

# 野火\_F407电机驱动控制板\_原理图\_V0.1

## 目录

Page 1	目录
Page 2	历史版本
Page 3	主电源
Page 4	MCU_GPIO
Page 5	SPI闪存/EEPROM/启动模式
Page 6	串口/EBF Module
Page 7	CAN/RS485
Page 8	以太网
Page 9	传感器/按键/LED
Page 10	USB/SWD
Page 11	液晶屏/WIFI/ADC/SPI
Page 12	步进电机驱动接口
Page 13	BLDC/PMSM电机驱动接口
Page 14	通用输入输出口

东莞野火电子技术有限公司  
<https://fire-stm32.taobao.com>

Title  
野火\_F407电机驱动控制板\_原理图

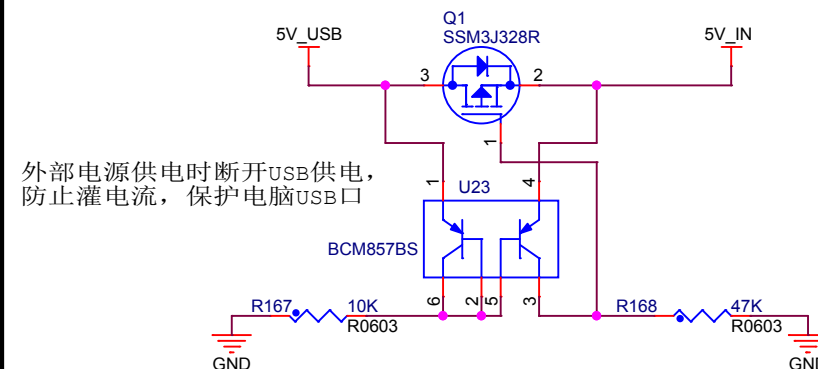
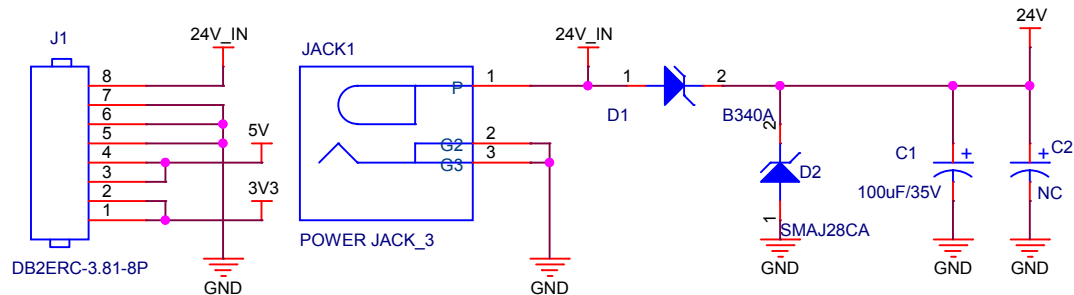
Size A4	Document Number 目录	Rev V1.0
------------	-----------------------	-------------

Date: Wednesday, August 19, 2020	Sheet 1 of 14
----------------------------------	---------------

