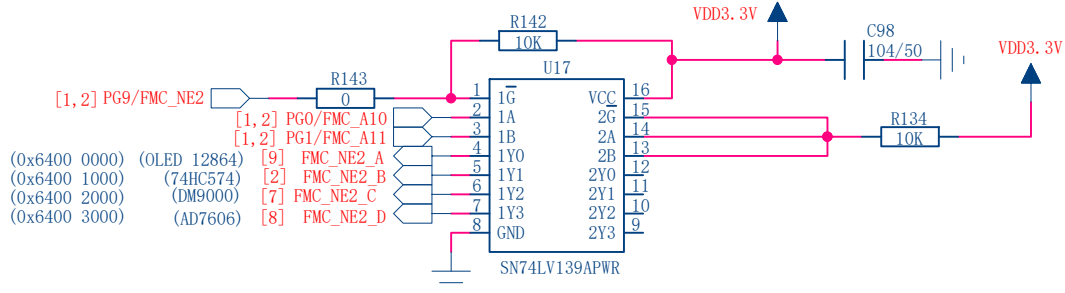
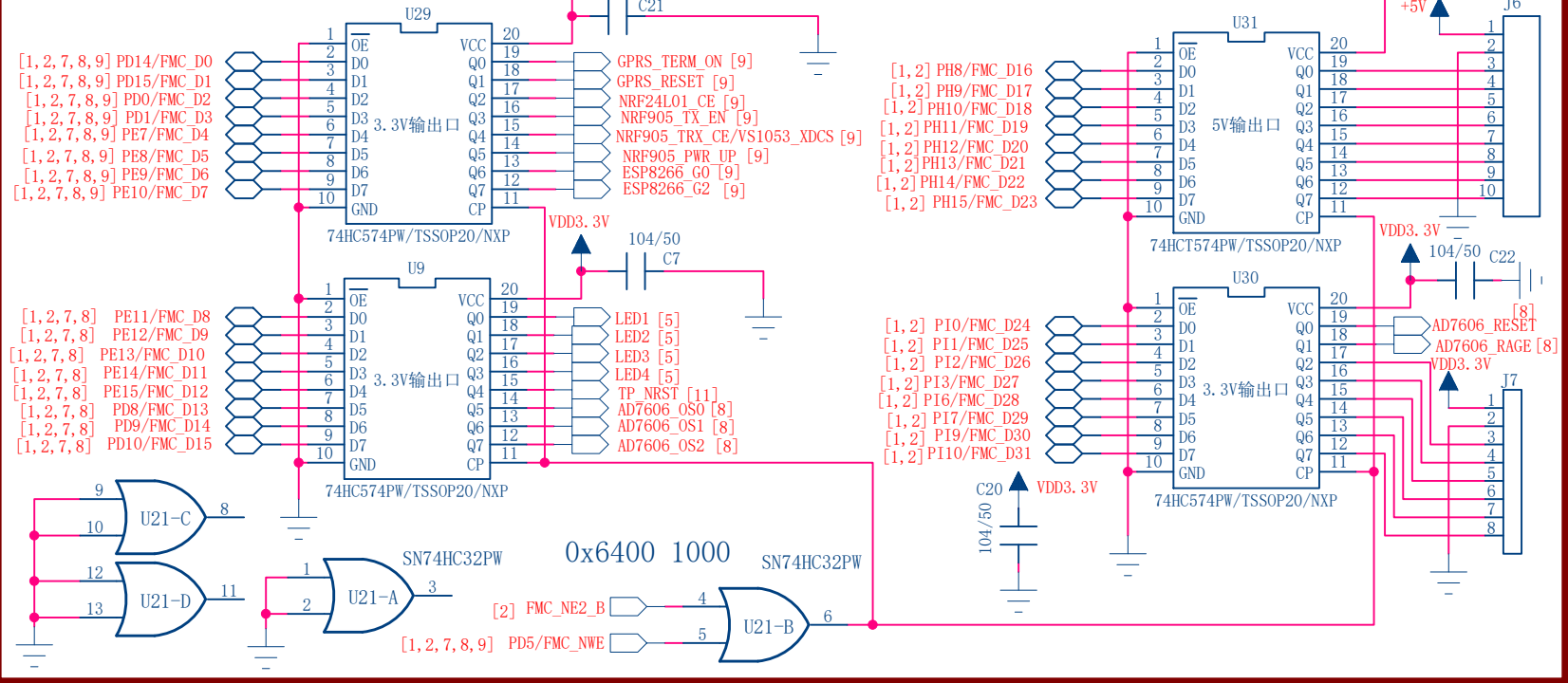


地址译码器



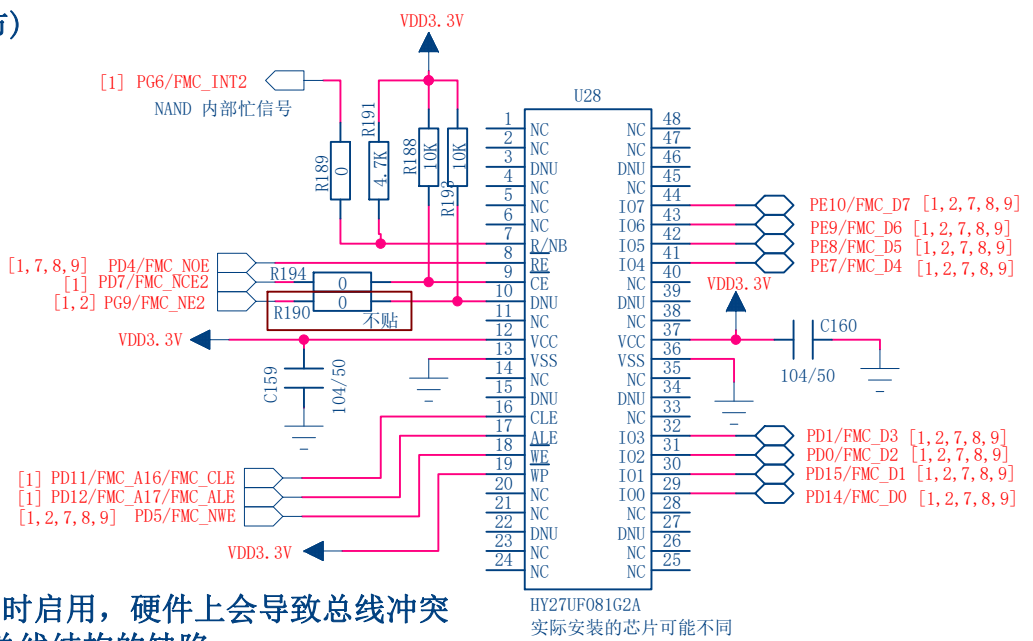
输出IO扩展电路

24个3.3V输出口 + 8个5V输出口



NAND FLASH(128M字节)

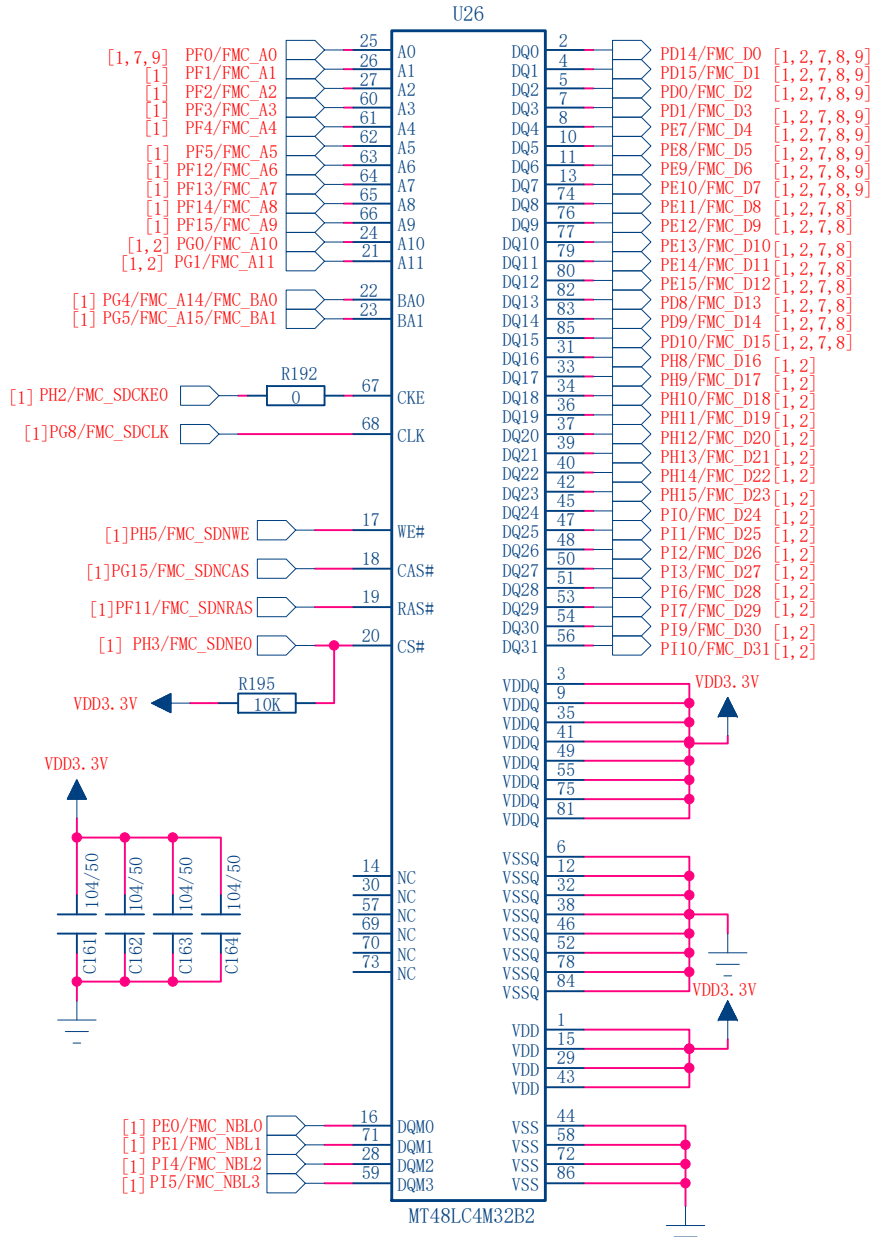
0x7000 0000



特别注意:

