

# 野火\_无刷直流电机驱动模块\_原理图\_v0.1

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Title  
野火\_无刷直流电机驱动模块\_原理图

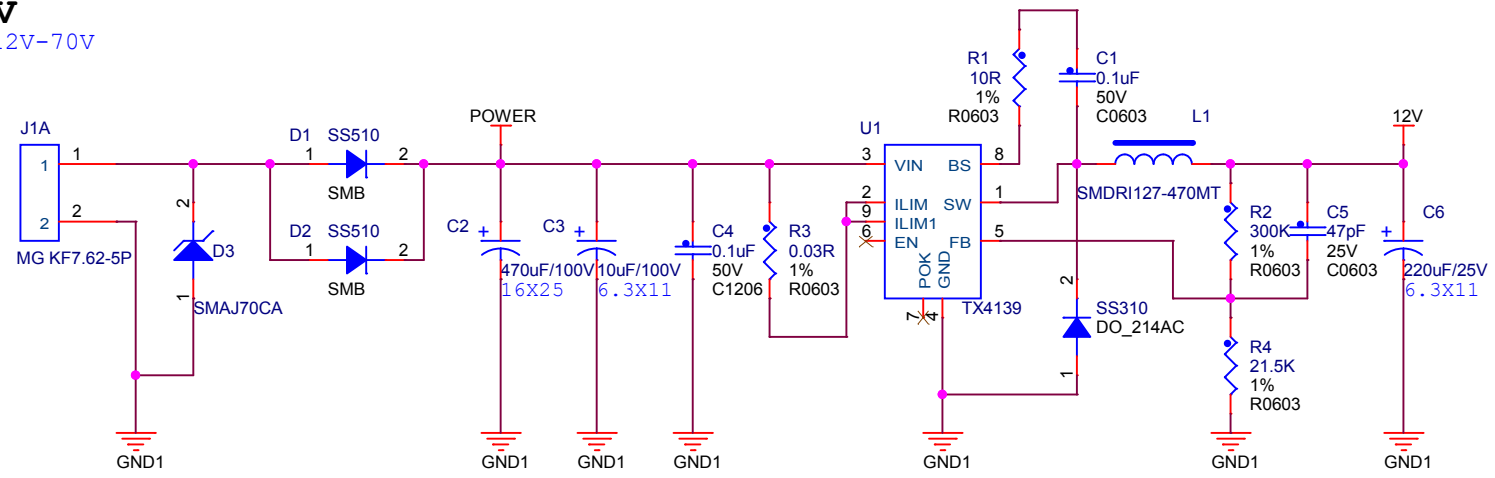
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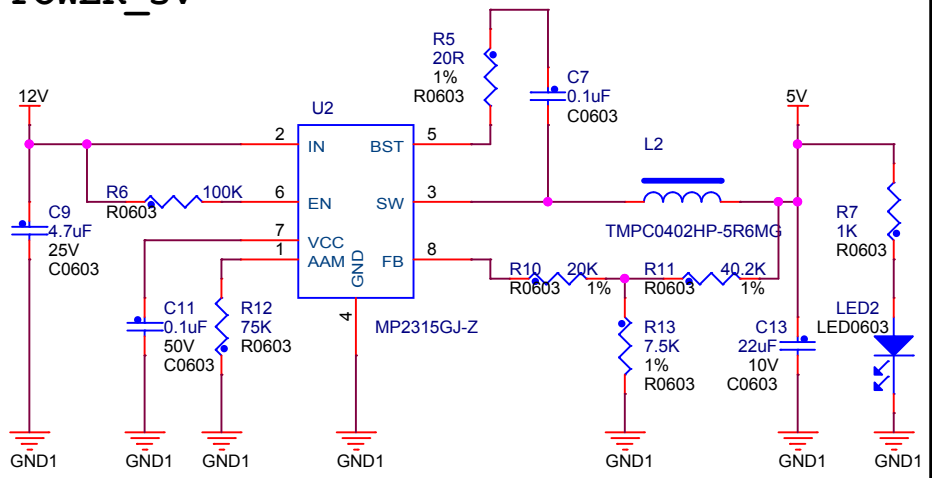
# 历史版本

