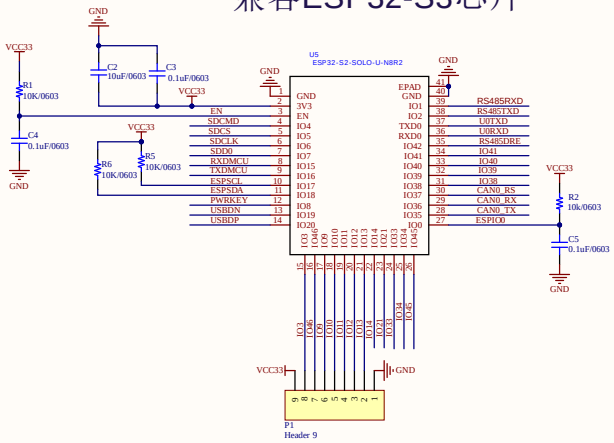


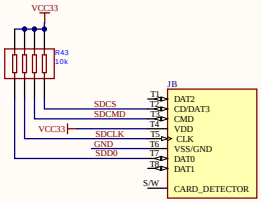
工作模式	最小值	典型值	最大值	单位
发送 802.11b，DSSS 1 Mbps，POUT = +19.5 dBm	—	240	—	mA
发送 802.11g，OFDM 54 Mbps，POUT = +16 dBm	—	190	—	mA
发送 802.11n，OFDM MCS7，POUT = +14 dBm	—	180	—	mA
接收 802.11b/g/n	—	95 ~ 100	—	mA
发送 BT/BLE，POUT = 0 dBm	—	130	—	mA
接收 BT/BLE	—	95 ~ 100	—	mA

MCU



兼容ESP32-S3芯片





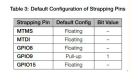


Table 3: Default Configuration of Strapping Pins

Strapping Pin	Default Config	Bit Value
MTMS	Floating	–
MTDI	Floating	–
GPIO0	Floating	–
GPIO9	Pull-up	1
GPIO15	Floating	–

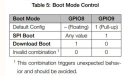
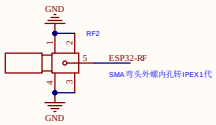
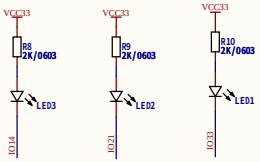


Table 5: Boot Mode Control

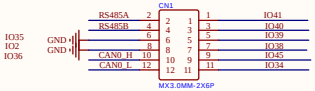
Boot Mode	GPIO8	GPIO9
Default Config	– (Floating)	1 (Pull-up)
SPI Boot	Any value	1
Download Boot	1	0
Invalid combination [1]	0	0

[1] This combination triggers unexpected behavior and should be avoided.

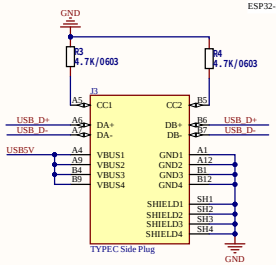




LED的封装要修改，贴片不好焊接

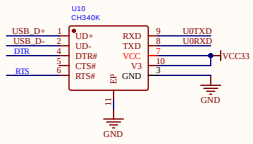


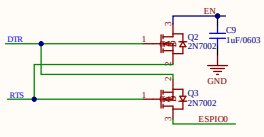
ESP32-S2和ESP32-S3兼容



这个封装必须要修改。太贵了。

Programming





Auto program

DTR	RTS-->EN	IO0
1	1	1
0	1	1
1	0	1
0	1	0

https://github.com/OLIMEX/ESP32-S2-DevKit-LiPo/blob/main/HARDWARE/ESP32-S2-DevKit-Lipo-Rev.B1/ESP32-S2-DevKit-Lipo_Rev_B1.pdf

设计参考：日本人人设计的Nmosfet电路，可用于MAC电脑。https://www.tindie.com/products/makerfabs/esp32-programmer-usb2uart-ch340k/

https://en.kohacraft.com/archives/make-a-circuit-using-ch340c-for-esp32-writingsuccess.html

https://en.kohacraft.com/archives/make-a-circuit-using-ch340k-for-esp32-writing-failed.html

https://item.taobao.com/item.htm?abbucket=8&id=645371264157&ns=1&sku_properties=1627207:22096496743&spm=a21n57.1.item.1.71b2523c1yKr0E

https://www.espressif.com/sites/default/files/documentation/esp32-s2-solo_esp32-s2-solo-u_datasheet_cn.pdf

由于主动模式使一切（尤其是WiFi模块、处理核心和蓝牙模块）始终保持开启状态，因此芯片需要240mA以上的电流才能工作。我们还观察到，如果同时使用WiFi和蓝牙功能，有时会出现高功率峰值（最大为790mA）。

PWRKEY刚好需要高电平

https://en.kohacraft.com/archives/make-a-circuit-using-ch340k-for-esp32-writing-failed.html

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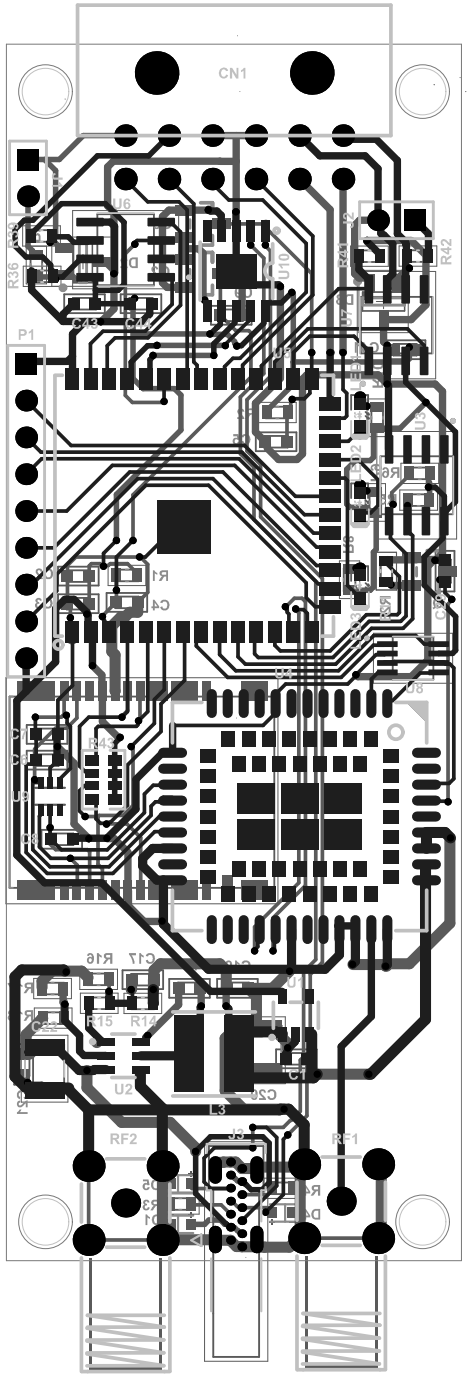
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P1
U6
U10
U2
L3
RF2
RF1
R36
R42
R16
R15
R14
C17
C20