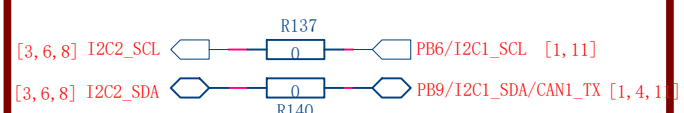
NAND 和 LCD 不能同时启用, 硬件上会导致总线冲突
这是STM32F429/439总线结构的缺陷

SDRAM (16M字节 总线宽度32位) 0xC0000000

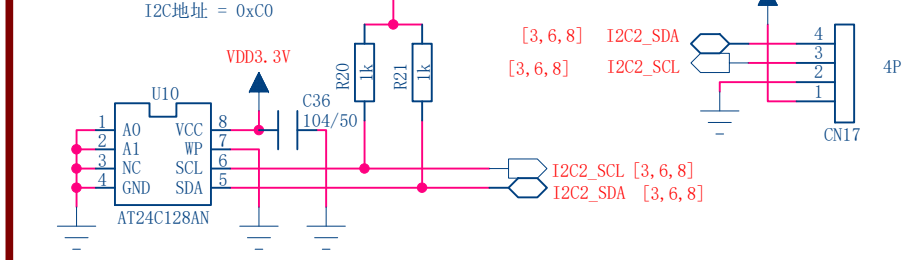


COMPANY: 武汉安富莱电子有限公司 www.armfly.com			
TITLE: 【安富莱】STM32-V6开发板原理图 D060-2			
SIZE: A3	SHEET NAME: [2]SDRAM_NAND_IO		REV: 1.0
DRAWN BY: armfly	DATE: 2015/12/12 星期六	SHEET: 2 OF 11	