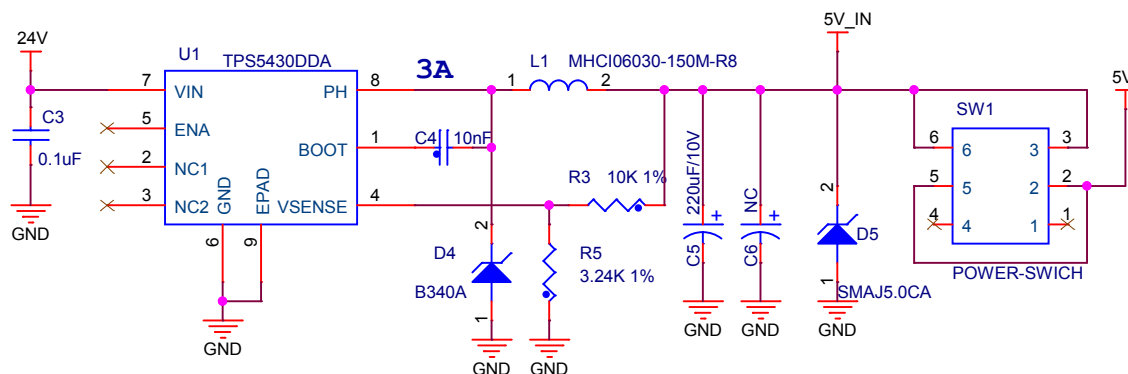
历史版本

版本号	日期	设计	描述
V0.1	2020-01-06	cancore	初始版本
V0.1	2020-10-10	cancore	整理对外发布，稳定版

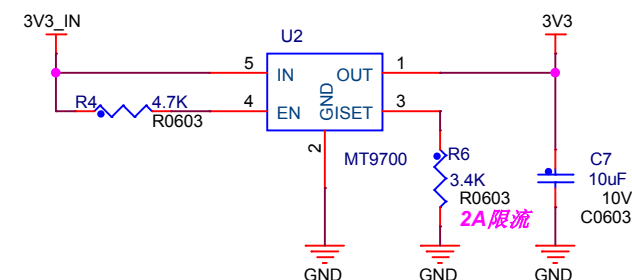
DC IN : 12V~24V



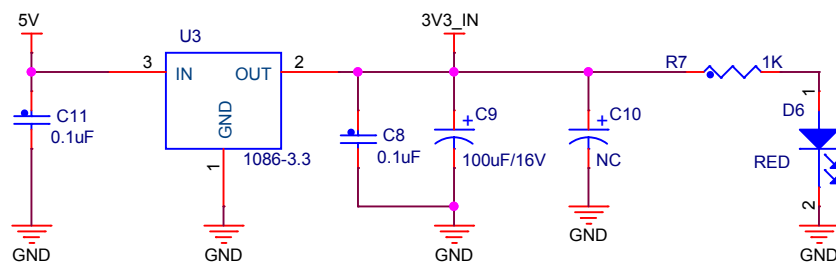
DC/DC 5V



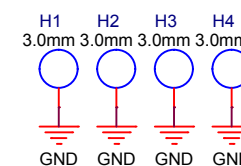
### 3.3V 输出过流保护



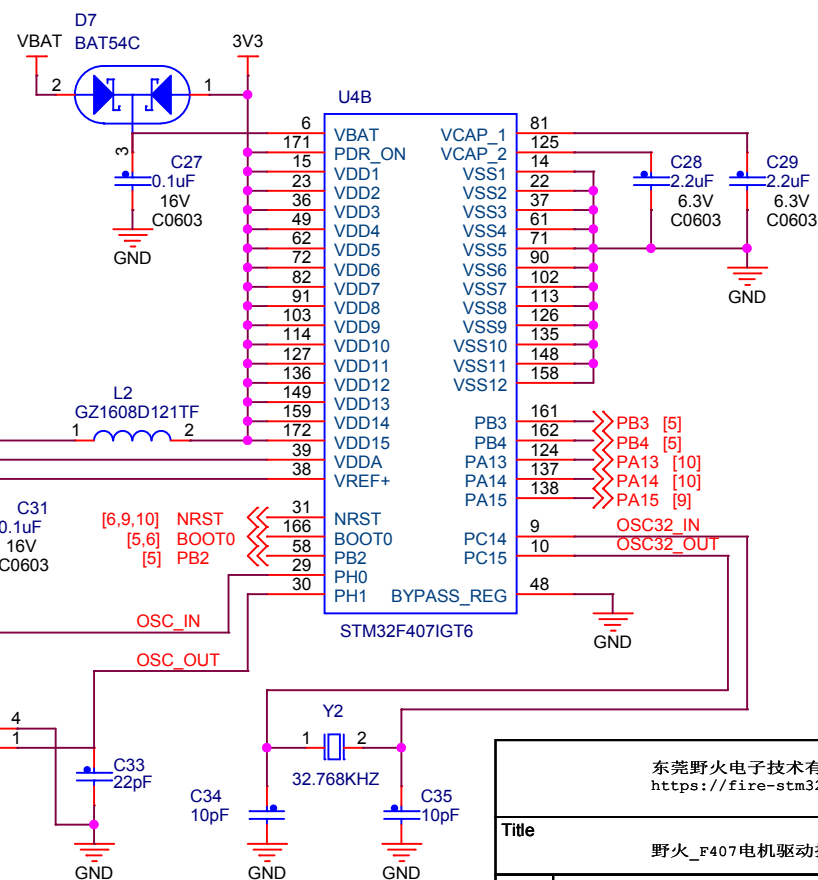
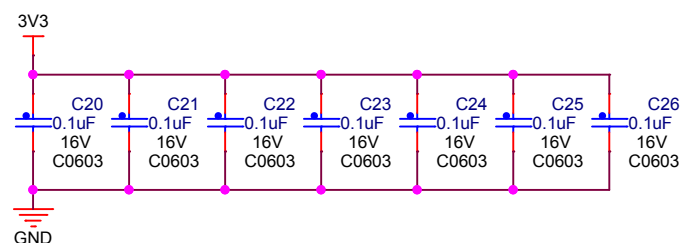
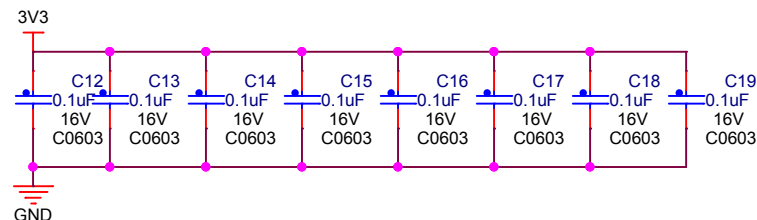
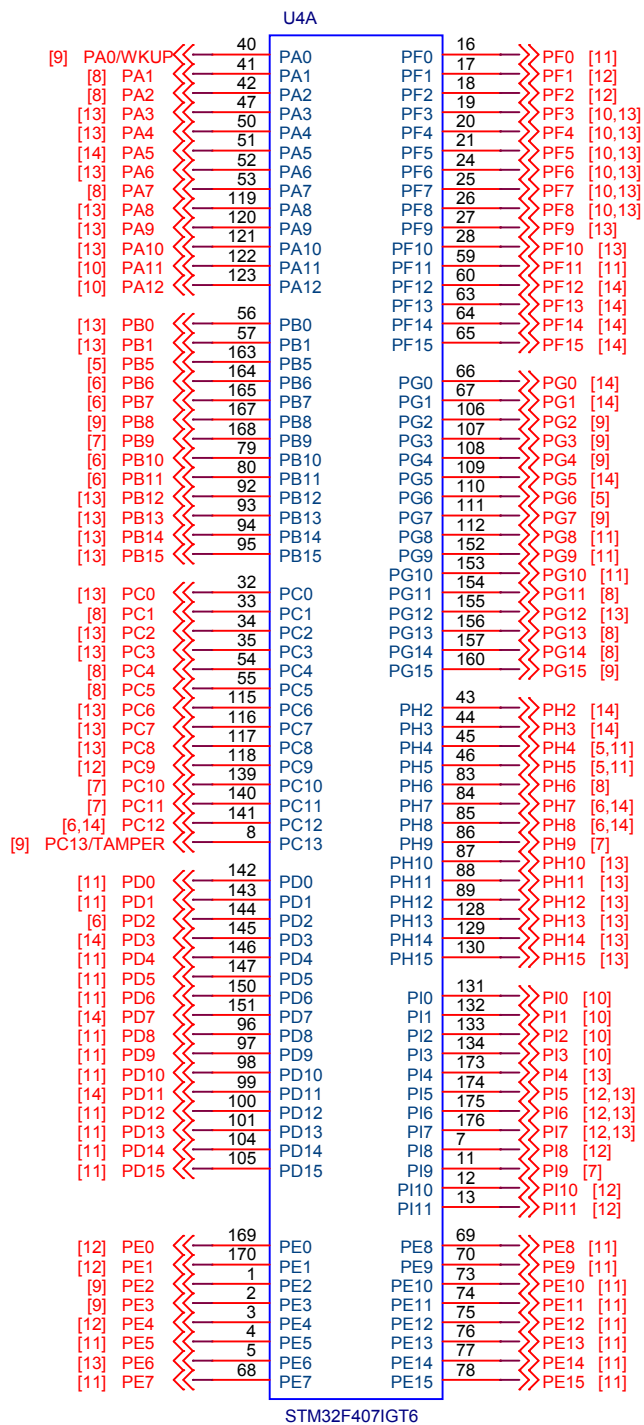
**LDO 3.3V**



### 定位孔



MCU

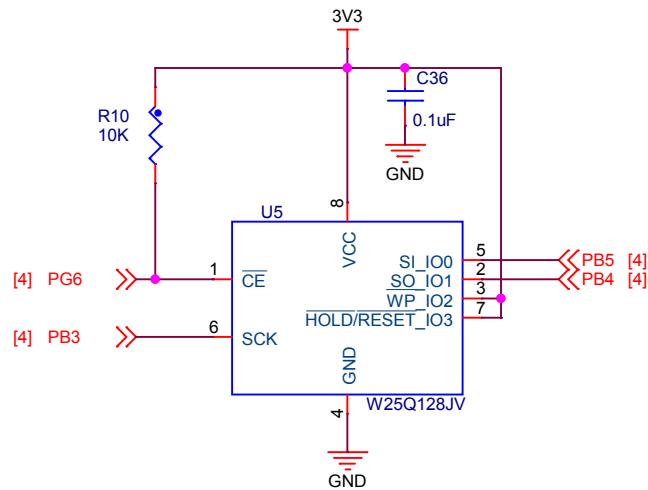


东莞野火电子有限公司  
https://fire-stm32.taobao.com

Title		
野火_F407电机驱动控制板_原理图		
Size	Document Number	Rev
A4	MCU_GPIO	V1.0
Date: Wednesday, August 19, 2020		Sheet 4 of 14