版本号	日期	设计	描述
v0.1	2020-09-04	xgh	初始版本

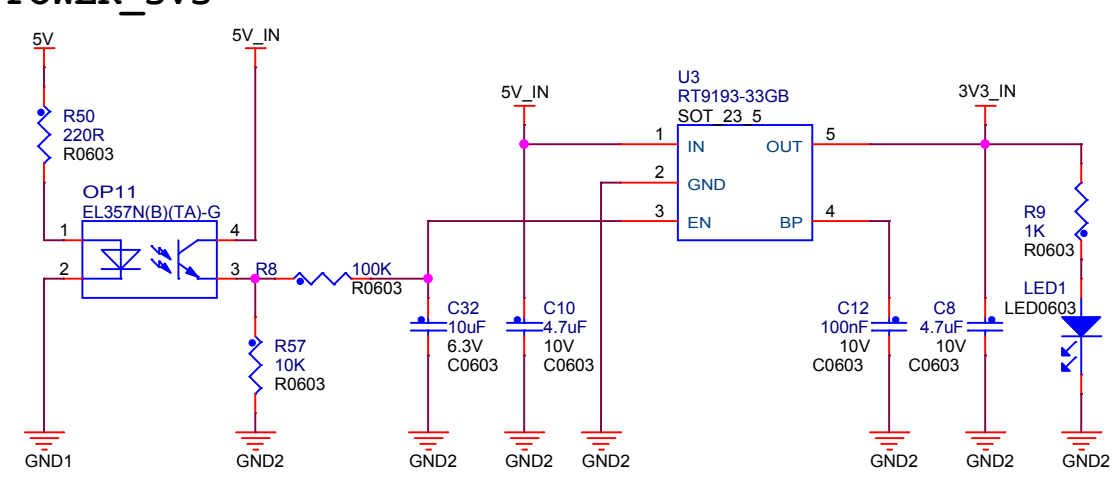
POWER\_12V  
输入电压范围12V-70V



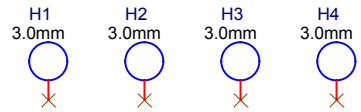
POWER\_5V



POWER\_3V3

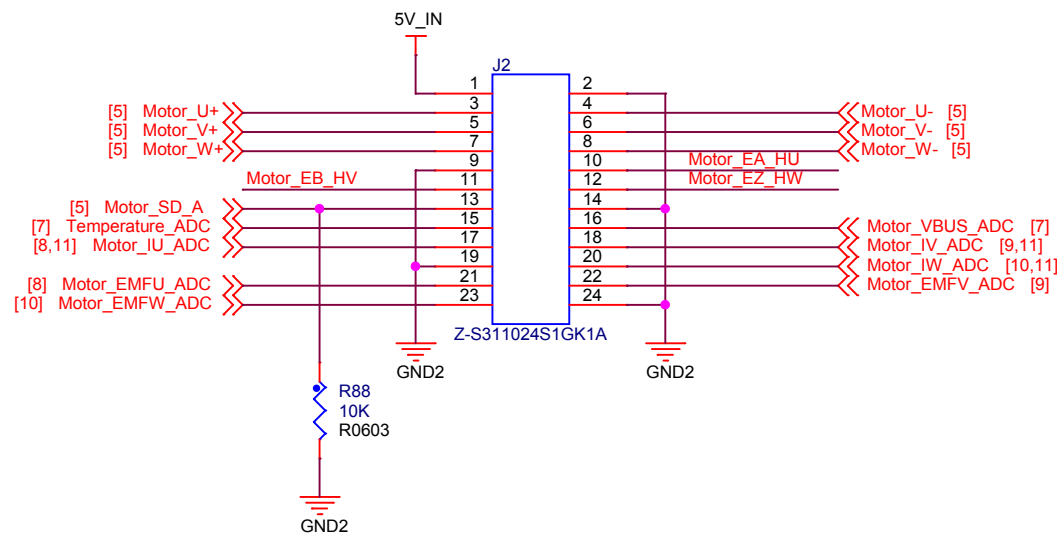


定位孔

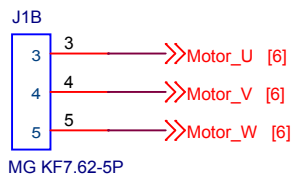


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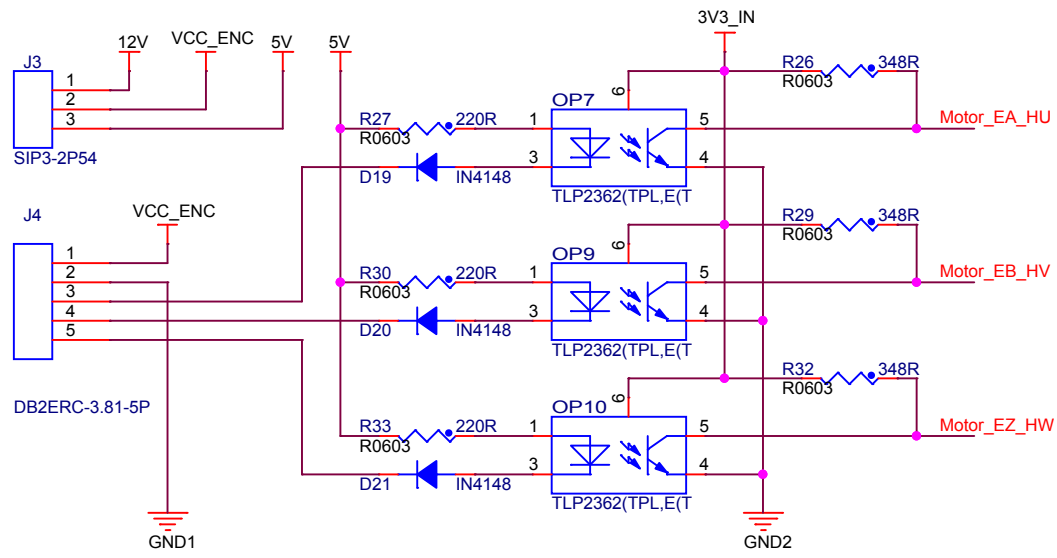
主板接口