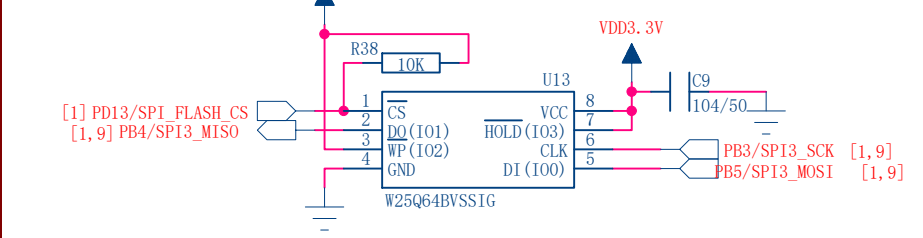
I2C口线



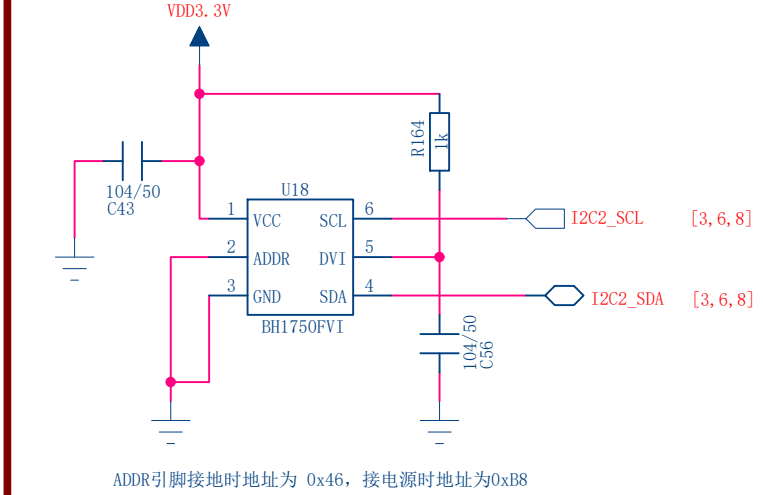
串行EEPROM（16K字节）



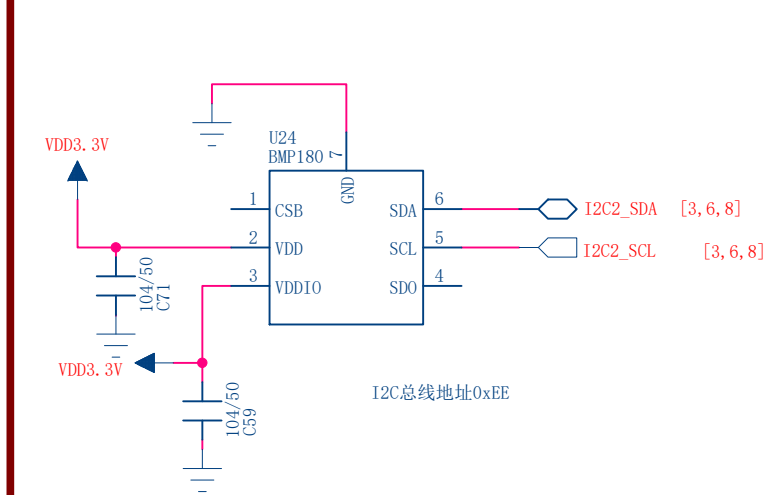
SPI串行Flash



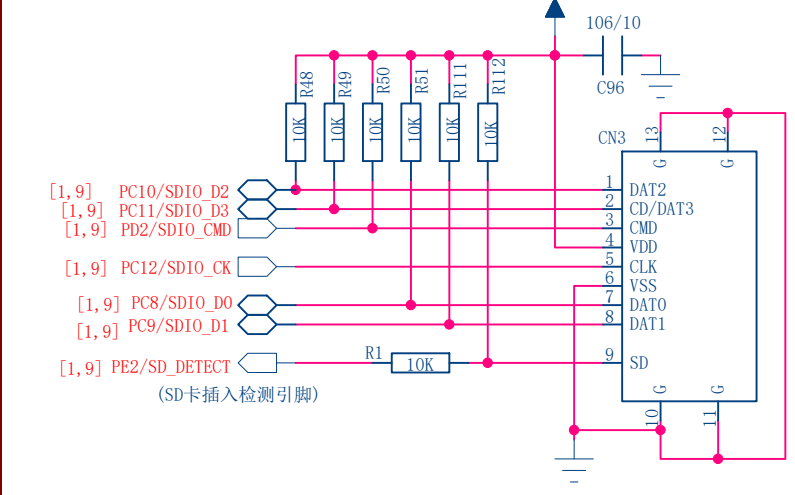
光照度传感器



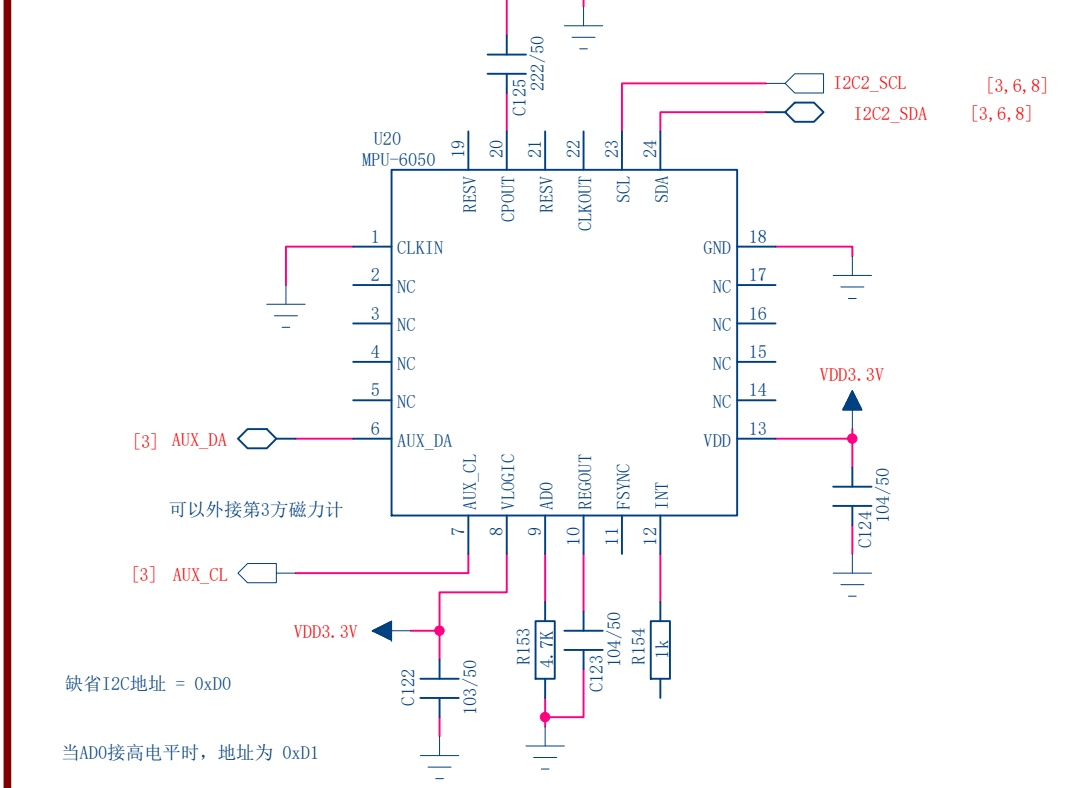
气压传感器（带温度）



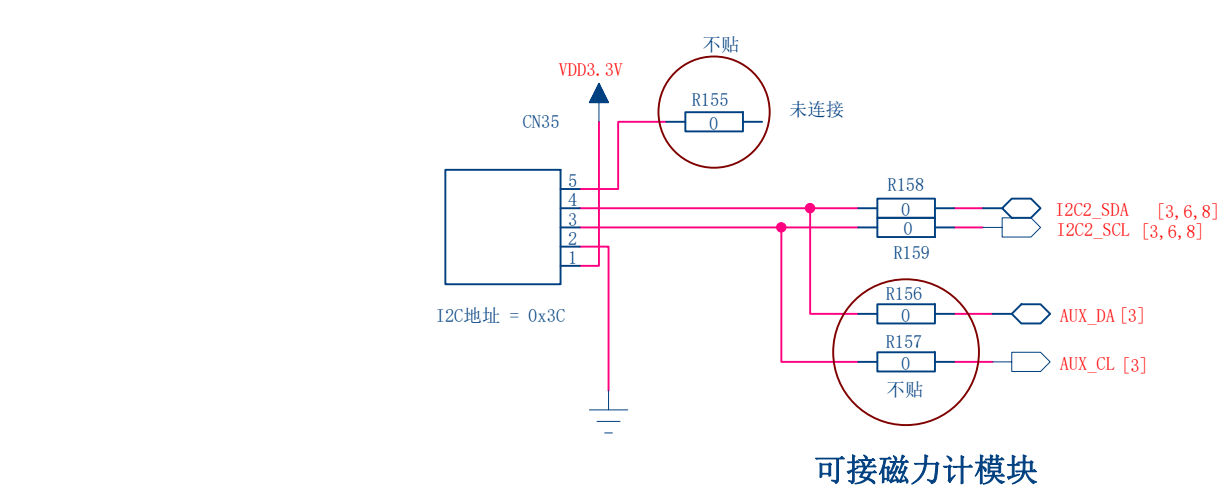
Micro SD 卡座



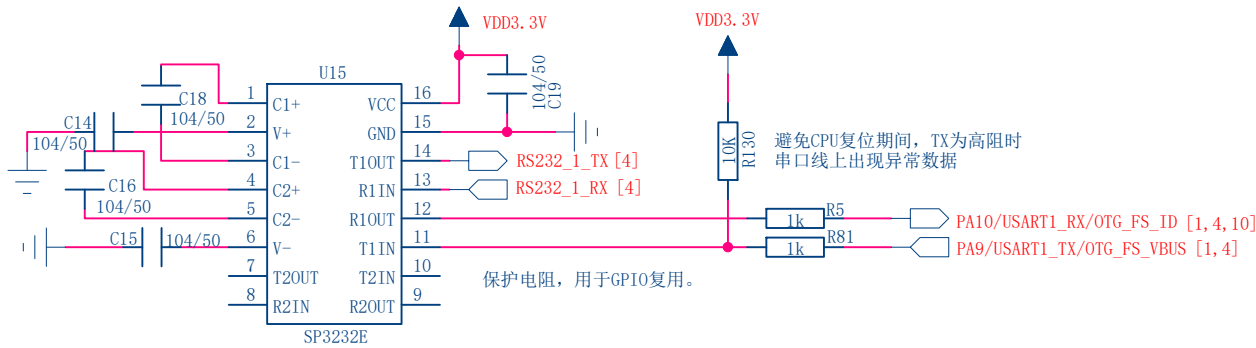
三轴陀螺仪和加速度计



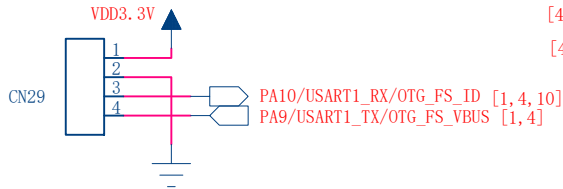
三轴磁力计（电子指南针）接口



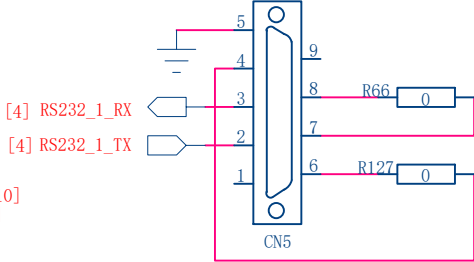
RS232串口 (USART1)



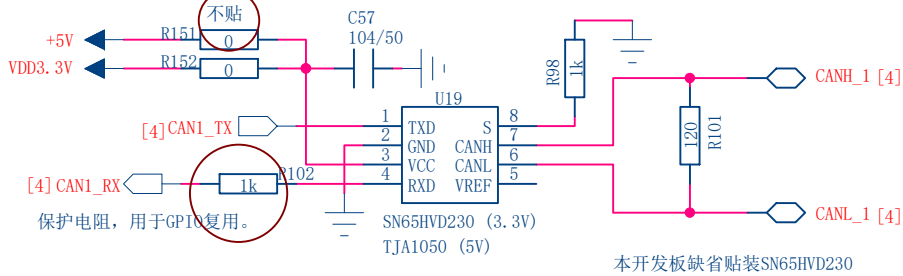
TTL串口排针



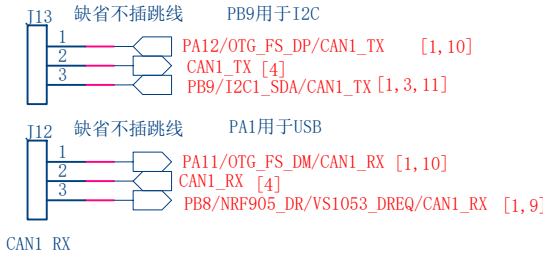
DB9插座, 9孔



CAN接口1

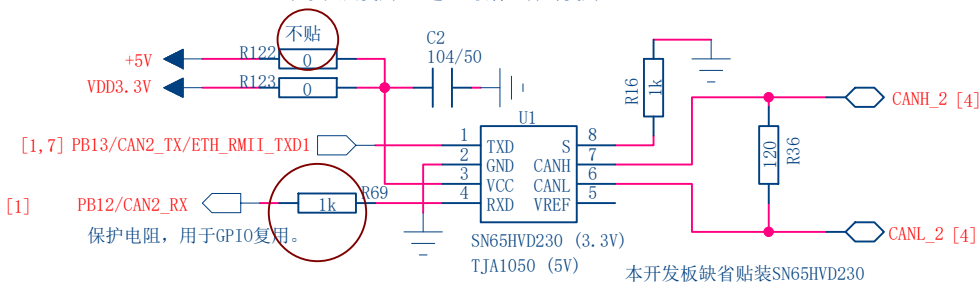


CAN1 TX

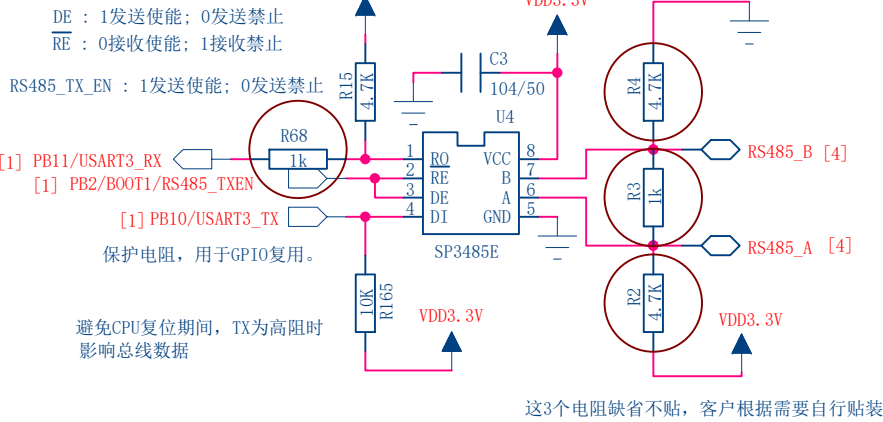


CAN接口2

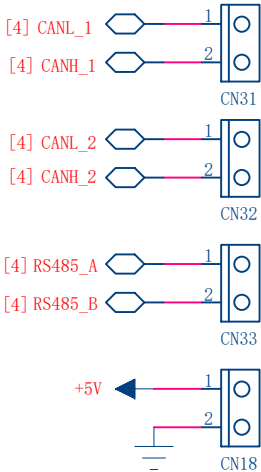
CAN2和以太网复用, 2选1. 软件上分时复用



RS485 (USART3)



KF128 接线端子



COMPANY:

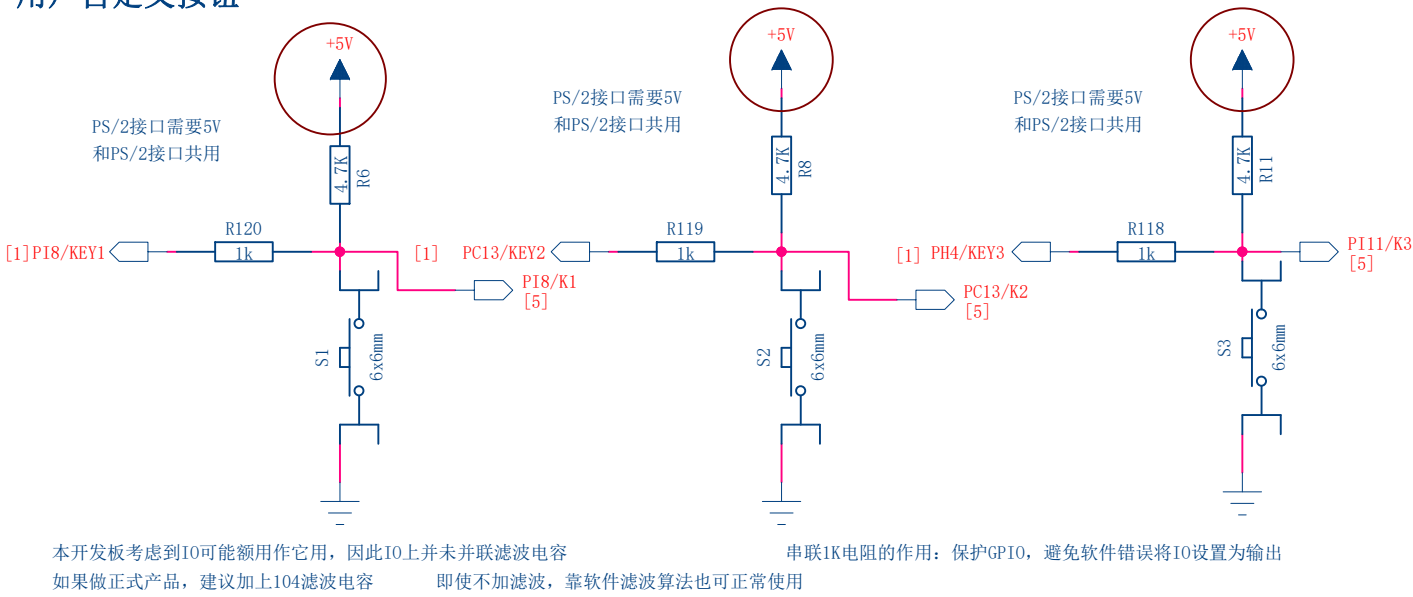
武汉安富莱电子有限公司 www.armfly.com

TITLE: 【安富莱】STM32-V6开发板原理图 D060-2

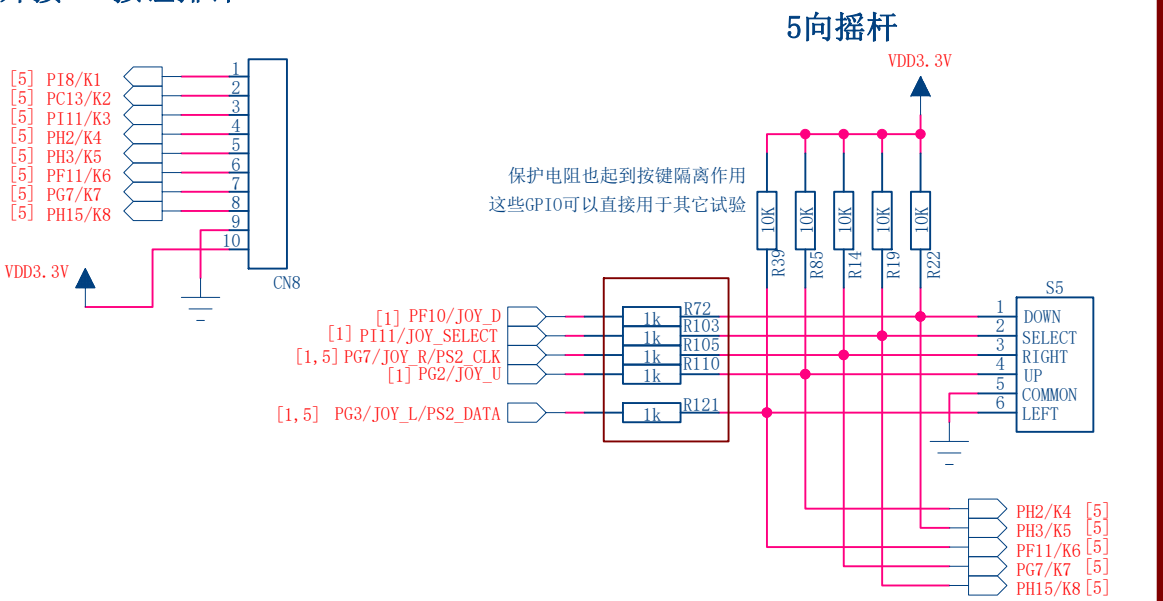
SIZE: A3 SHEET NAME: [4]RS232_RS485_CAN REV: 1.0