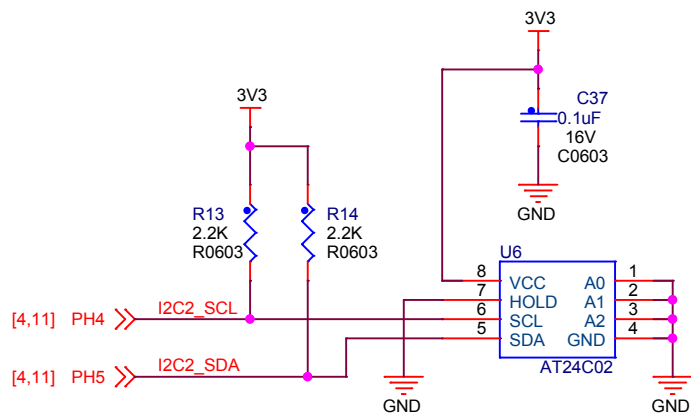
## SPI\_FLASH

容量：16M字节



## EEPROM

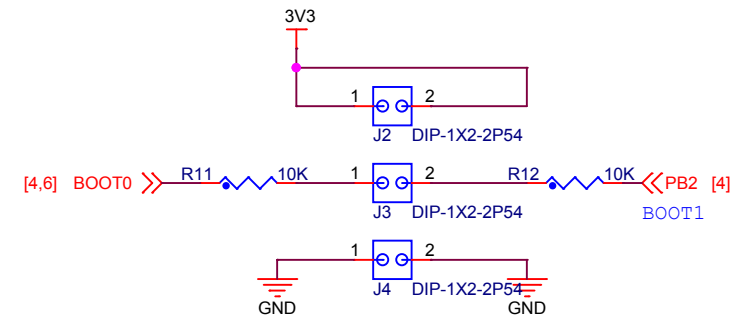
容量：256字节



## 设置启动模式

### F407 BOOT设置

BOOT0	BOOT1	启动方式
0	X	用户闪存
1	0	系统存储器/ISP
1	1	内嵌SRAM
默认配置是用户闪存（即内部Flash）		



东莞野火电子有限公司  
<https://fire-stm32.taobao.com>

Title

野火\_F407电机驱动控制板\_原理图

Size  
A4

Document Number

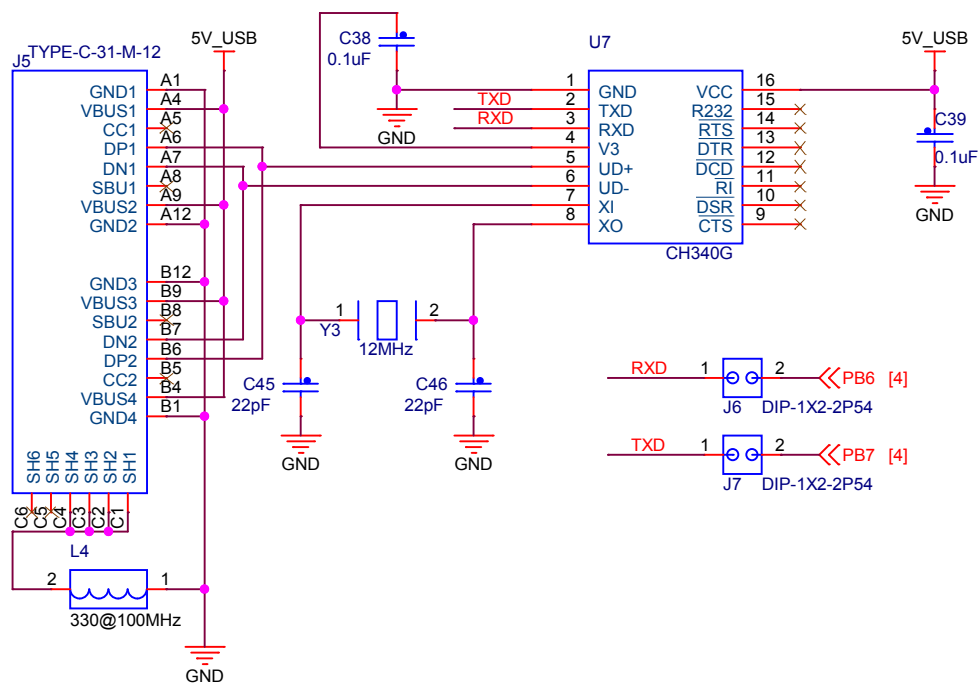
FLASH/EEPROM/BOOT

Rev  
V1.0

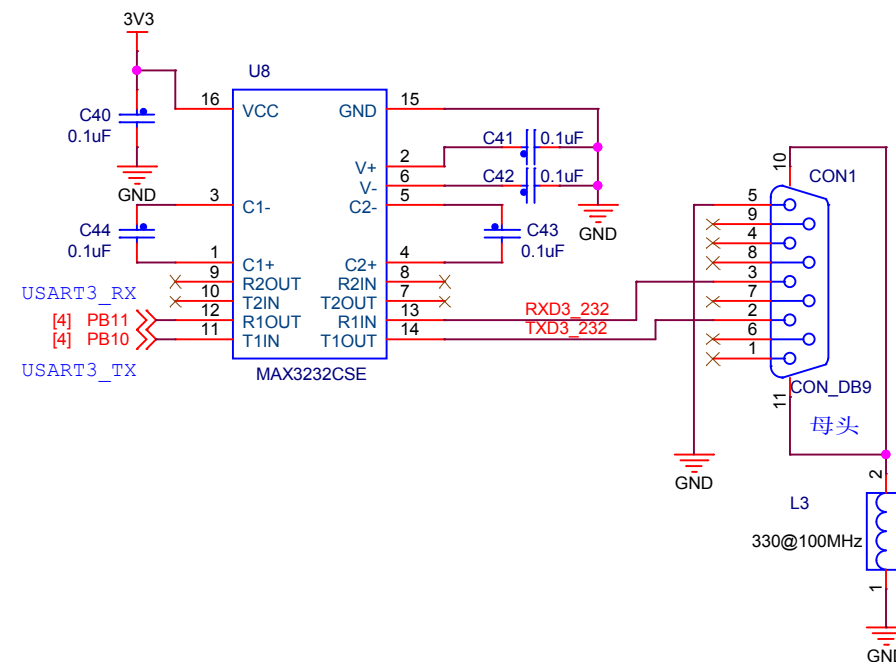
Date: Wednesday, August 19, 2020

Sheet 5 of 14

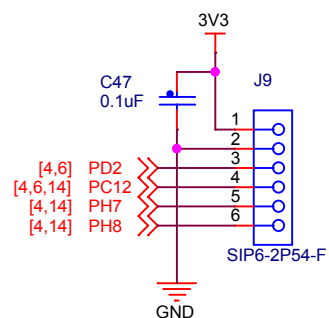
## USB转串口



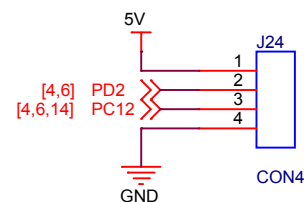
## RS232串口



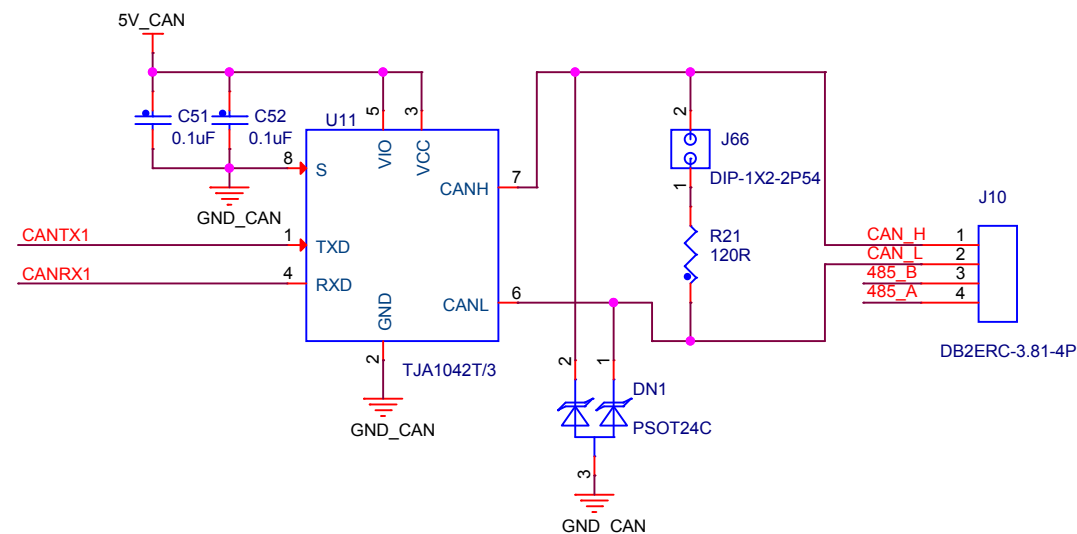
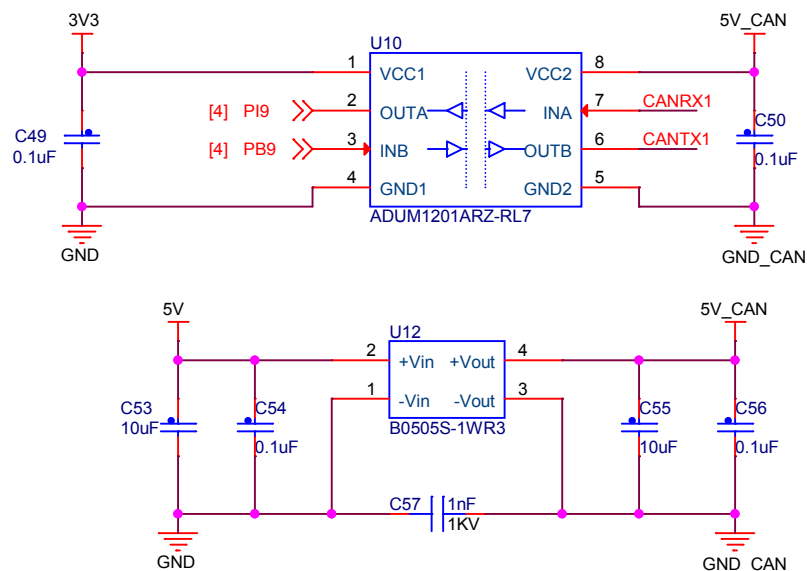
## EBF-Module