电机接口

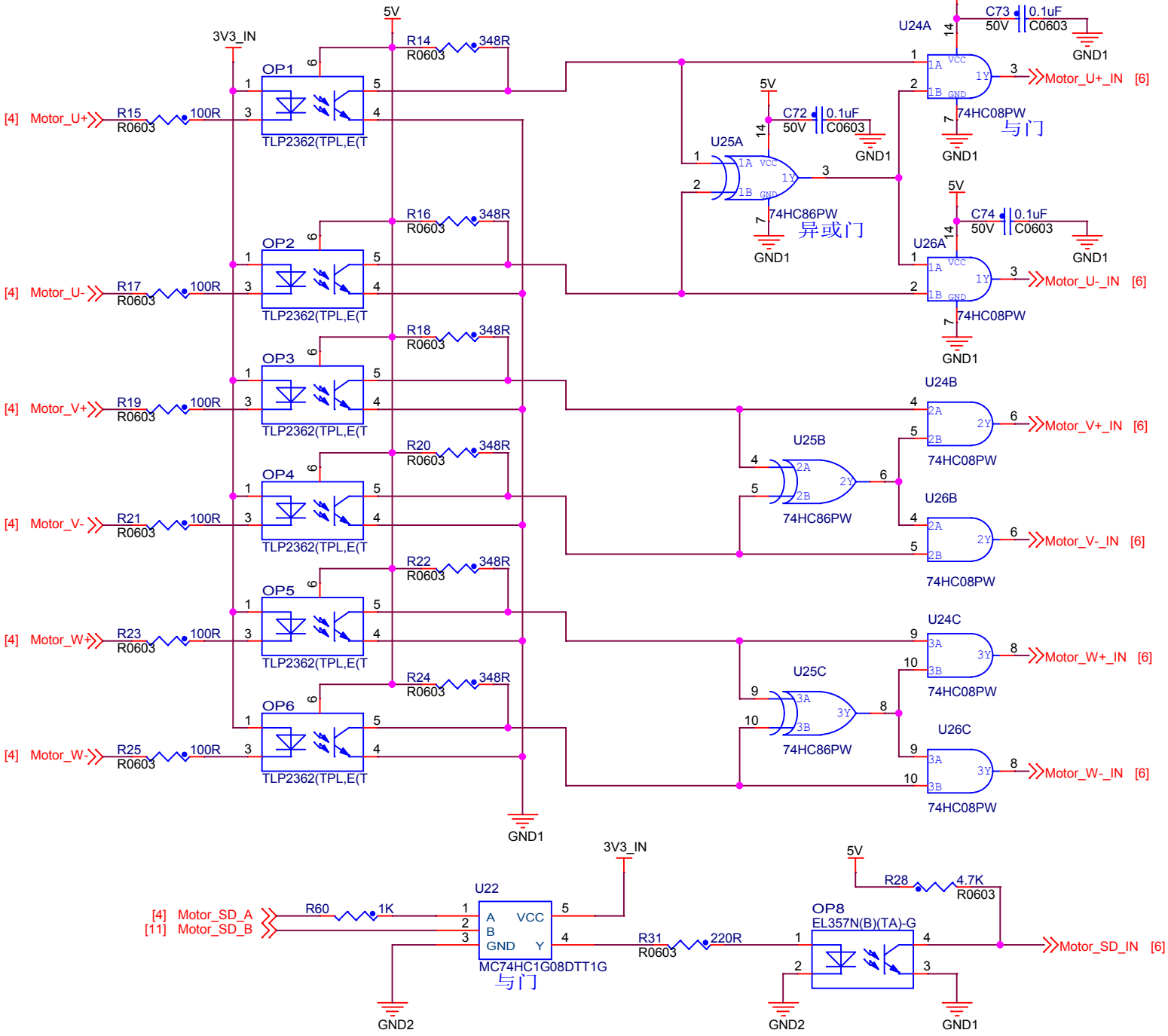


编码器接口



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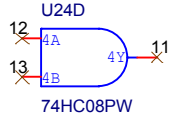
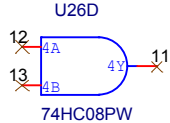
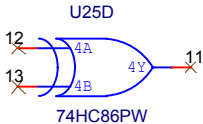
输入信号隔离



