信号输入

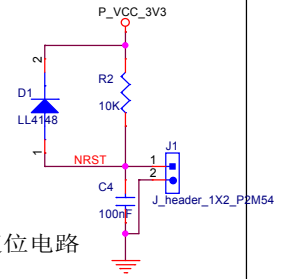
UART2_RX
UART3_RX

LINE_FB1_IN1 ~ LINE_FB1_IN10

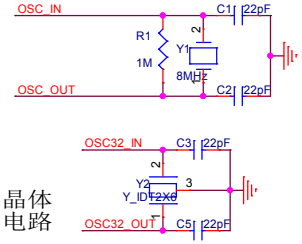
1R
MOTOR_1R

CPU_BakeUp1
CPU_BakeUp2
CPU_PUT_Thing
CPU_KEY1
CPU_KEY2
CPU_KEY3
CPU_KEY4
CPU_HALL_SENSE

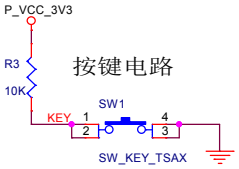
复位电路



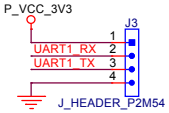
晶体电路



按键电路

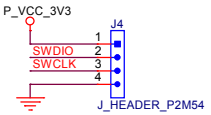


ISP下载接口



备注：程序下载口

SWD调试



信号输出

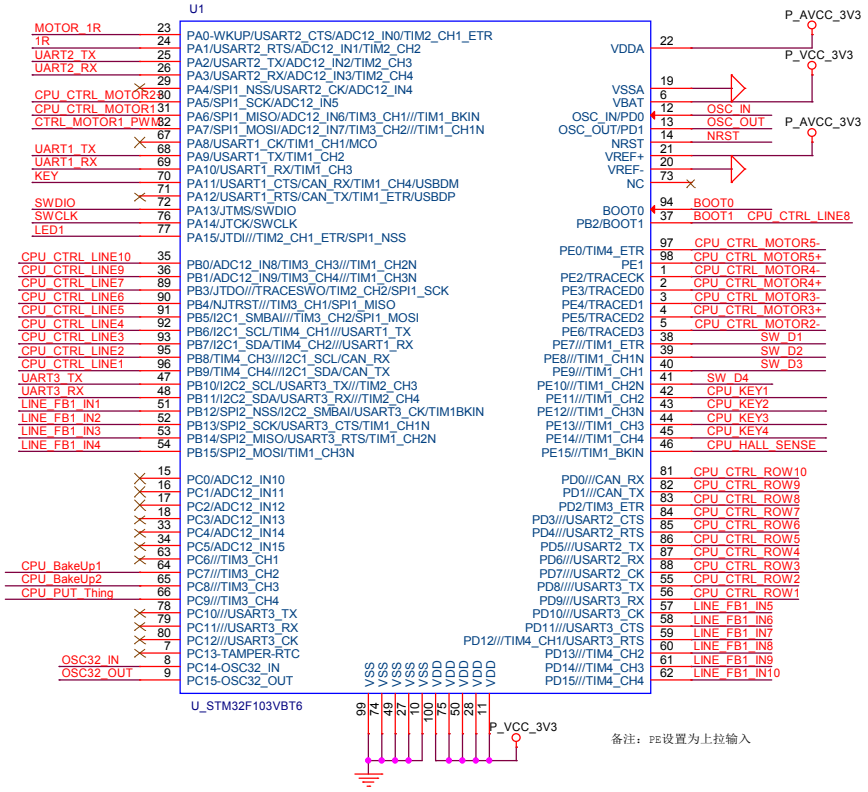
UART2_TX
UART3_TX

CPU_CTRL_ROW1 ~ CPU_CTRL_ROW10

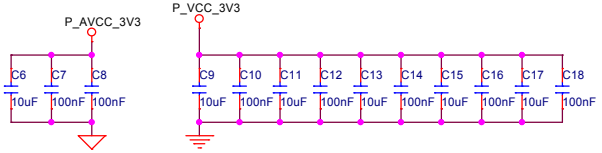
CPU_CTRL_MOTOR1
CPU_CTRL_MOTOR2+
CPU_CTRL_MOTOR2-
CPU_CTRL_MOTOR3+
CPU_CTRL_MOTOR3-
CPU_CTRL_MOTOR4+
CPU_CTRL_MOTOR4-
CPU_CTRL_MOTOR5+
CPU_CTRL_MOTOR5-
CTRL_MOTOR1_PWM