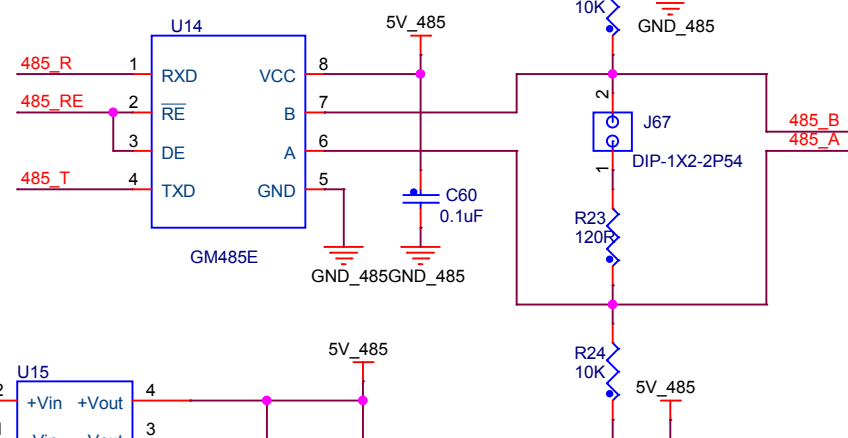
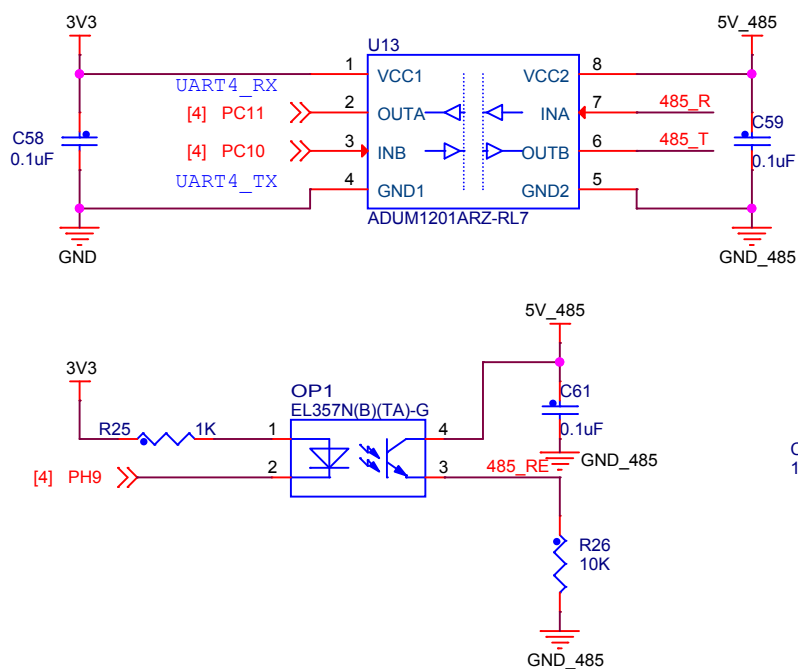
## 串口屏接口



## CAN



## RS485



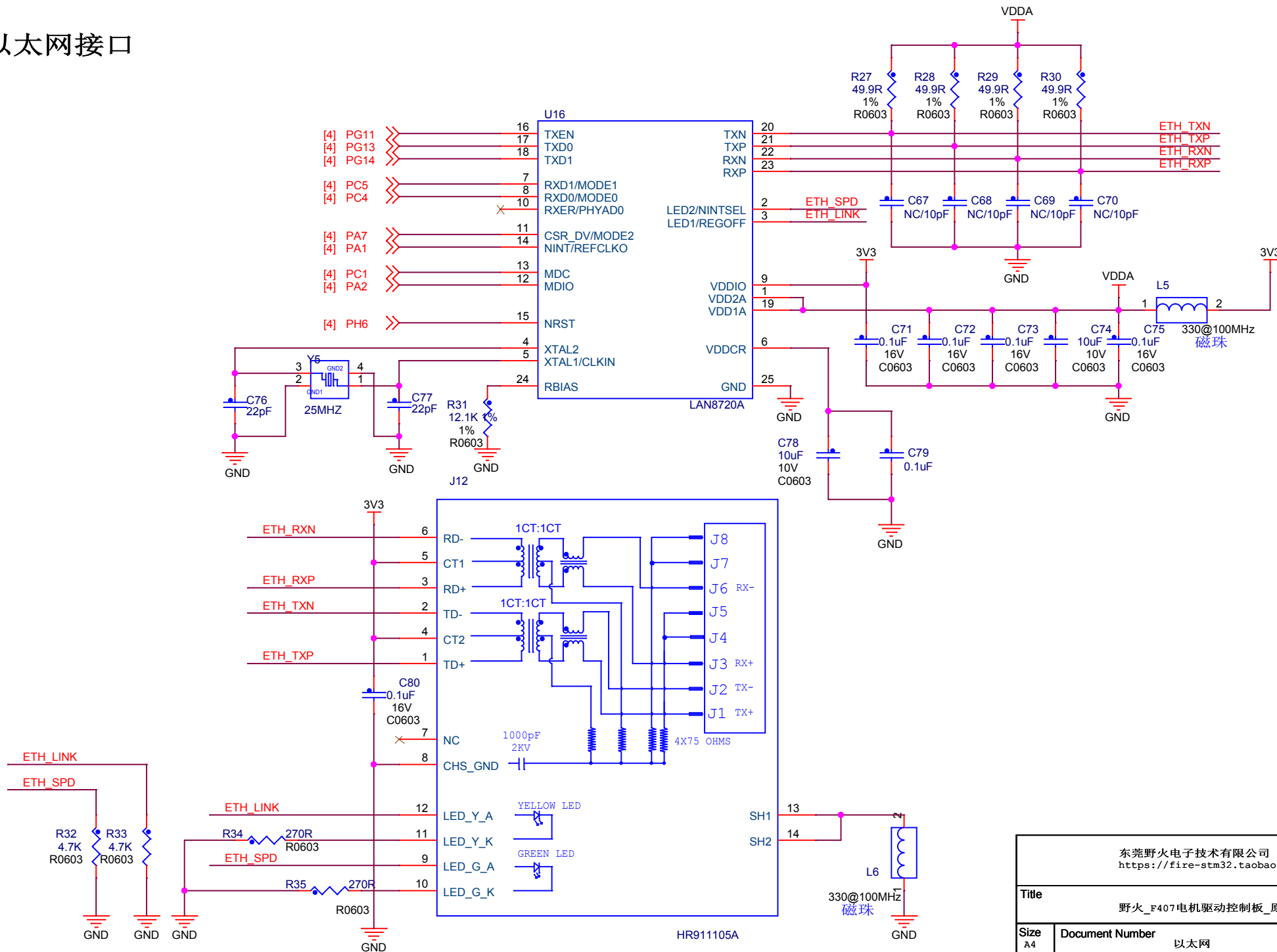
东莞野火电子技术有限公司  
https://fire-stm32.taobao.com

Title  
野火\_F407电机驱动控制板\_原理图

Size A4	Document Number CAN/RS485	Rev V1.0
------------	------------------------------	-------------