DRAWN BY: armfly DATE: 2015/12/12 星期六 SHEET: 4 OF 11

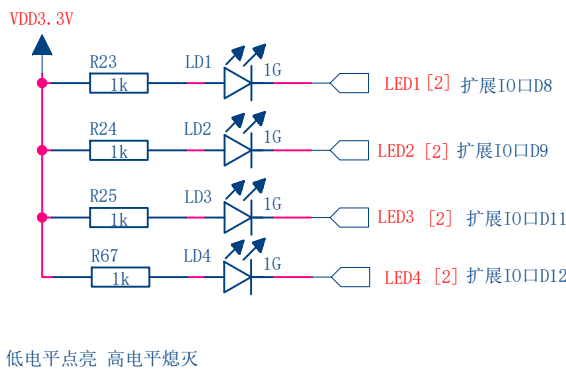
用户自定义按钮



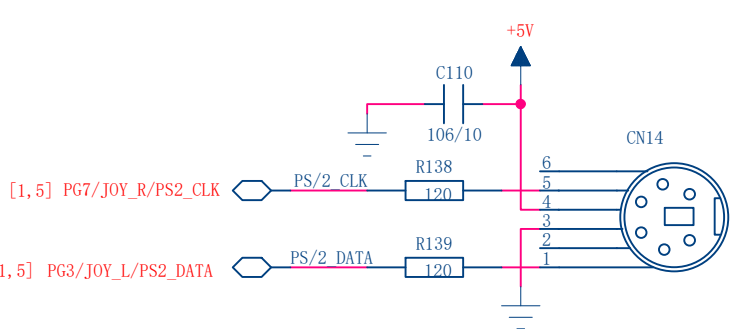
外接10P按钮排针



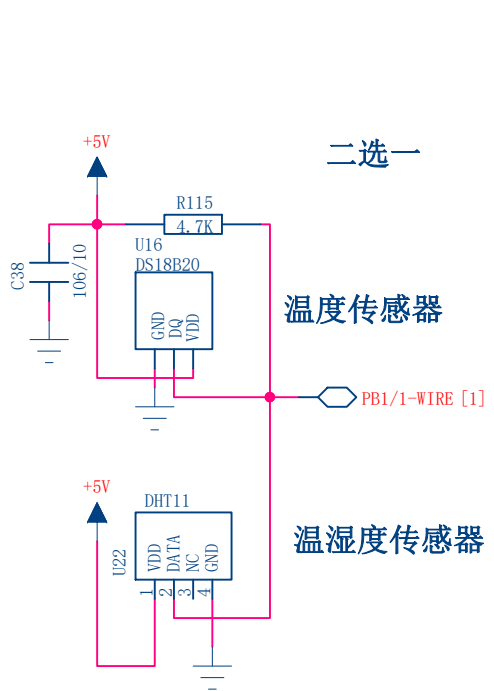
用户自定义LED指示灯



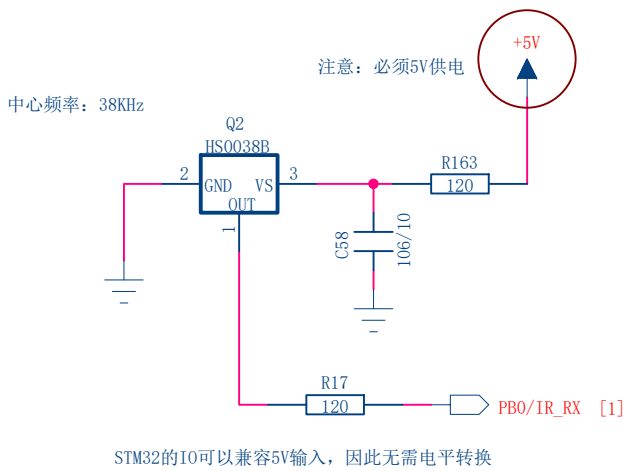
PS/2接口 可连接键盘，鼠标，扫描枪



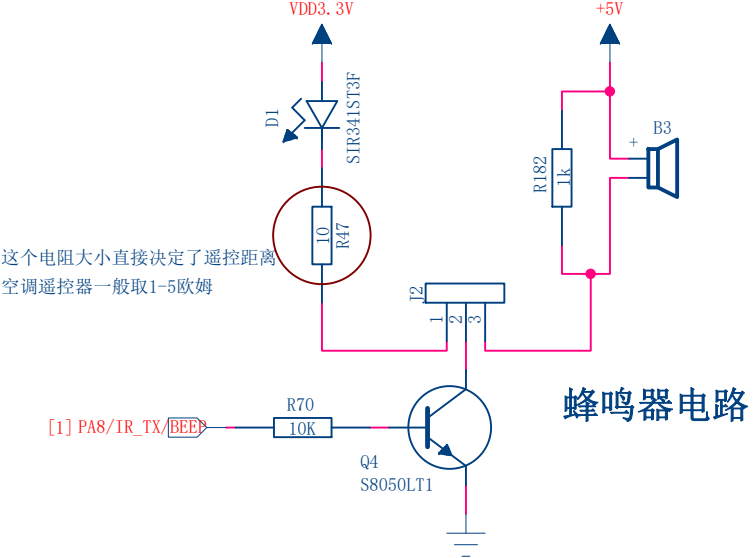
1-WIRE接口



红外接收

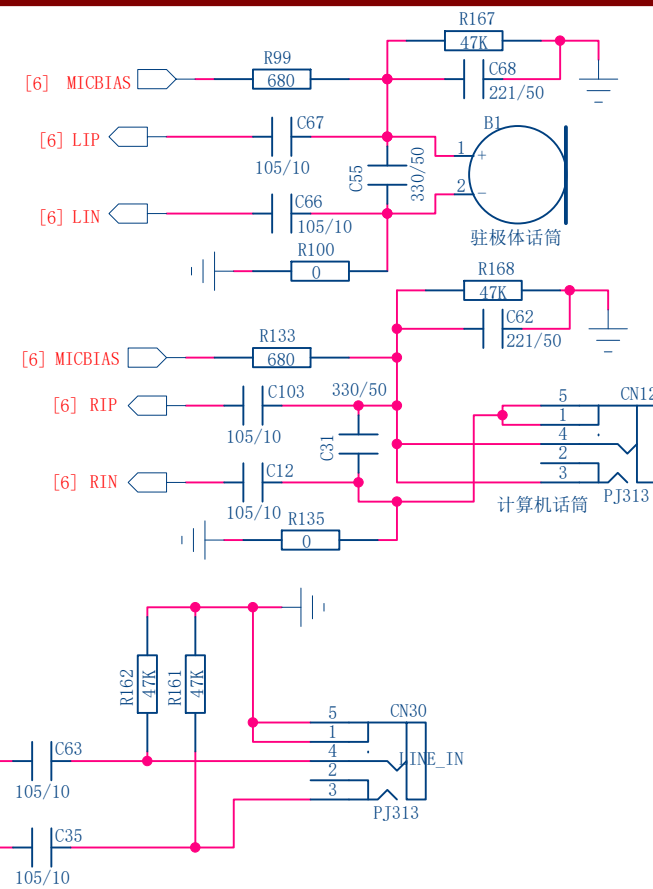
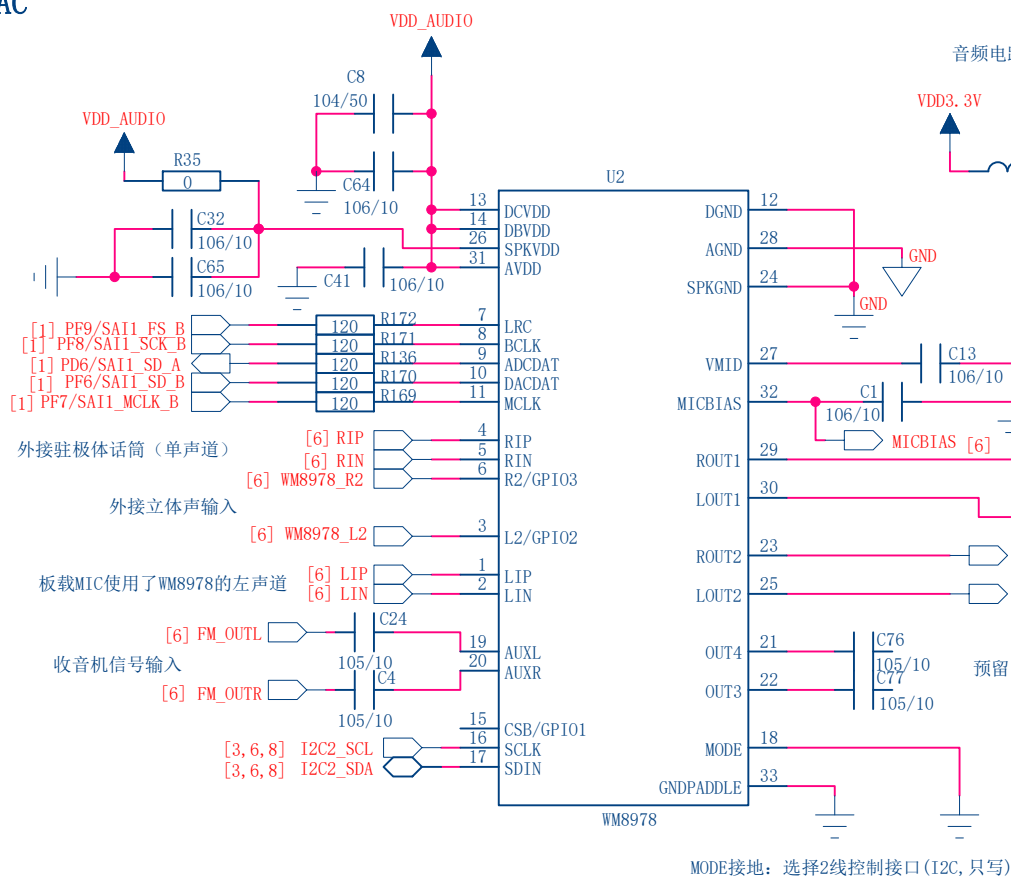