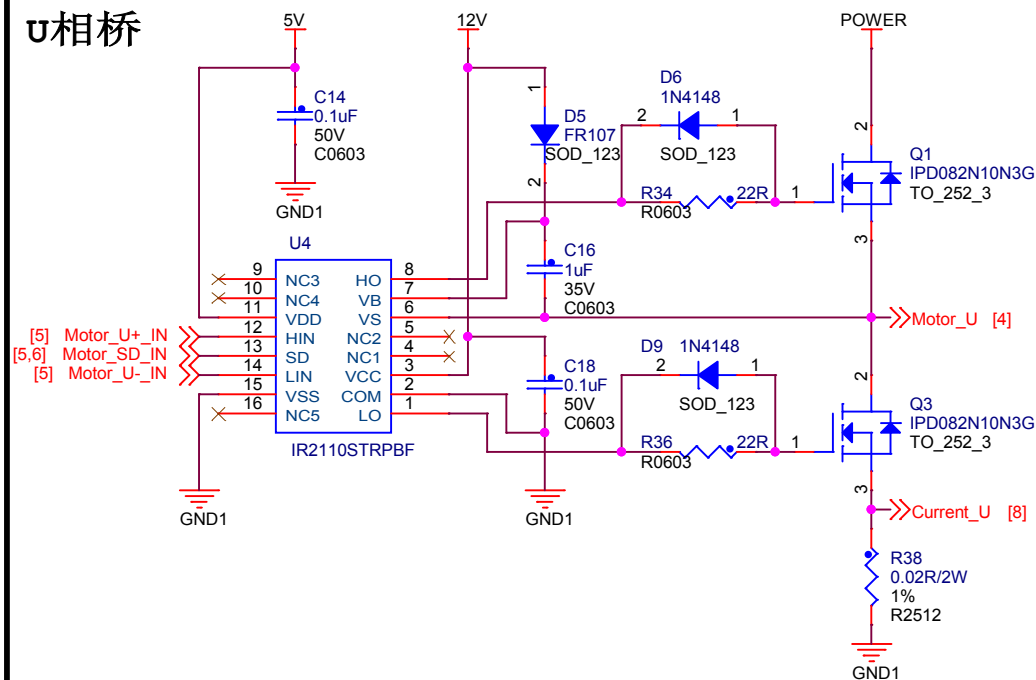
防烧管电路

防烧管电路真值表

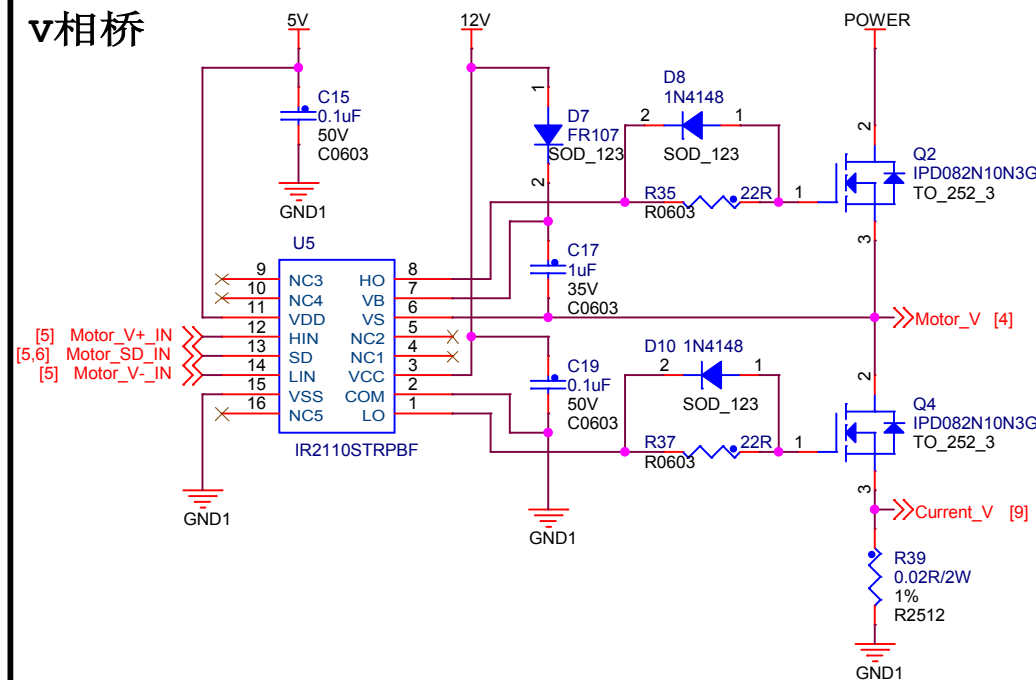
输入		输出	
Motor_U+	Motor_U-	Motor_U+_IN	Motor_U-_IN
H	H	L	L
H	L	H	L
L	H	L	H
L	L	L	L