Date: Wednesday, August 19, 2020 Sheet 7 of 14

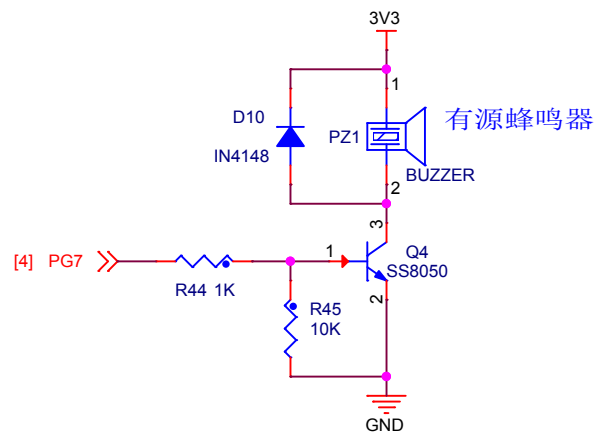
# 以太网接口



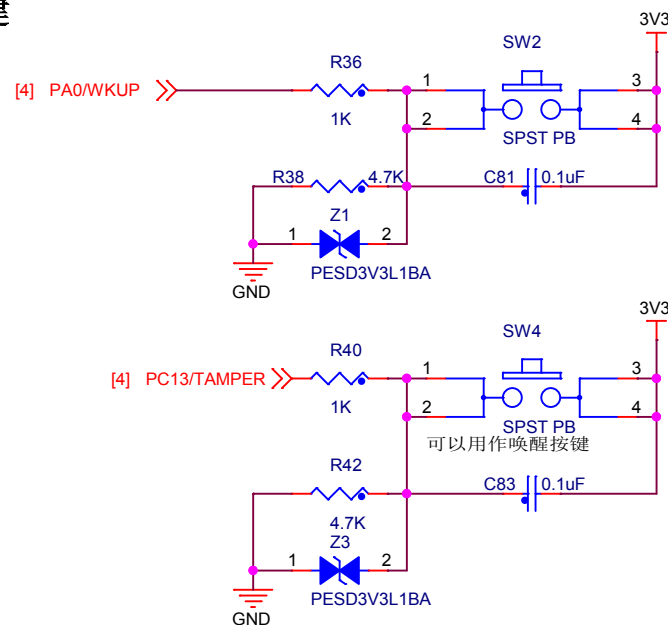
东莞野火电子有限公司 https://fire-stm32.taobao.com		
Title 野火_F407电机驱动控制板_原理图		
Size A4	Document Number 以太网	Rev V1.0
Date: Wednesday, August 19, 2020	Sheet 8	of 14



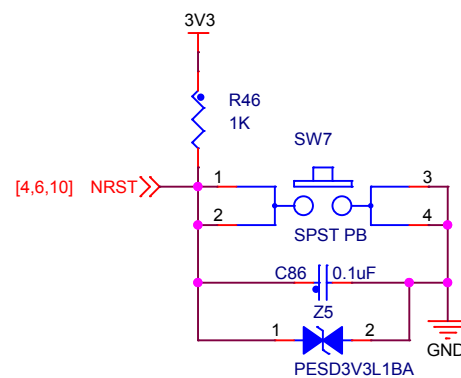
## 蜂鸣器



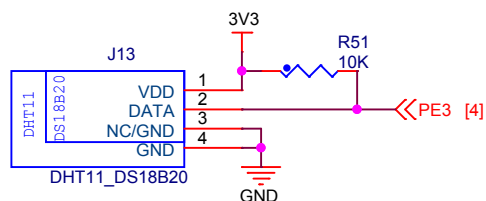
## 按键



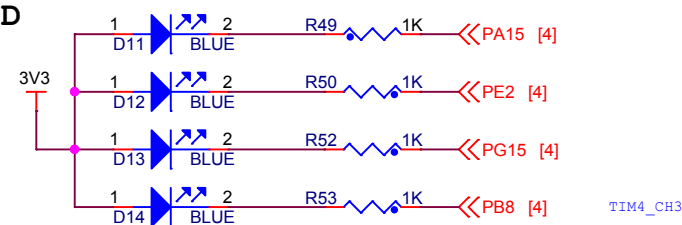
## 复位



## 温湿度传感器接口



## LED



东莞野火电子有限公司  
https://fire-stm32.taobao.com

Title

野火\_F407电机驱动控制板\_原理图

Size  
A4

Document Number

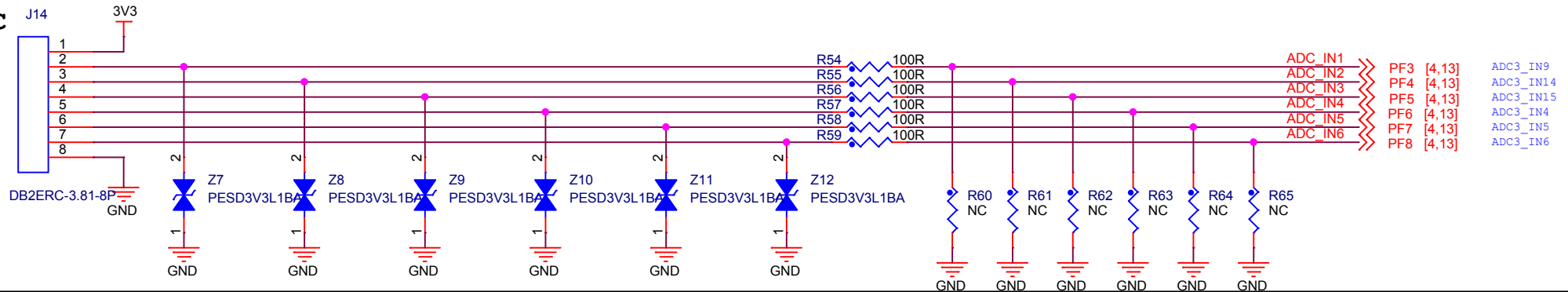
KEY/LED/BEEP/SENSOR

Rev  
V1.0

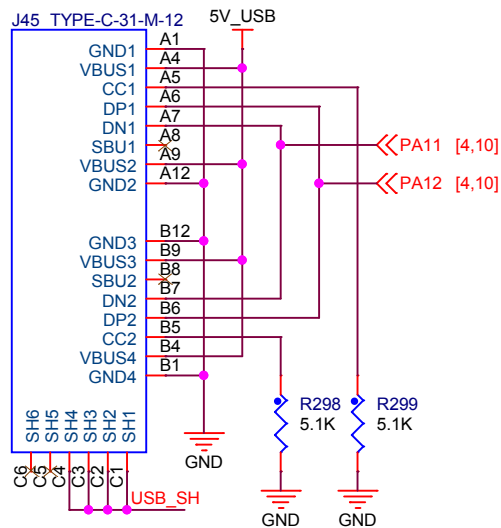
Date: Wednesday, August 19, 2020

Sheet 9 of 14

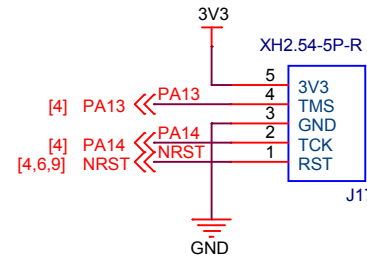
## ADC



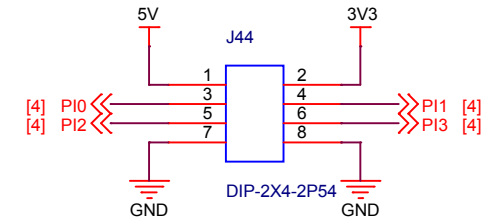
## USB OTG



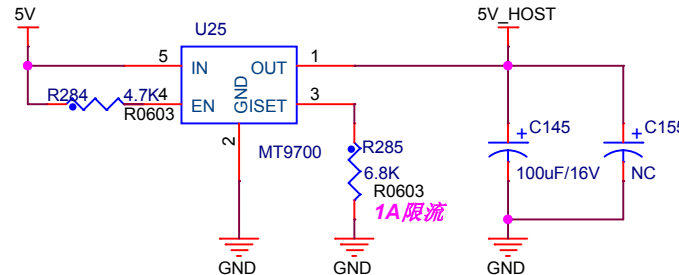
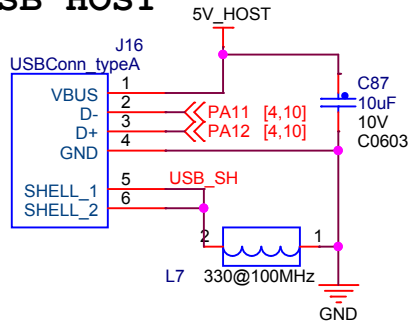
## SWD调试口