CPU_CTRL_LINE1 ~ CPU_CTRL_LINE10

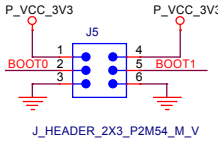
U1



备注：PE设置为上拉输入



启动配置电路

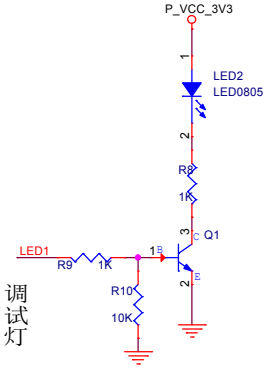


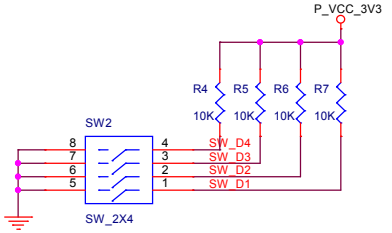
启动配置说明

启动方式解释：
Flash：按下复位键程序从头跑
ISP：用于串口下载
SRAM：用于调试

启动方式	B0	B1
Flash	0	X
ISP	1	0
SRAM	1	1

调试灯





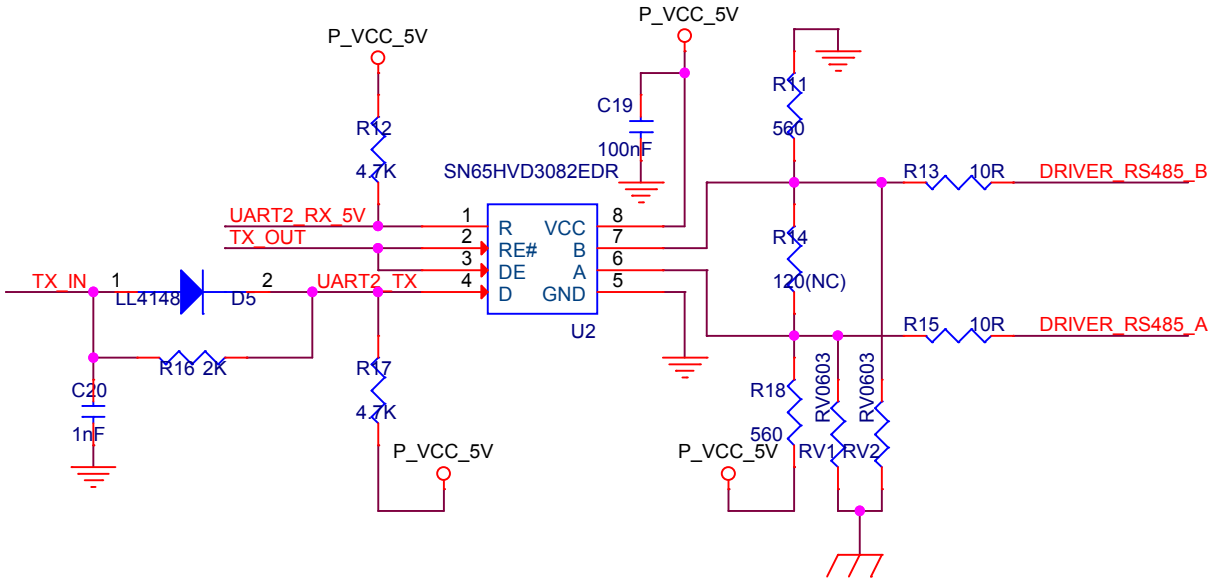
ON 为导通
1：板卡工作模式（OFF高电平为电机驱动；ON低电平为电磁锁驱动板）
2：备用
34：用于地址设置

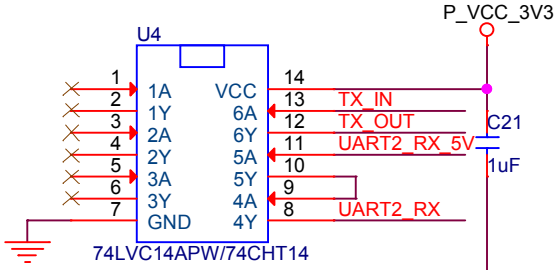
整件设计文件	产品型号	VMC_Motor_Driver		
原理图	硬件版本	0.71		
文件编号	<OrgName>			
版次	<OrgAddr1>	页次	1 /5	日期 20170620
核准	<OrgAddr2>	审核		<OrgAddr3>
ALE	/	编写		叶海鹏