红外发射

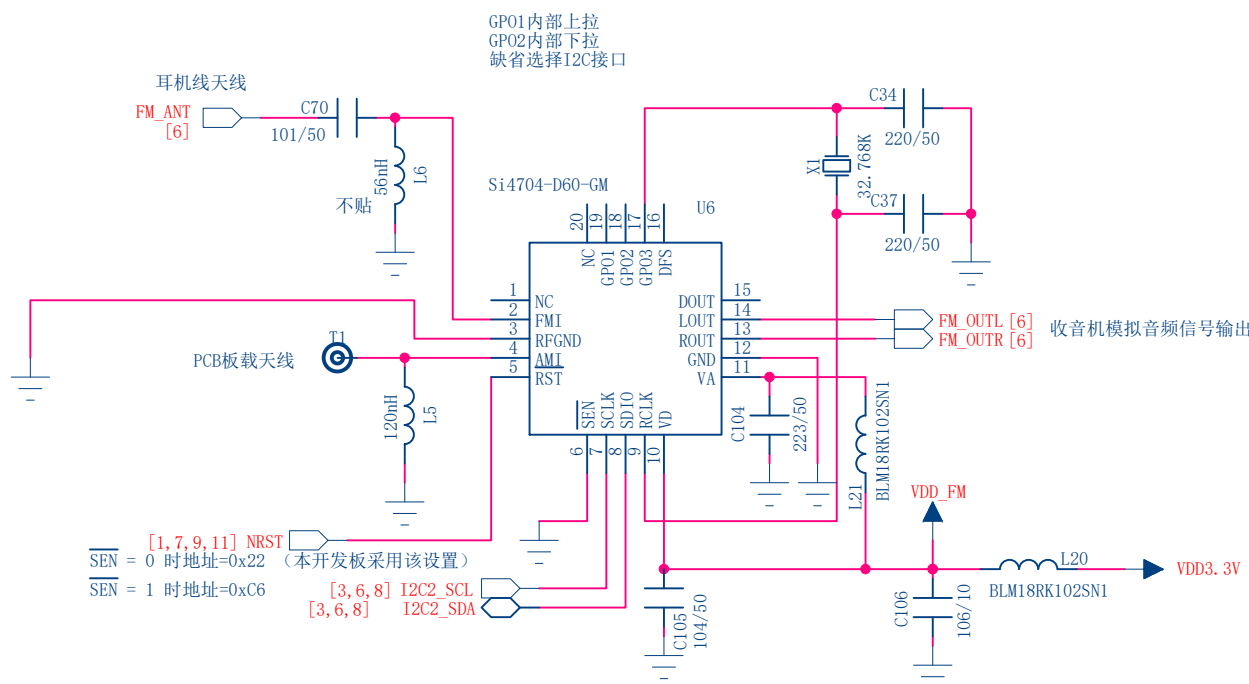


蜂鸣器电路

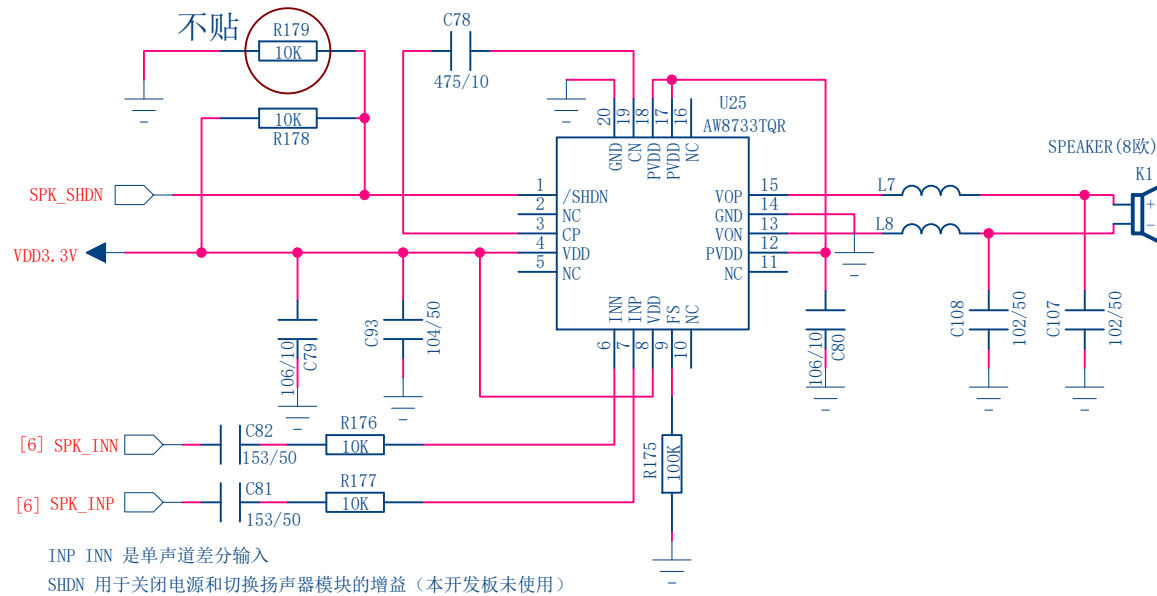
I2S音频DAC



FM收音机模块



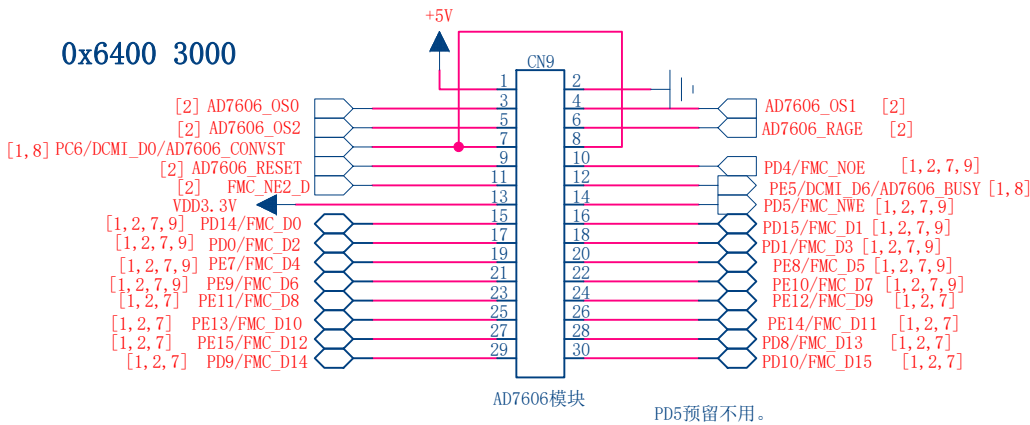
AW8733功放模块排针接口



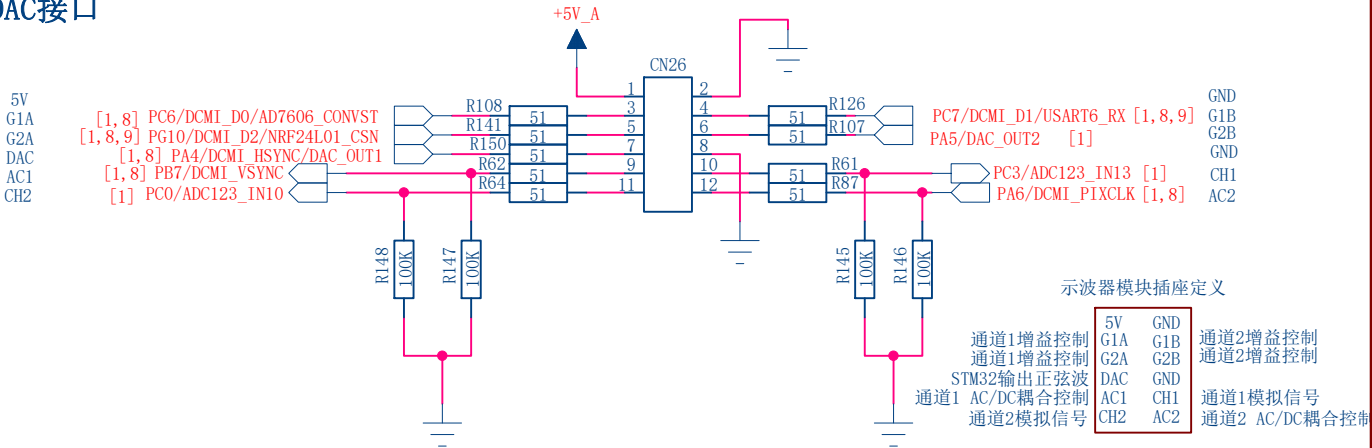
COMPANY: 武汉安富莱电子有限公司 www.armfly.com			
TITLE: 【安富莱】STM32-V6开发板原理图 D060-2			
SIZE: A3	SHEET NAME: [6]WM8978_FM_SPK	REV: 1.0	
DRAWN BY: armfly	DATE: 2015/12/12 星期六	SHEET: 6 OF 11	

AD7606_8通道16位ADC模块接口

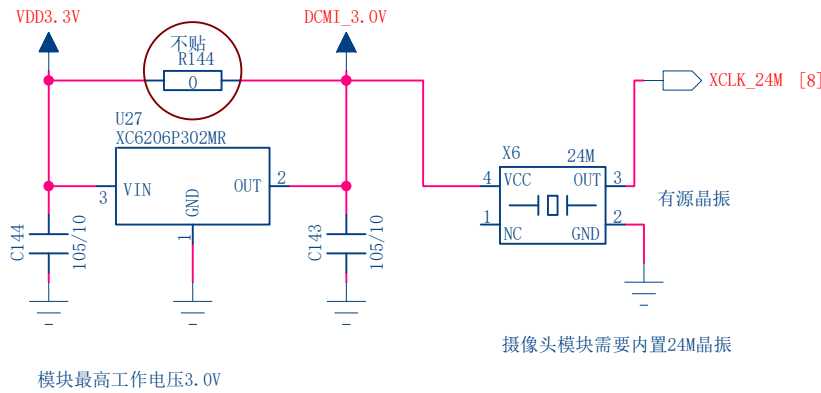
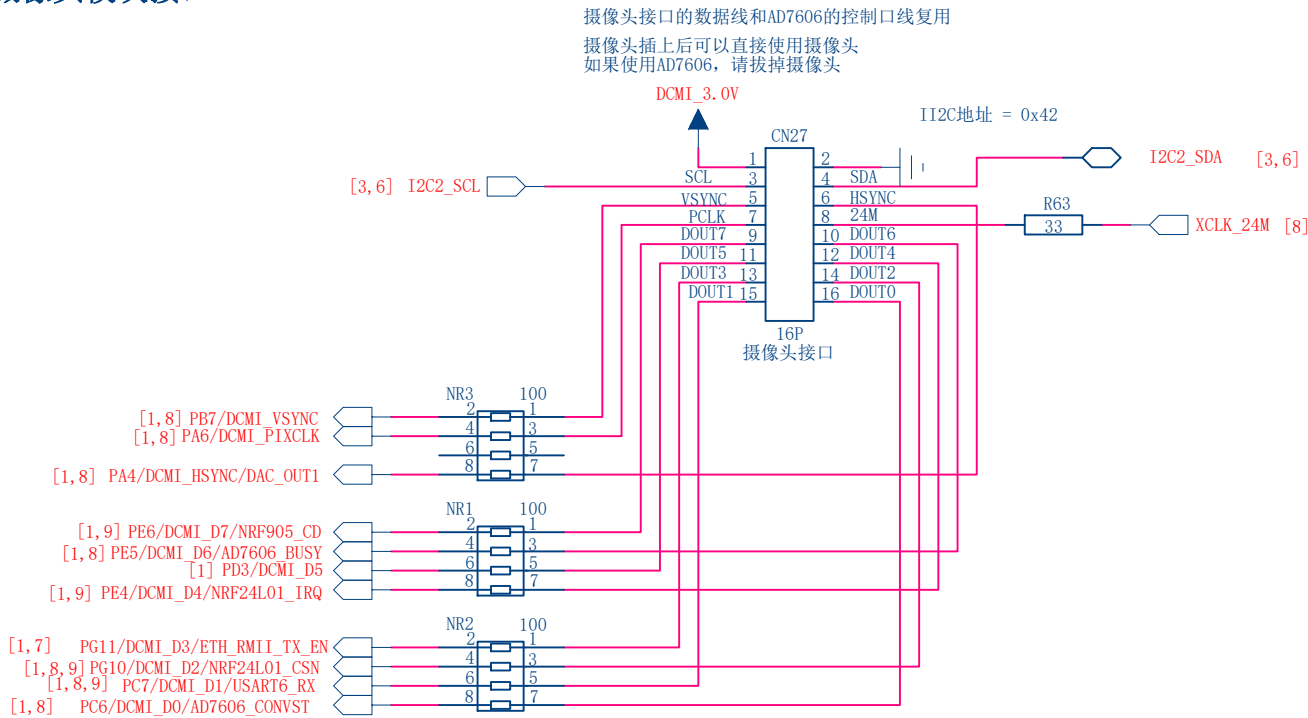
0x6400 3000