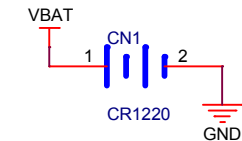
## 扩展SPI



## USB HOST



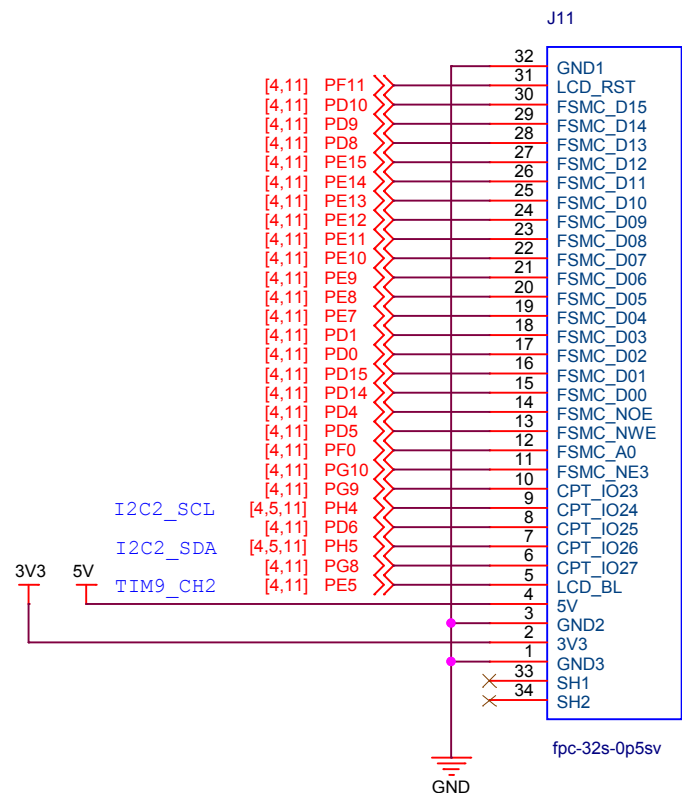
## RTC电池



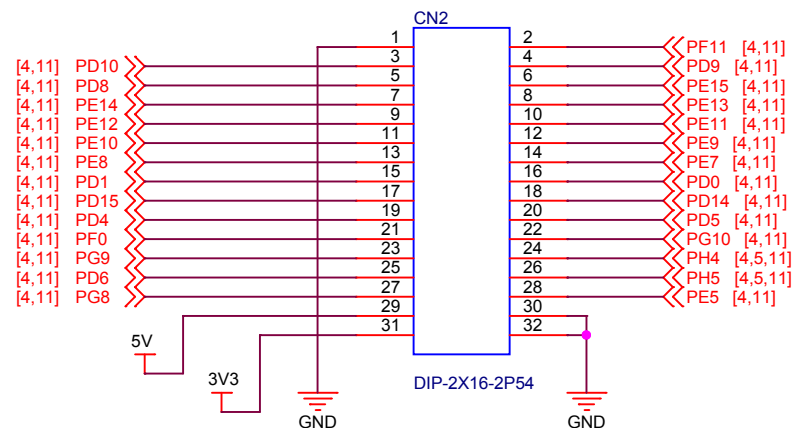
东莞野火电子有限公司  
<https://fire-stm32.taobao.com>

Title		
野火_F407电机驱动控制板_原理图		
Size A4	Document Number ADC/USB/SPI/SWD	Rev V1.0
Date: Wednesday, August 19, 2020	Sheet 10 of 14	

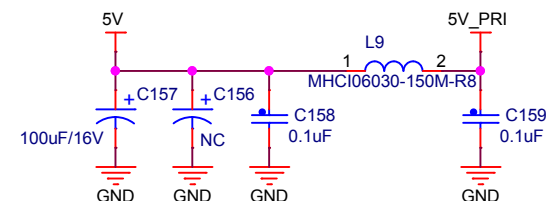
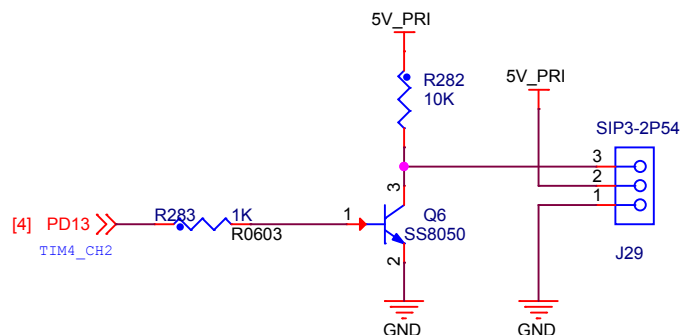
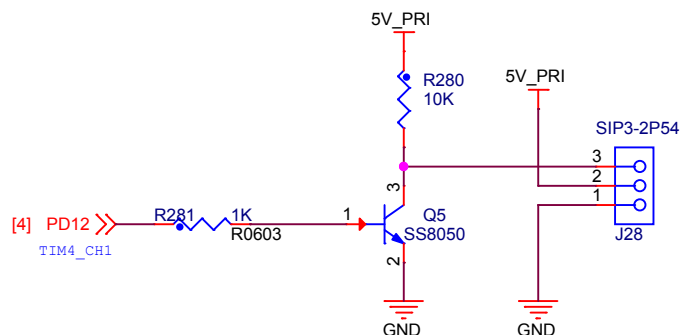
## 液晶接口-FSMC-8080模式