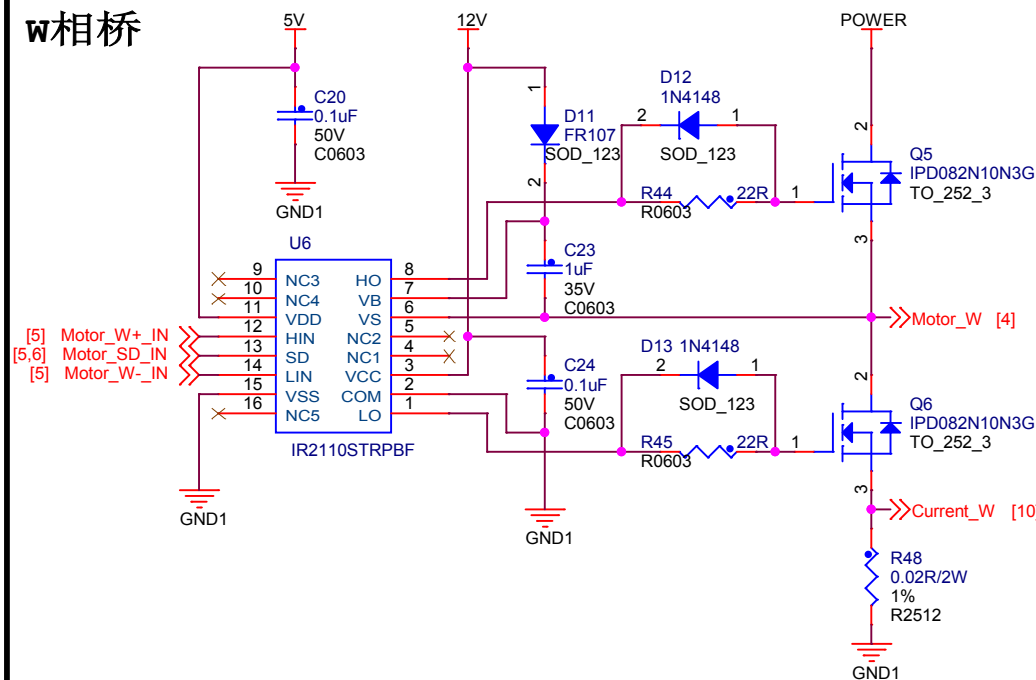
## u相桥



## v相桥

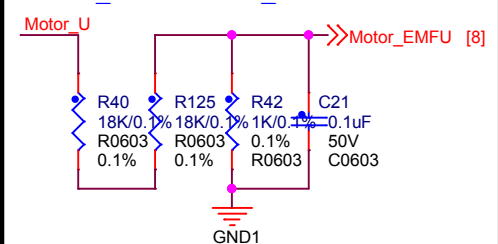


## w相桥



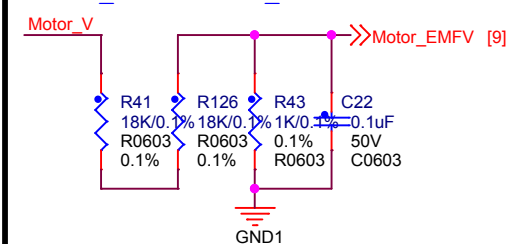
## u相电动势

Motor\_EMFU=Motor\_U/37



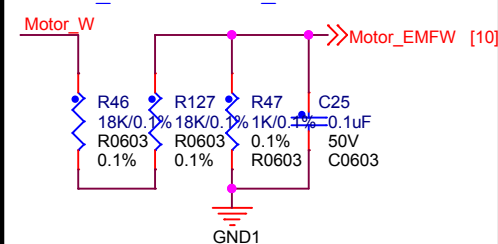
## v相电动势

Motor\_EMFV=Motor\_V/37



## w相电动势

Motor\_EMFW=Motor\_W/37



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Title

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桥电路/电动势检测

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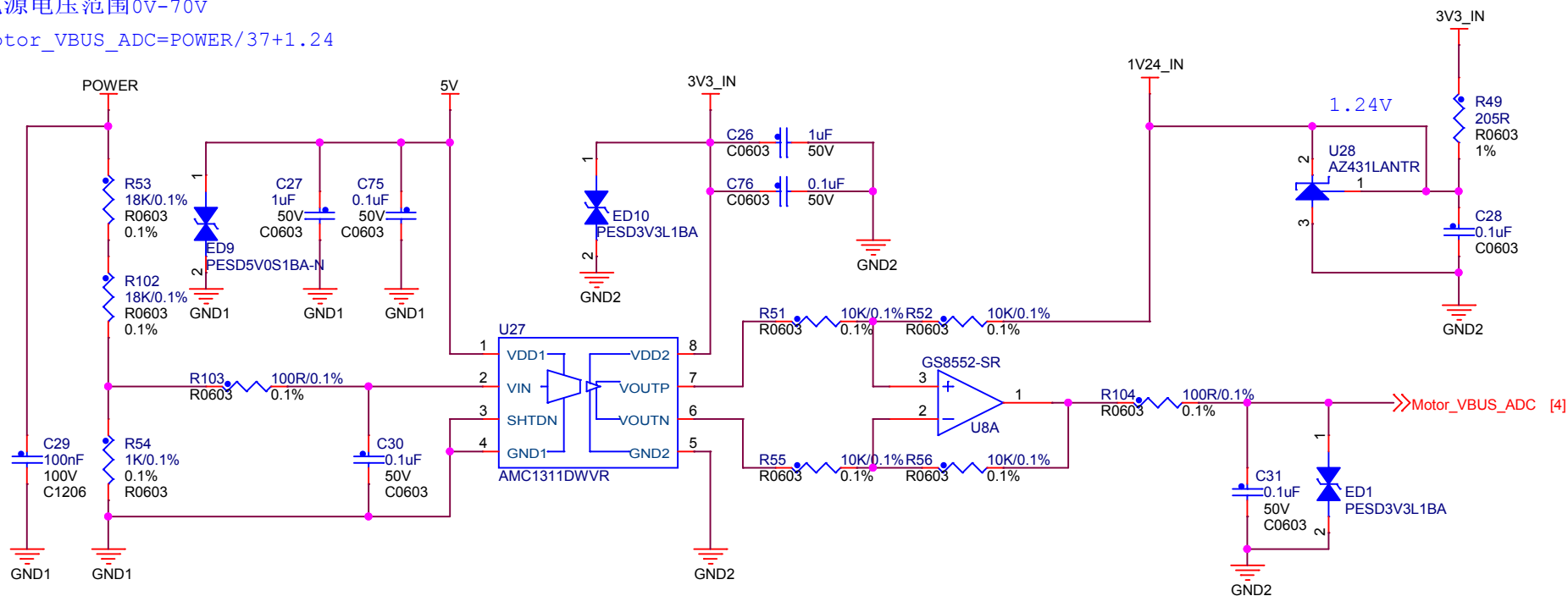
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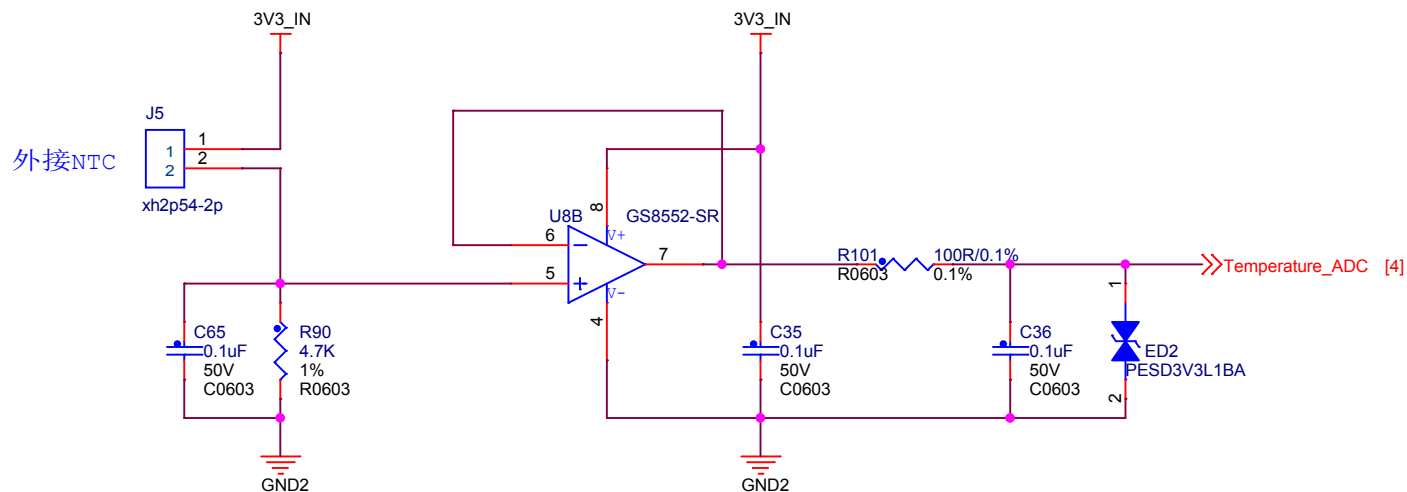
# 电源电压检测隔离