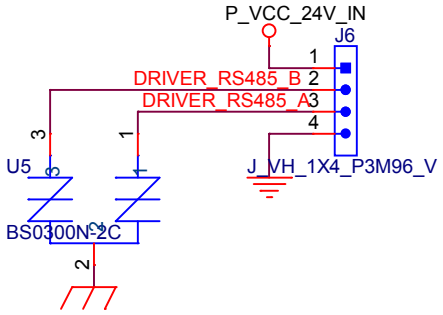
UART2_TX UART2_TX

UART3_TX UART3_TX

RS485收发电路(电机驱动及电机驱动扩展)





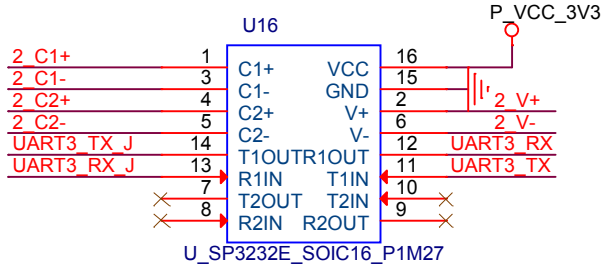


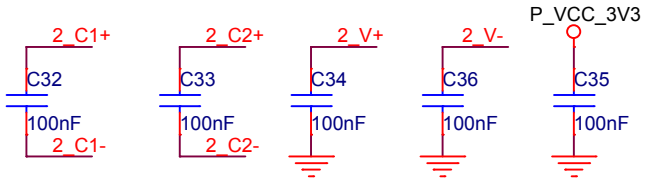
电平转换及接口

UART2_RX UART2_RX

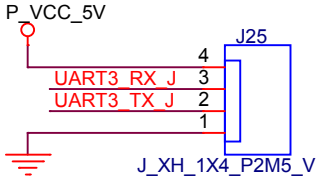
UART3_RX UART3_RX

RS232收发电路

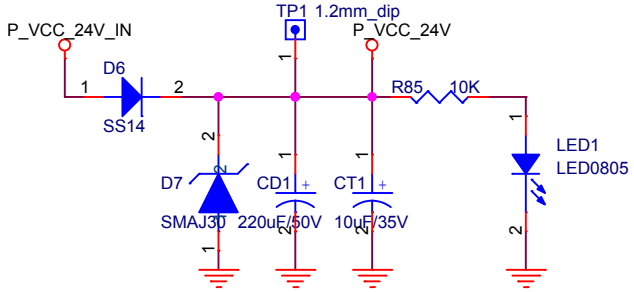




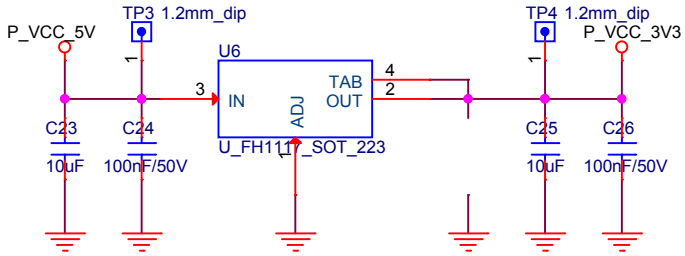
备注：用于与电机驱动板进行通信，告知电机驱动板是否掉货以及层之间对射情况及利用层之间的对射检测是否出货了