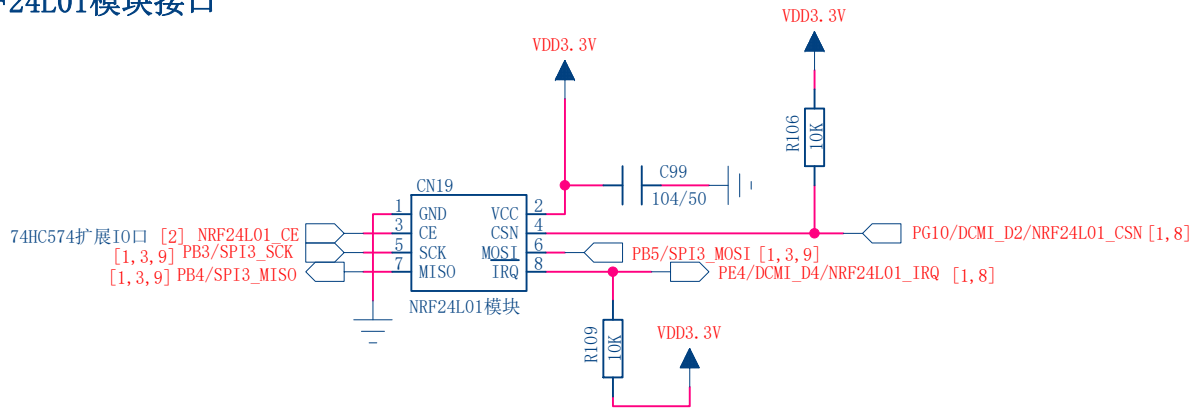
ADC_DAC接口



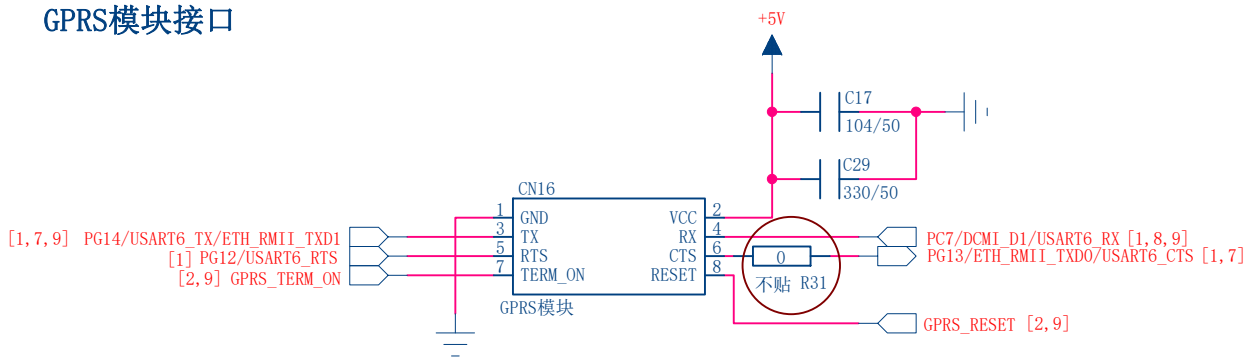
摄像头模块接口



NRF24L01模块接口



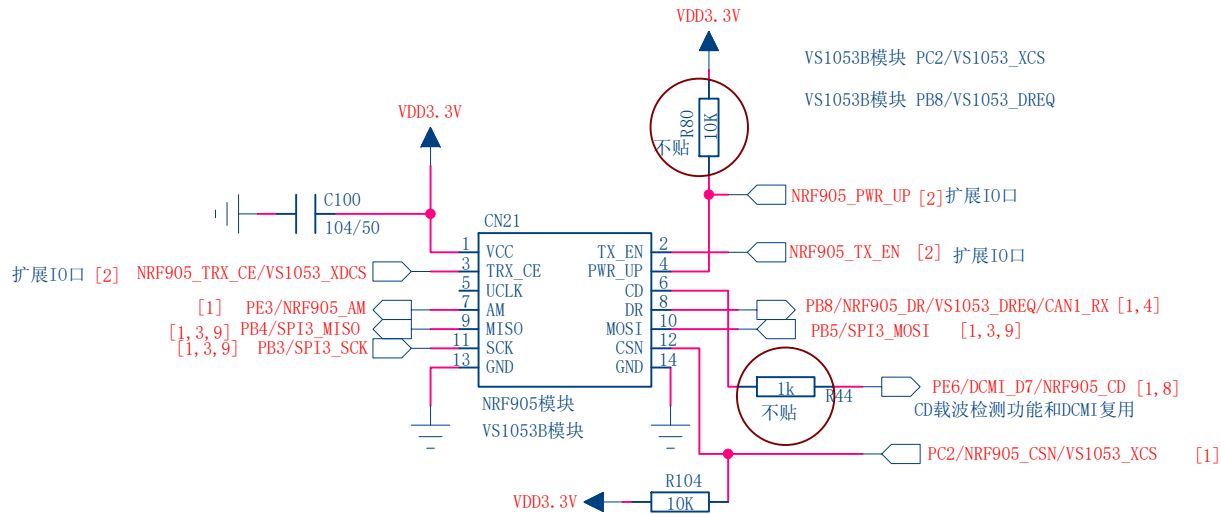
GPRS模块接口



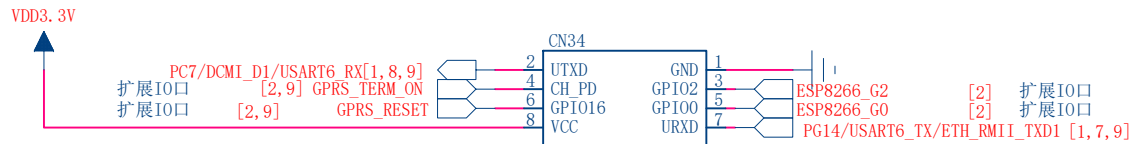
最大峰值电流 2A GPRS模式时平均电流 460mA

由于GPRS电源消耗功率接近USB口供电最大500mA的极限
因此使用GPRS模块时，请使用外部电源供电

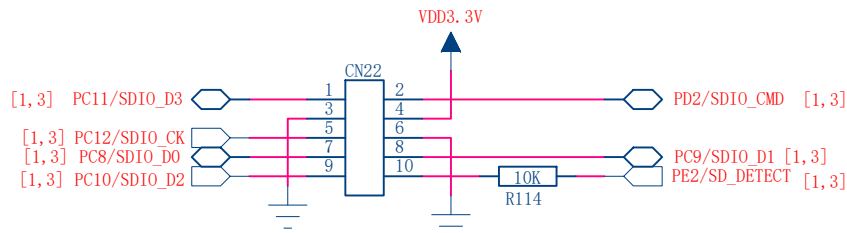
NRF905 通信模块接口



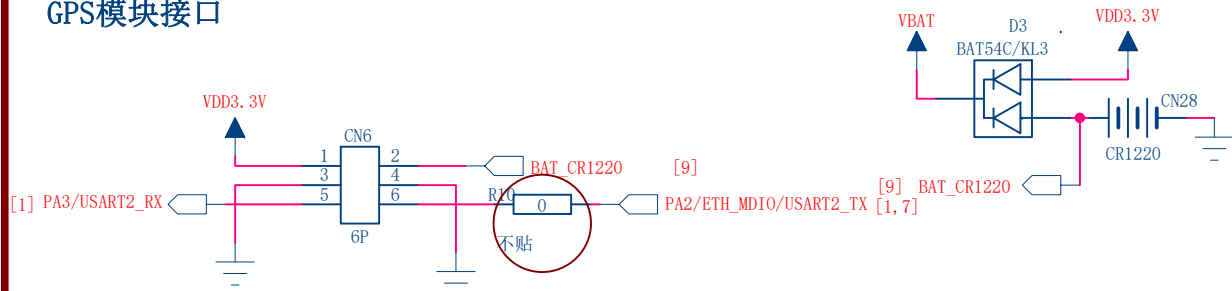
ESP8266串口WIFI接口



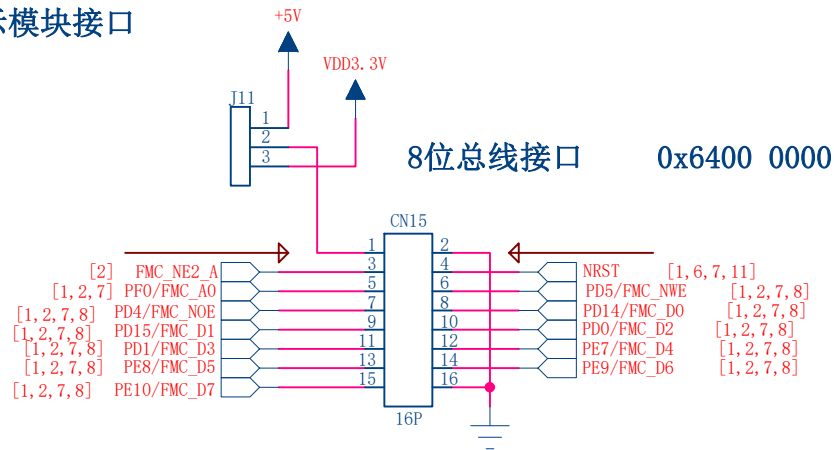
SDIO WIFI模块接口



GPS模块接口



OLED显示模块接口



COMPANY:

武汉安富莱电子有限公司 www.armfly.com

TITLE: 【安富莱】STM32-V6开发板原理图 D060-2

SIZE: A3

SHEET NAME: [9]NRF_GPS_WIFI_GPRS_OLED

REV: 1.0

DRAWN BY: armfly

DATE: 2015/12/12 星期六

SHEET: 9 OF 11

外部供电电源电路

输入电压范围：
输入电压范围：7~ 40V

最大电流 2A

具有短路保护和过热保护功能

电源插座是有极性的，内正外负极，芯线直径2.0mm

反电源反接二极管

CN11

CN20

D4

1N5822

C72

220uF/50

C130

104/50

U23

XL2596S-5.0E

VIN

ON

GND

VOUT

FB

R181

10K

不贴

R180

0

L3

33uH

D7

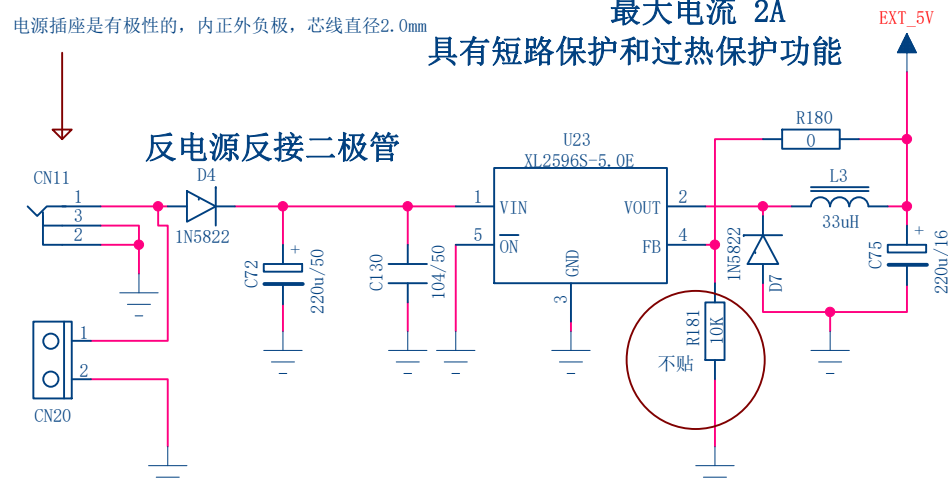
1N5822

C75

220uF/16

EXT_5V

具有短路保护和过热保护功能



外部供电电源电路

电源开关

EXT_5V

T3

1

2

3

VDD_USB

S6

L23

3.3uH

+5V

C134

220uF/16V

+

-

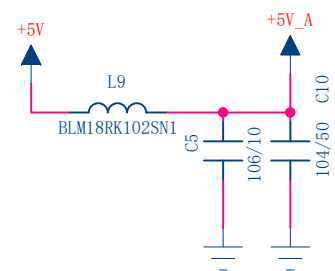
跳线帽缺省插在1-2脚
如果需要USB供电，请插到2-3脚

如果需要通过USB供电，请插到2-3脚

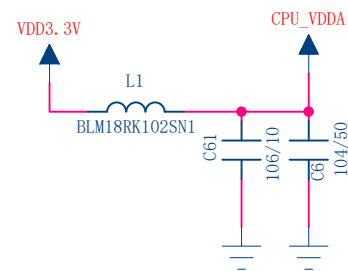
3. 3V电源电路（提供给CPU和大部分外设）

The diagram shows a voltage regulator circuit. A 5V input is connected to the VIN pin (pin 3) of the AMS1117 regulator (U7). The GND/ADJUST pin (pin 1) is connected to ground through a 106/10 capacitor (C50). The VOUT pin (pin 2) is connected to the 3.3V output line. A 106/10 capacitor (C11) is connected between the output and ground. The output is also connected to a load resistor R9 (labeled 'Trk') and an LED (LD5) through a 1G resistor. The LED's other terminal is connected to ground. The output voltage is labeled VDD3. 3V.

ADC/DAC供电电源



CPU内部模拟部分电源



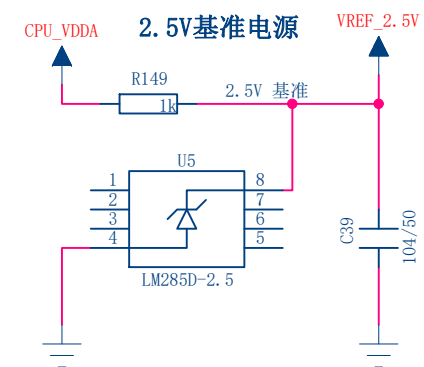
选择CPU内部ADC和DAC参考电压

缺省是选择 VREF_2.5V

The diagram illustrates the selection of VREF_2.5V as the reference voltage for the CPU's internal ADC and DAC. It shows a 1k resistor (R149) connected to the 2.5V reference output of the LM285D-2.5 voltage reference chip (U5). The output of R149 is labeled "2.5V 基准" and is connected to the CPU_VDDA pin. A 104/50 capacitor (C39) is connected to the VREF_2.5V pin. The LM285D-2.5 chip is shown with its pins: 1, 2, 3, 4 on the left and 8, 7, 6, 5 on the right. The chip is labeled "LM285D-2.5".

Pin 11 connections:

- 1: VREF_2.5V
- 2: CPU_VREF [1]
- 3: CPU_VDDA



USB HOST (USB 2.0 全速12Mbps)

通过数据线连接到PC机

VDD_USB

Micro USB插座

红 +5V
白 D-
绿 D+
黑 GND

ID

GND

SHIELD

CN25

CN10

USB-A插座

VCC

D-

D+

GND

可插U盘，USB鼠标/键盘

PA11/OTG_FS_DM/CAN1_RX [1, 4]

PA12/OTG_FS_DP/CAN1_TX [1, 4]

PA10/USART1_RX/OTG_FS_ID [1, 4]

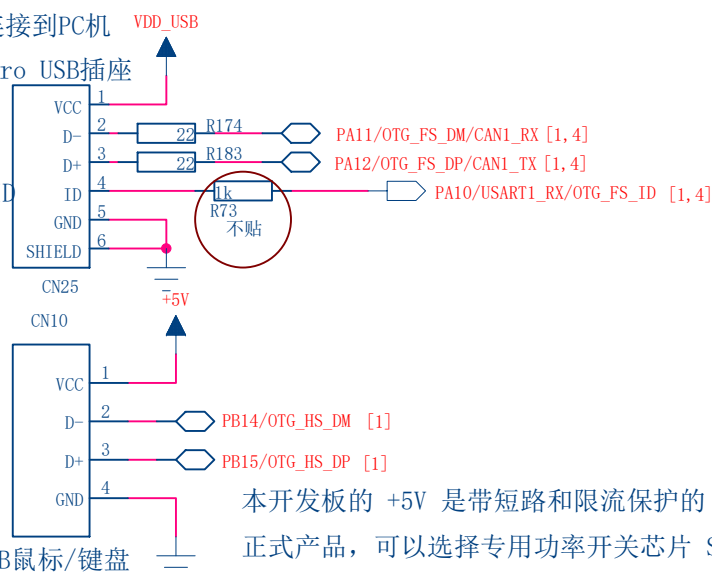
PA14/OTG_HS_DM [1]

PA15/OTG_HS_DP [1]

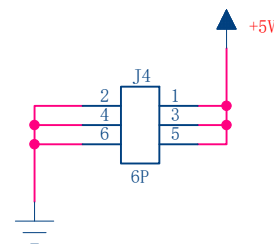
本开发板的 +5V 是带短路和限流保护的

正式产品，可以选择专用功率开关芯片 STMP52161STR/SOT23-5L

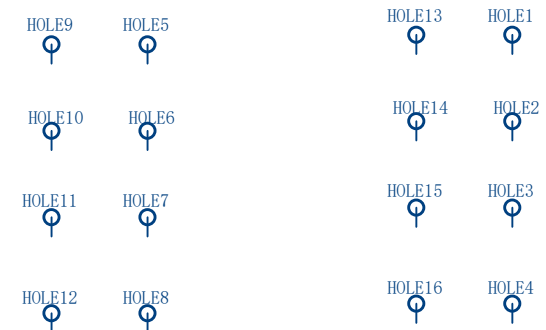
可插U盘，USB鼠标/键盘



本开发板的 +5V 是带短路和限流保护的
正式产品，可以选择专用功率开关芯片 STMP52161STR/SOT23-5L



安装孔

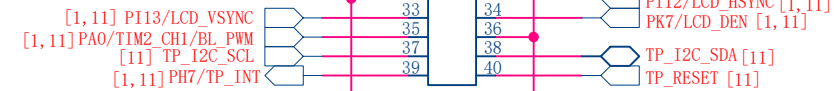


DRAWN BY: armfly	DATE: 2015/12/12 星期六	SHEET: 10 OF 11
------------------	----------------------	-----------------

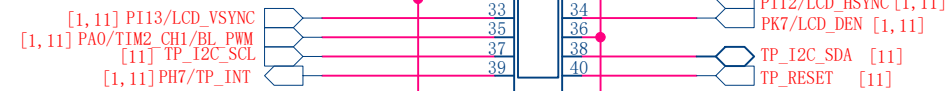
FPC-40P-0.5 翻盖插座



2X20P加高2层双排母 2.54mm间距



DC3-40P简易牛角插座2X20P（脚位与双排母对调）



武汉安富莱电子有限公司 www.armfly.com

SIZE: A3	SHEET NAME: [11]LCD	REV: 1.0
----------	---------------------	----------

DRAWN BY: armfly	DATE: 2015/12/12 星期六	SHEET: 11 OF 11
------------------	----------------------	-----------------