电源电压范围0V~70V

Motor\_VBUS\_ADC=POWER/37+1.24



# 温度检测



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Document Number

总线电压检测隔离/温度检测

Rev

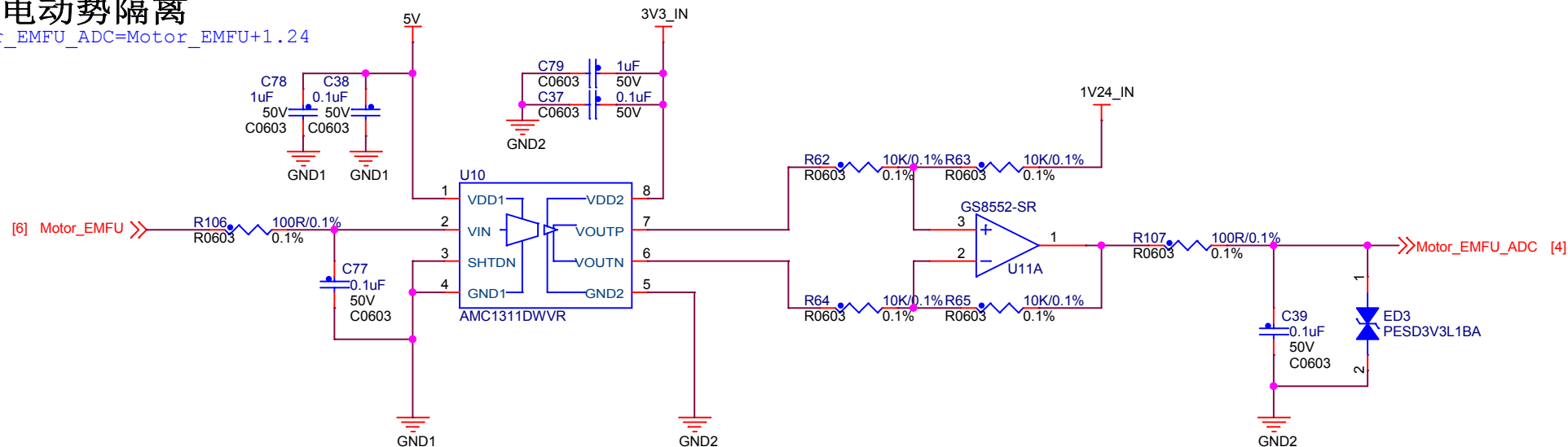
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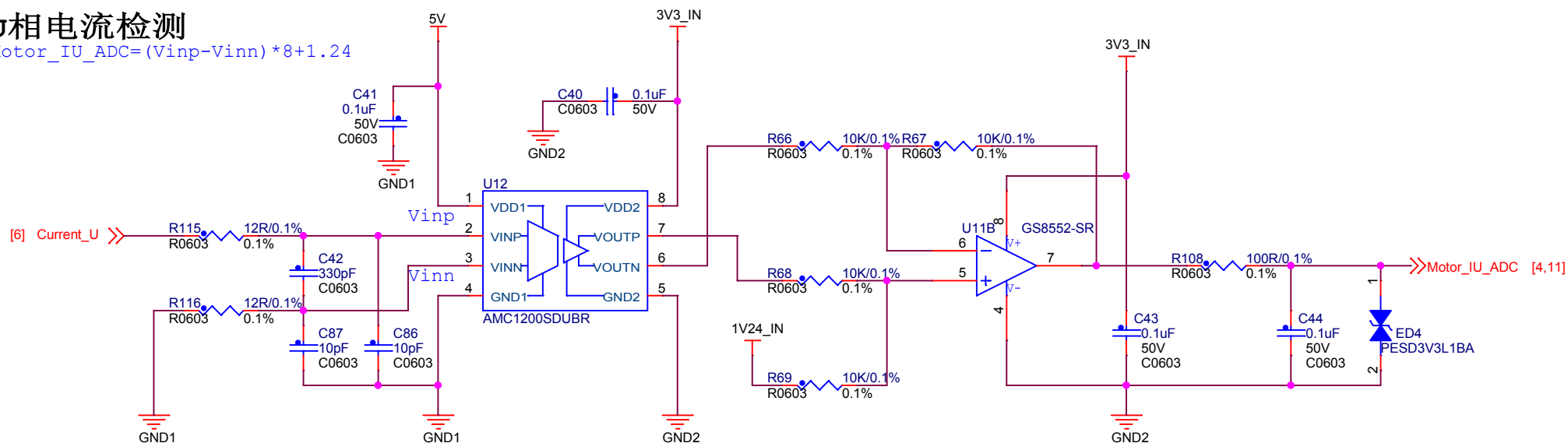
## U相电动势隔离