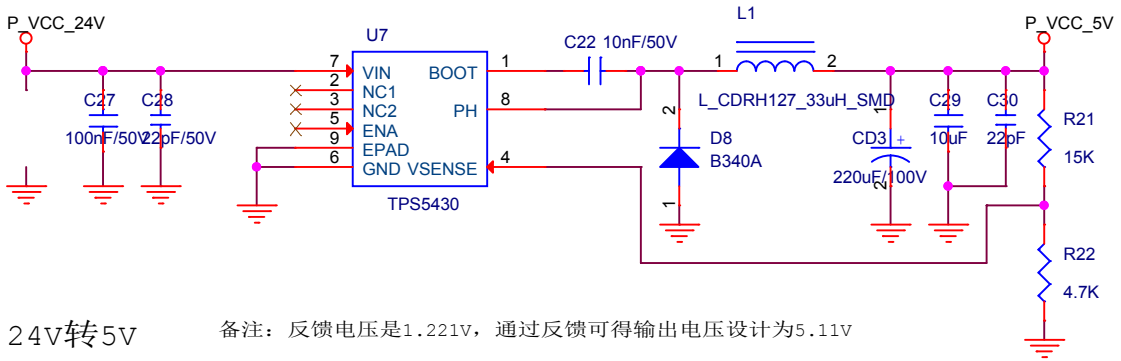
整件设计文件	产品型号	VMC_Motor_Driver			
原理图	硬件版本	0.71			
文件编号	<OrgName>				
版次	<OrgAddr1>	页次	2 /5	日期	20170620
核准	<OrgAddr2>		审核	<OrgAddr3>	
ALE	/		编写	叶海鹏	



24V输入(防反接，防过压)