## 通用IO口与液晶复用



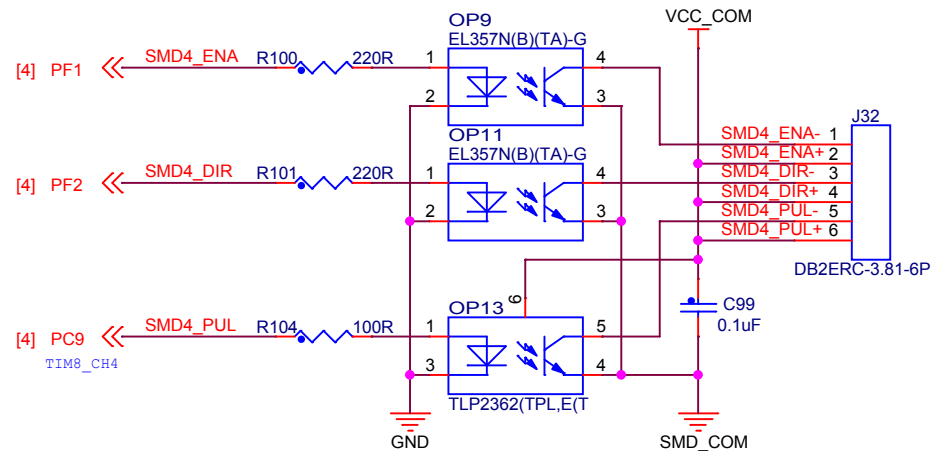
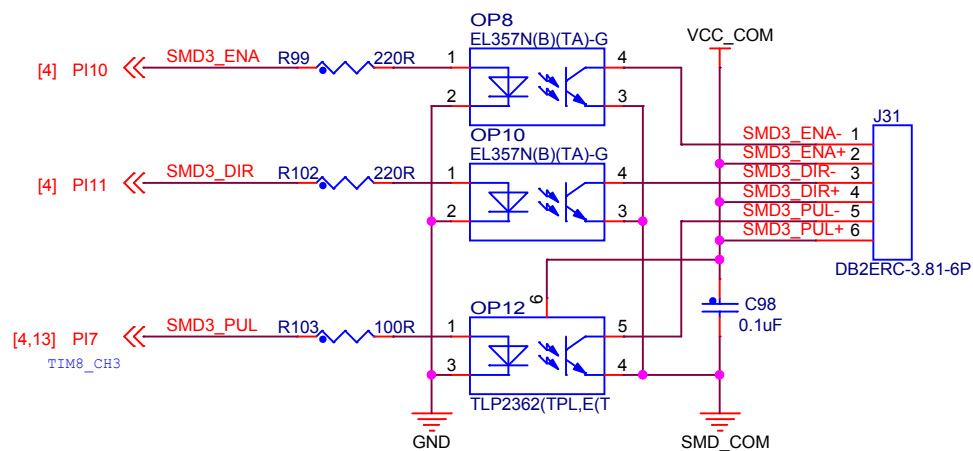
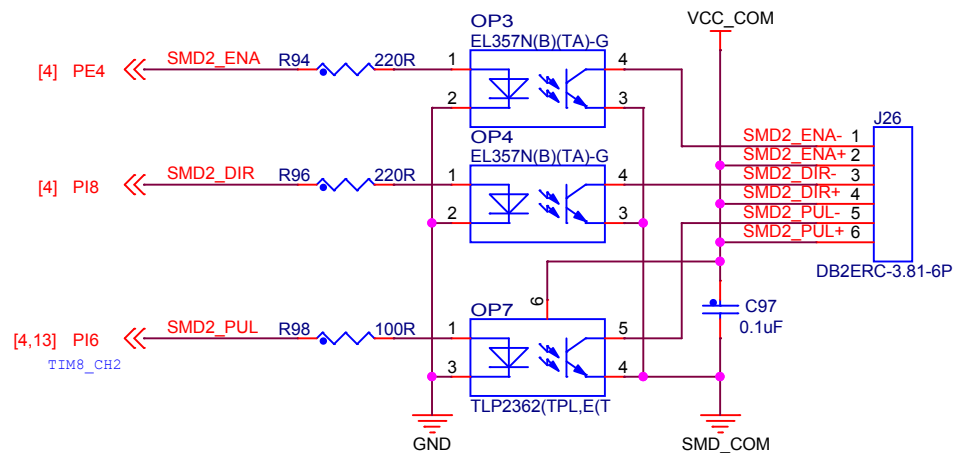
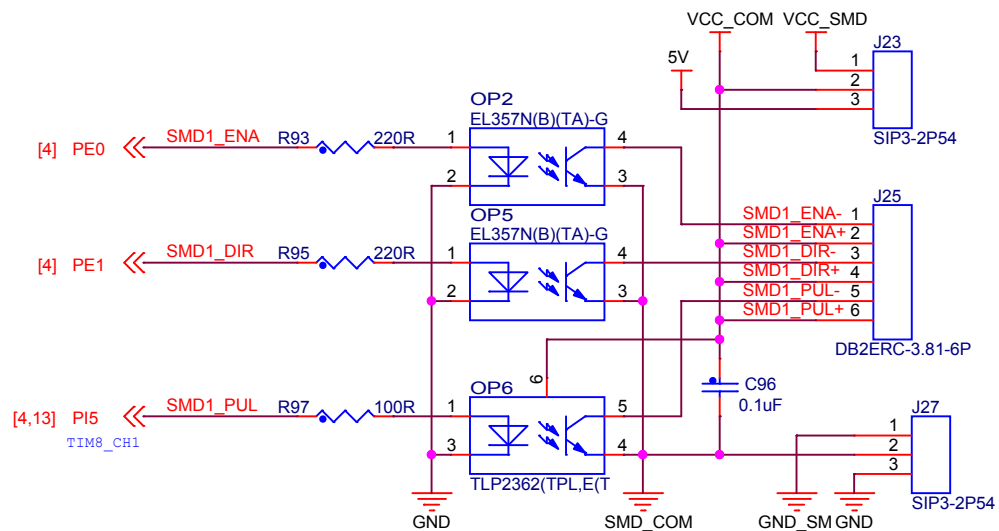
## 舵机驱动接口



东莞野火电子有限公司  
https://fire-stm32.taobao.com

Title		
野火_F407电机驱动控制板_原理图		
Size A4	Document Number LCD	Rev V1.0
Date:	Thursday, August 20, 2020	Sheet 11 of 14

# 四路步进电机驱动接口



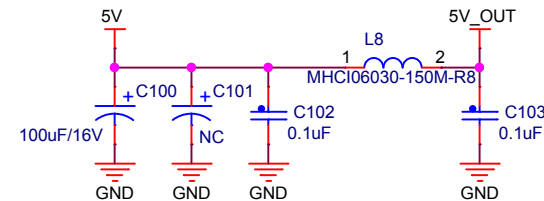
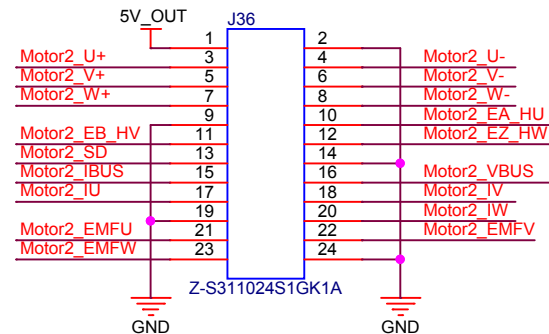
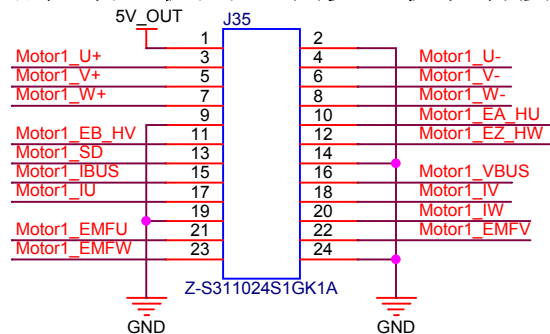
东莞野火电子有限公司  
<https://fire-stm32.taobao.com>

Title 野火\_F407电机驱动控制板\_原理图

Size A4	Document Number 步进电机驱动接口	Rev V1.0
---------	--------------------------	----------

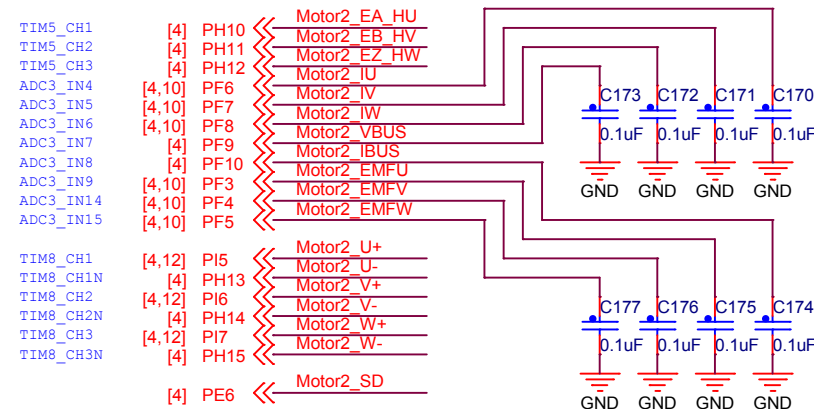
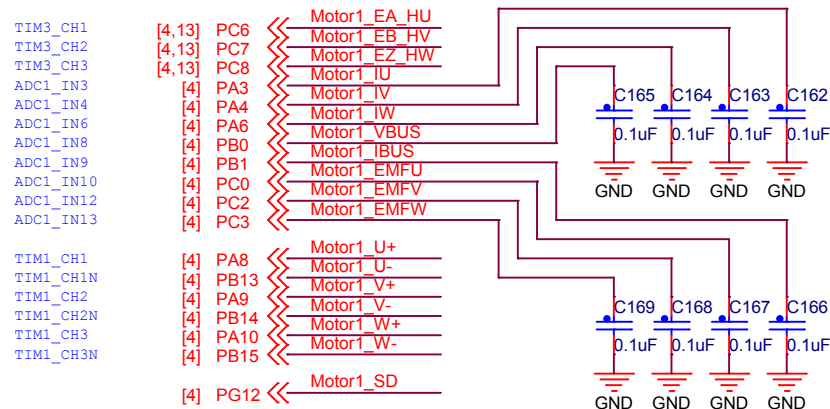
Date: Wednesday, August 19, 2020	Sheet 12 of 14
----------------------------------	----------------