$Motor\_EMFU\_ADC = Motor\_EMFU + 1.24$



## U相电流检测

$Motor\_IU\_ADC = (V_{inP} - V_{inN}) * 8 + 1.24$



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U相电压电流检测隔离

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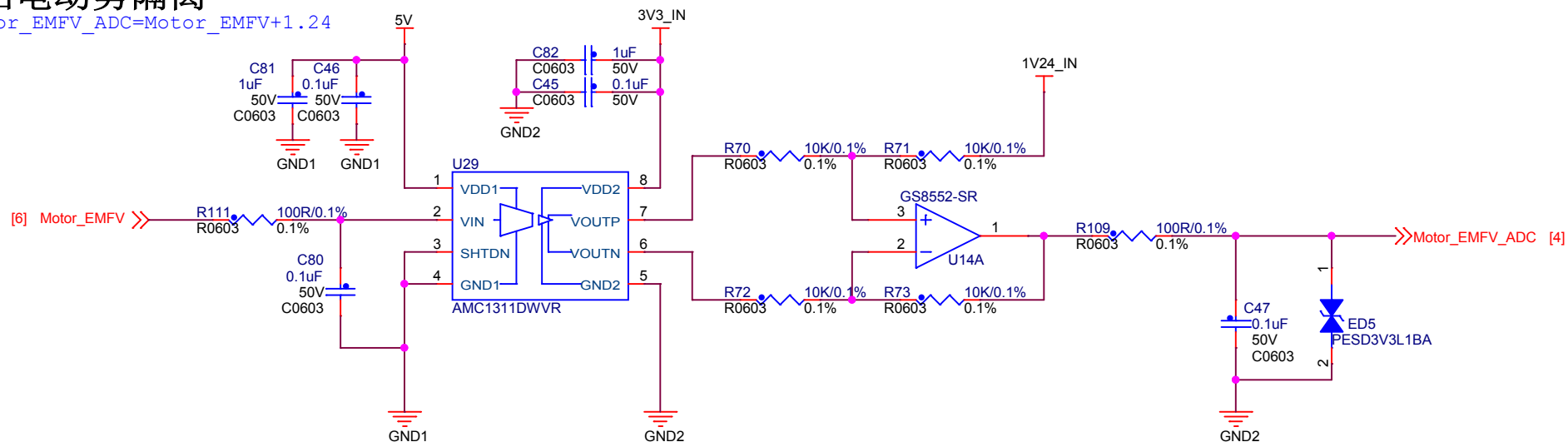
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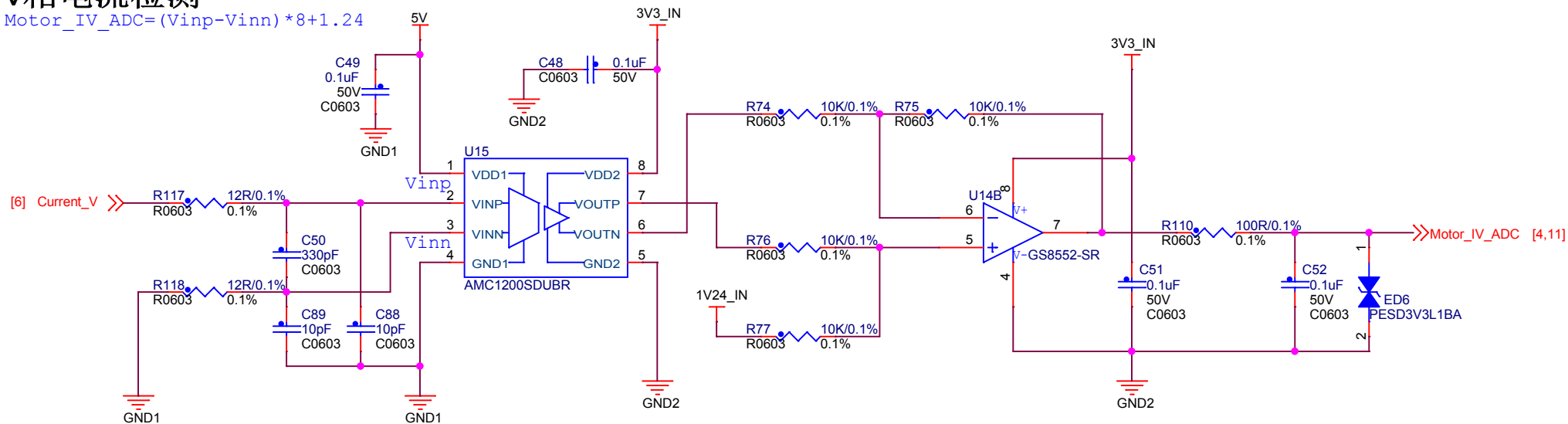
## v相电动势隔离