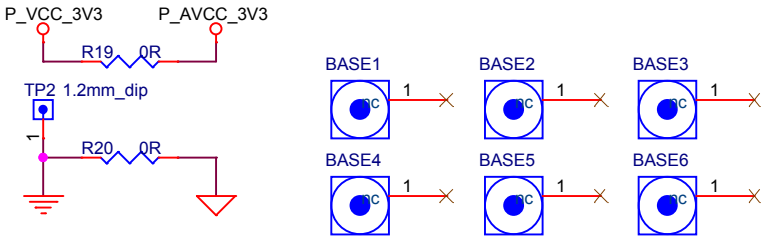


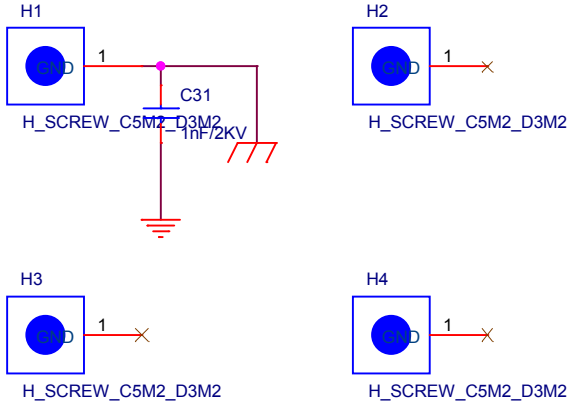
5V转3V3



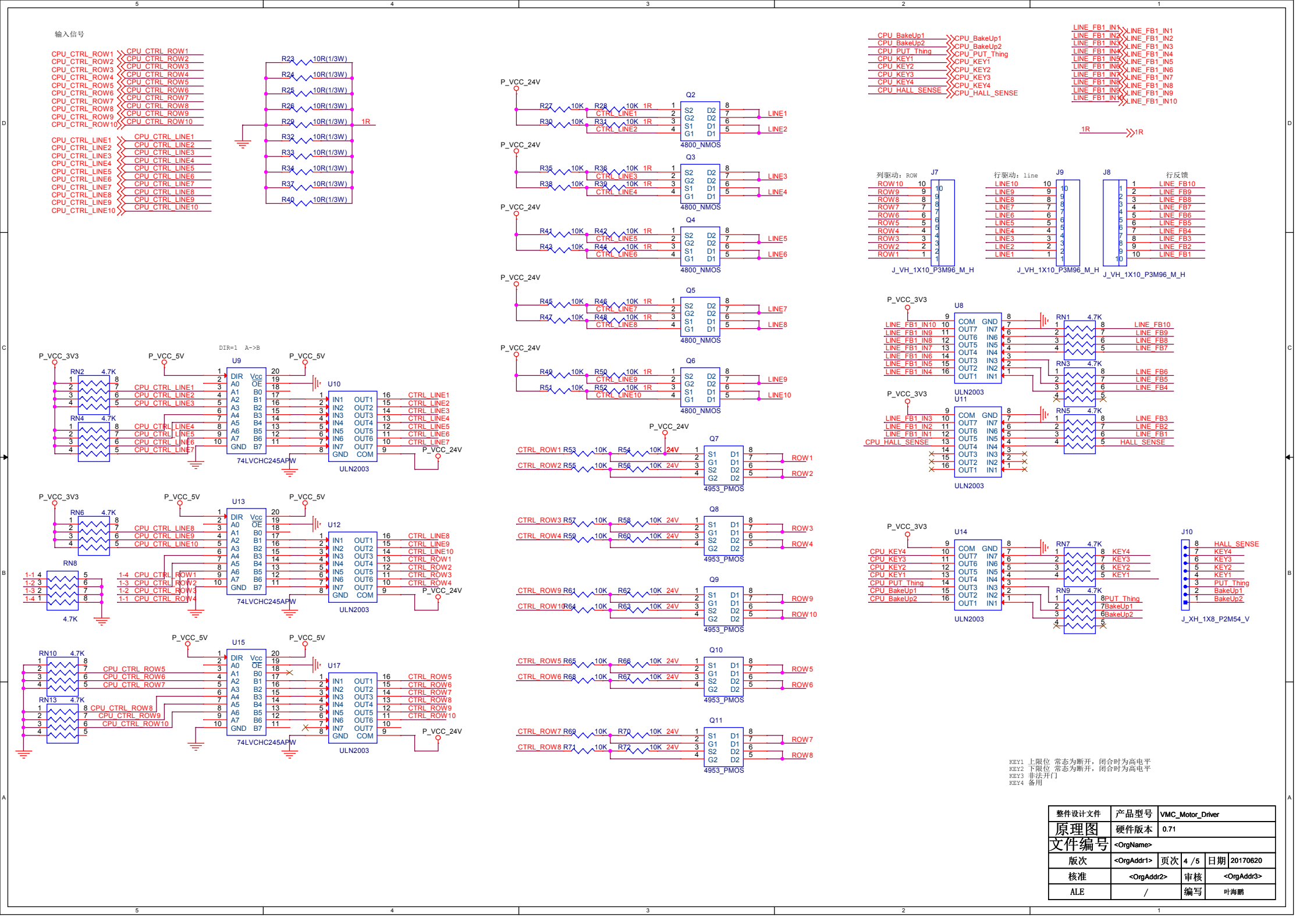
24V转5V

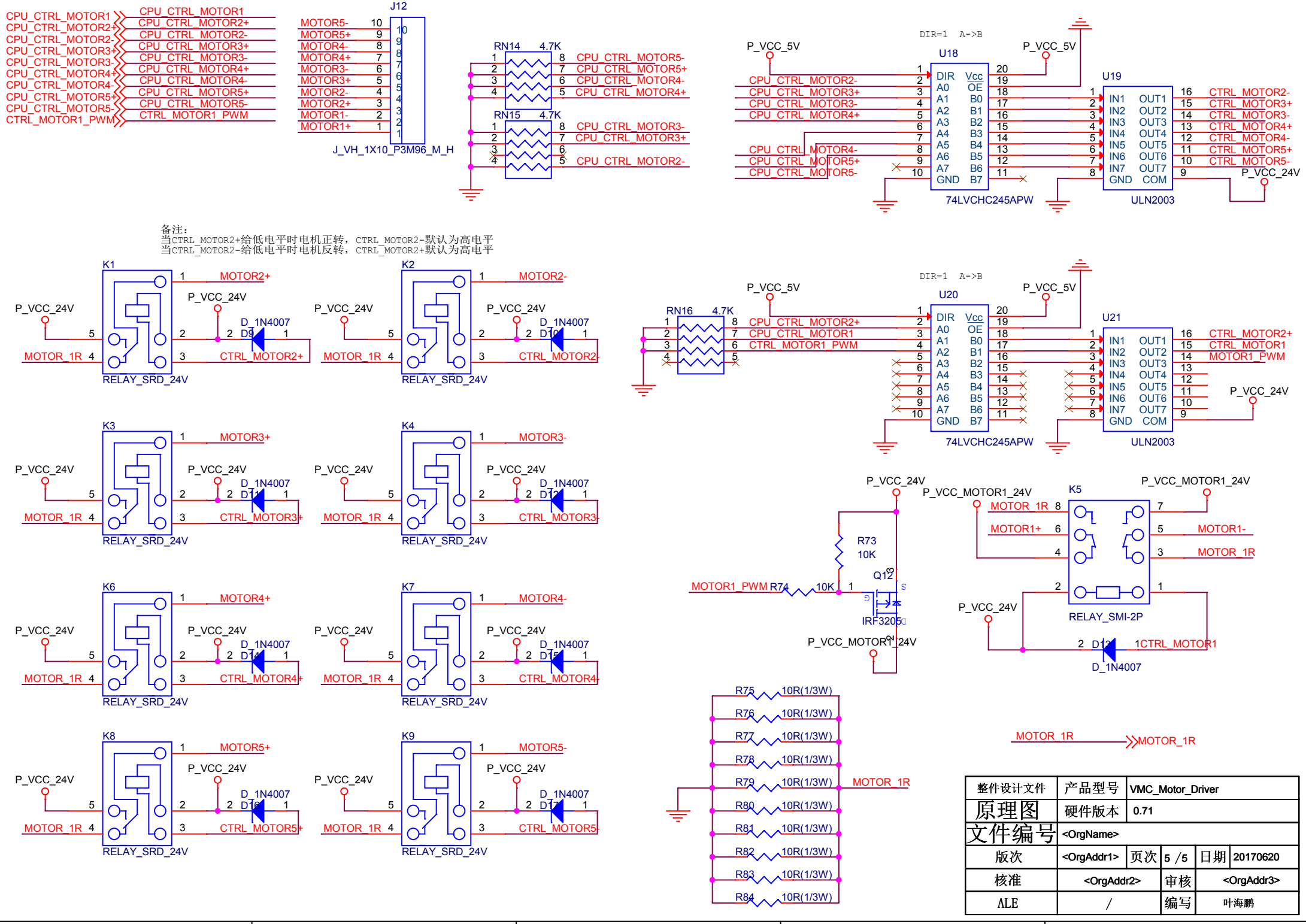
备注：反馈电压是1.221V，通过反馈可得输出电压设计为5.11V





整件设计文件	产品型号	VMC_Motor_Driver			
原理图	硬件版本	0.71			
文件编号	<OrgName>				
版次	<OrgAddr1>	页次	3 /5	日期	20170620
核准	<OrgAddr2>		审核	<OrgAddr3>	
ALE	/		编写	叶海鹏	