## 两路直流无刷电机/永磁同步电机驱动接口

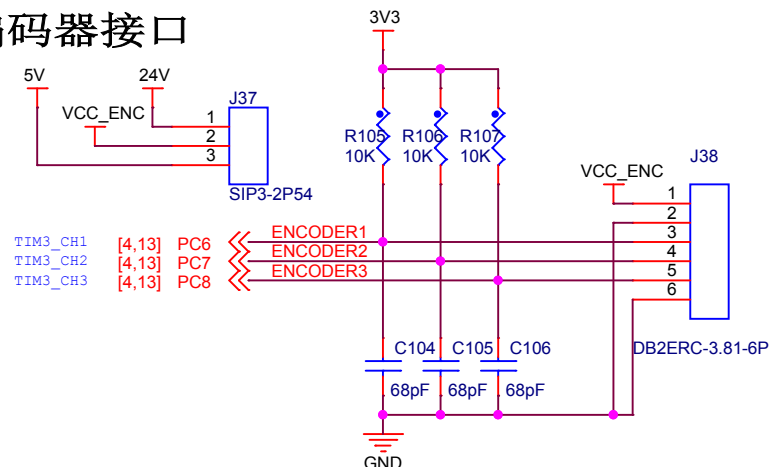


退耦电容靠近MCU放置

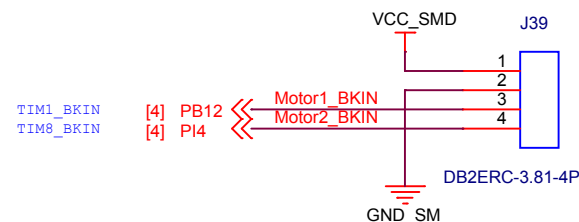
退耦电容靠近MCU放置



## 编码器接口



## 定时器刹车输入



东莞野火电子技术有限公司  
https://fire-stm32.taobao.com

Title  
野火\_F407电机驱动控制板\_原理图

Size  
A4

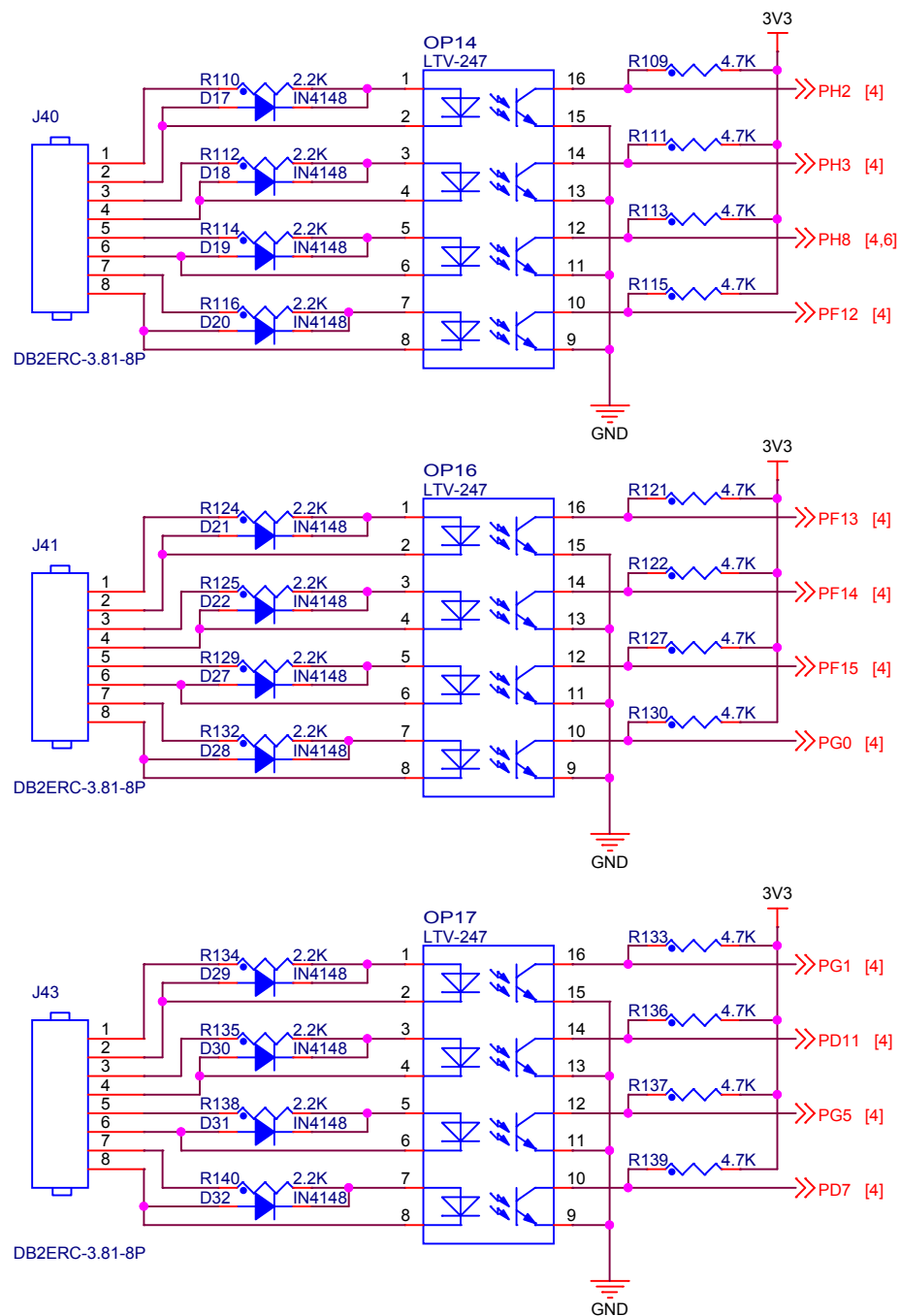
Document Number  
BLDC/PMSM驱动接口

Rev  
V1.0

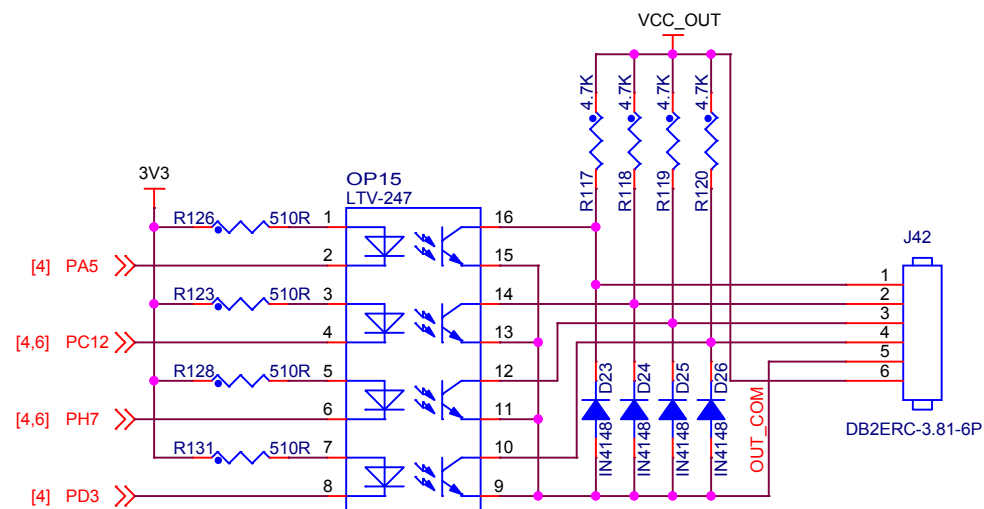
Date: Wednesday, August 19, 2020

Sheet 13 of 14

## 通用输入接口



## 通用输出接口



东莞野火电子技术有限公司 <a href="https://fire-stm32.taobao.com">https://fire-stm32.taobao.com</a>		
Title 野火_F407电机驱动控制板_原理图		
Size A4	Document Number 通用输入输出接口	Rev V1.0
Date: Wednesday, August 19, 2020	Sheet 14 of 14	