输入信号
CPU_CTRL_ROW1
CPU_CTRL_ROW2
CPU_CTRL_ROW3
CPU_CTRL_ROW4
CPU_CTRL_ROW5
CPU_CTRL_ROW6
CPU_CTRL_ROW7
CPU_CTRL_ROW8
CPU_CTRL_ROW9
CPU_CTRL_ROW10
CPU_CTRL_LINE1
CPU_CTRL_LINE2
CPU_CTRL_LINE3
CPU_CTRL_LINE4
CPU_CTRL_LINE5
CPU_CTRL_LINE6
CPU_CTRL_LINE7
CPU_CTRL_LINE8
CPU_CTRL_LINE9
CPU_CTRL_LINE10
R23 10R(1/3W)
R24 10R(1/3W)
R25 10R(1/3W)
R26 10R(1/3W)
R29 10R(1/3W)
R32 10R(1/3W)
R33 10R(1/3W)
R34 10R(1/3W)
R37 10R(1/3W)
R40 10R(1/3W)
1R
P_VCC_24V
Q2
R27 10K R28 10K 1R CTRL_LINE1
R30 10K R31 10K 1R CTRL_LINE2
4800_NMOS
LINE1
LINE2
Q3
R35 10K R36 10K 1R CTRL_LINE3
R38 10K R39 10K 1R CTRL_LINE4
LINE3
LINE4
Q4
R41 10K R42 10K 1R CTRL_LINE5
R43 10K R44 10K 1R CTRL_LINE6
LINE5
LINE6
Q5
R45 10K R46 10K 1R CTRL_LINE7
R47 10K R48 10K 1R CTRL_LINE8
LINE7
LINE8
Q6
R49 10K R50 10K 1R CTRL_LINE9
R51 10K R52 10K 1R CTRL_LINE10
LINE9
LINE10
CPU_BakeUp1
CPU_BakeUp2
CPU_PUT_Thing
CPU_KEY1
CPU_KEY2
CPU_KEY3
CPU_KEY4
CPU_HALL_SENSE
LINE_FB1_IN1
LINE_FB1_IN2
LINE_FB1_IN3
LINE_FB1_IN4
LINE_FB1_IN5
LINE_FB1_IN6
LINE_FB1_IN7
LINE_FB1_IN8
LINE_FB1_IN9
LINE_FB1_IN10
1R
列驱动：ROW
J7
ROW10 ROW9 ROW8 ROW7 ROW6 ROW5 ROW4 ROW3 ROW2 ROW1
J_VH_1X10_P3M96_M_H
行驱动：line
J9
LINE10 LINE9 LINE8 LINE7 LINE6 LINE5 LINE4 LINE3 LINE2 LINE1
J_VH_1X10_P3M96_M_H
J8
行反馈
LINE_FB10 LINE_FB9 LINE_FB8 LINE_FB7 LINE_FB6 LINE_FB5 LINE_FB4 LINE_FB3 LINE_FB2 LINE_FB1
J_VH_1X10_P3M96_M_H
P_VCC_3V3
P_VCC_5V
DIR=1 A->B
U9
RN2 4.7K
RN4 4.7K
74LVCHC245APW
U10
ULN2003
U8
RN1 4.7K
RN3 4.7K
U11
RN5 4.7K
HALL_SENSE
U13
RN6 4.7K
RN8
4.7K
U12
U15
RN10 4.7K
RN13 4.7K
U17
U14
RN7 4.7K
RN9 4.7K
J10
KEY1 BakeUp1
KEY2 BakeUp2
KEY3 KEY1
KEY4 PUT_Thing
J_XH_1X8_P2M54_V
Q7
CTRL_ROW1 R53 10K R54 10K 24V
CTRL_ROW2 R55 10K R56 10K 24V
4953_PMOS
ROW1
ROW2
Q8
CTRL_ROW3 R57 10K R58 10K 24V
CTRL_ROW4 R59 10K R60 10K 24V
ROW3
ROW4
Q9
CTRL_ROW9 R61 10K R62 10K 24V
CTRL_ROW10 R64 10K R63 10K 24V
ROW9
ROW10
Q10
CTRL_ROW5 R65 10K R66 10K 24V
CTRL_ROW6 R68 10K R67 10K 24V
ROW5
ROW6
Q11
CTRL_ROW7 R69 10K R70 10K 24V
CTRL_ROW8 R71 10K R72 10K 24V
ROW7
ROW8
KEY1 上限位 常态为断开，闭合时为高电平
KEY2 下限位 常态为断开，闭合时为高电平
KEY3 非法开门
KEY4 备用
整件设计文件
产品型号 VMC_Motor_Driver
原理图
硬件版本 0.71
文件编号 <OrgName>
版次 <OrgAddr1> 页次 4 /5 日期 20170620
核准 <OrgAddr2> 审核 <OrgAddr3>
ALE / 编写 叶海鹏


CPU_CTRL_MOTOR1
CPU_CTRL_MOTOR2+
CPU_CTRL_MOTOR2-
CPU_CTRL_MOTOR3+
CPU_CTRL_MOTOR3-
CPU_CTRL_MOTOR4+
CPU_CTRL_MOTOR4-
CPU_CTRL_MOTOR5+
CPU_CTRL_MOTOR5-
CTRL_MOTOR1_PWM
J12
J_VH_1X10_P3M96_M_H
RN14 4.7K
RN15 4.7K
U18
U19
74LVCHC245APW
ULN2003
P_VCC_5V
P_VCC_24V
DIR=1 A->B
备注：
当CTRL_MOTOR2+给低电平时电机正转，CTRL_MOTOR2-默认为高电平
当CTRL_MOTOR2-给低电平时电机反转，CTRL_MOTOR2+默认为高电平
K1
K2
K3
K4
K5
K6
K7
K8
K9
RELAY_SRD_24V
RELAY_SMI-2P
D_1N4007
U20
U21
R73 10K
R74 10K
Q12
IRF3205
R75 10R(1/3W)
R76 10R(1/3W)
R77 10R(1/3W)
R78 10R(1/3W)
R79 10R(1/3W)
R80 10R(1/3W)
R81 10R(1/3W)
R82 10R(1/3W)
R83 10R(1/3W)
R84 10R(1/3W)
MOTOR_1R
整件设计文件
产品型号
VMC_Motor_Driver
原理图
硬件版本
0.71
文件编号
<OrgName>
版次
<OrgAddr1>
页次
5 /5
日期
20170620
核准
<OrgAddr2>
审核
<OrgAddr3>
ALE
/
编写
叶海鹏