$Motor\_EMFV\_ADC = Motor\_EMFV + 1.24$



## v相电流检测

$Motor\_IV\_ADC = (V_{inP} - V_{inN}) * 8 + 1.24$



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Document Number  
V相电压电流检测隔离

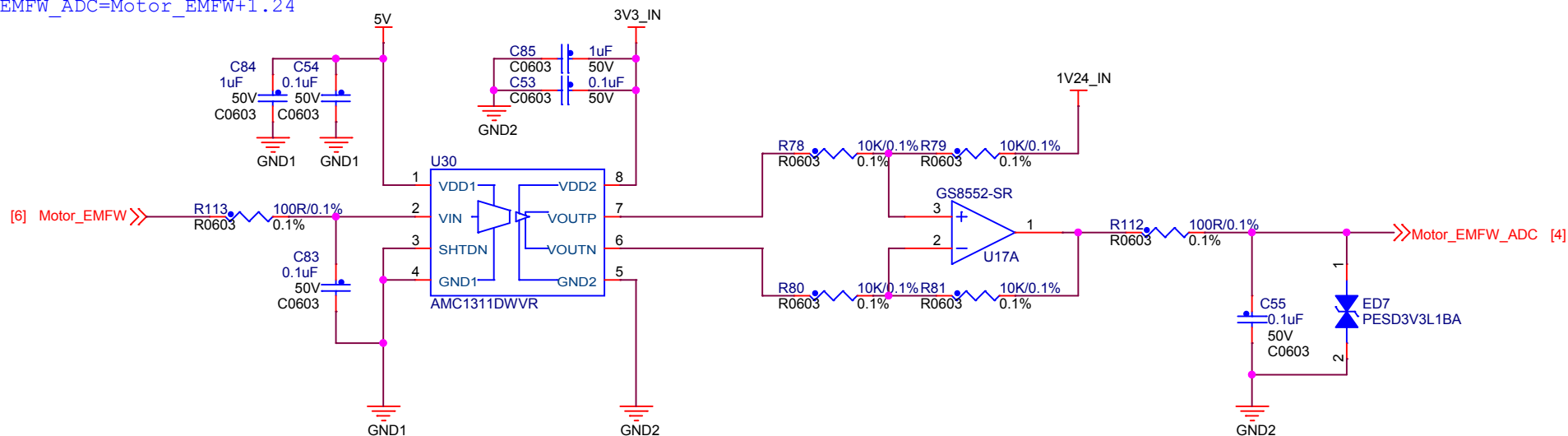
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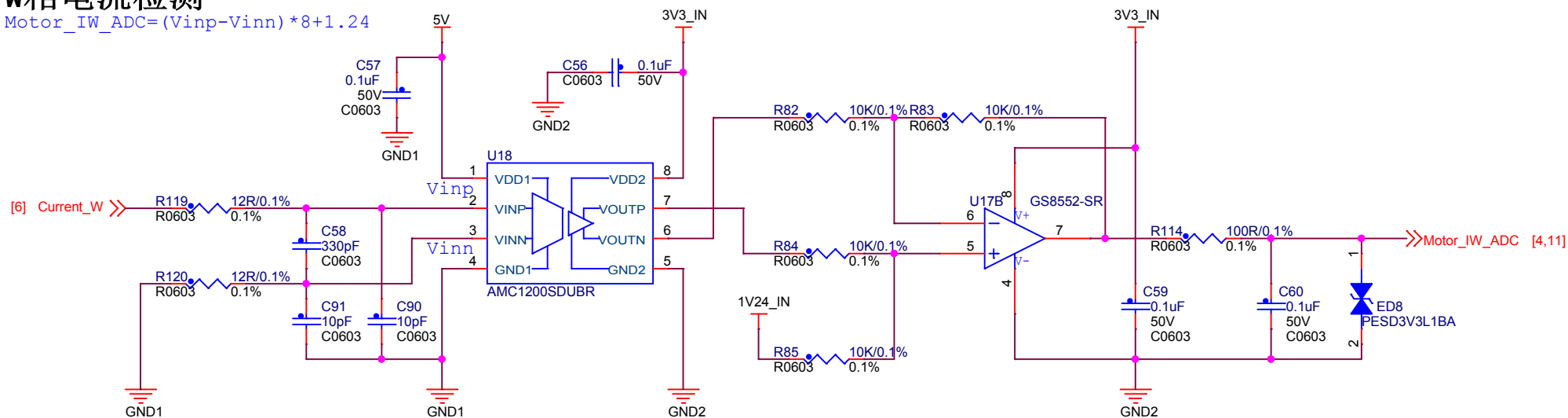
## w相电动势隔离

$Motor\_EMFW\_ADC = Motor\_EMFW + 1.24$



## w相电流检测

$Motor\_IW\_ADC = (V_{inP} - V_{inN}) * 8 + 1.24$



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W相电压电流检测隔离

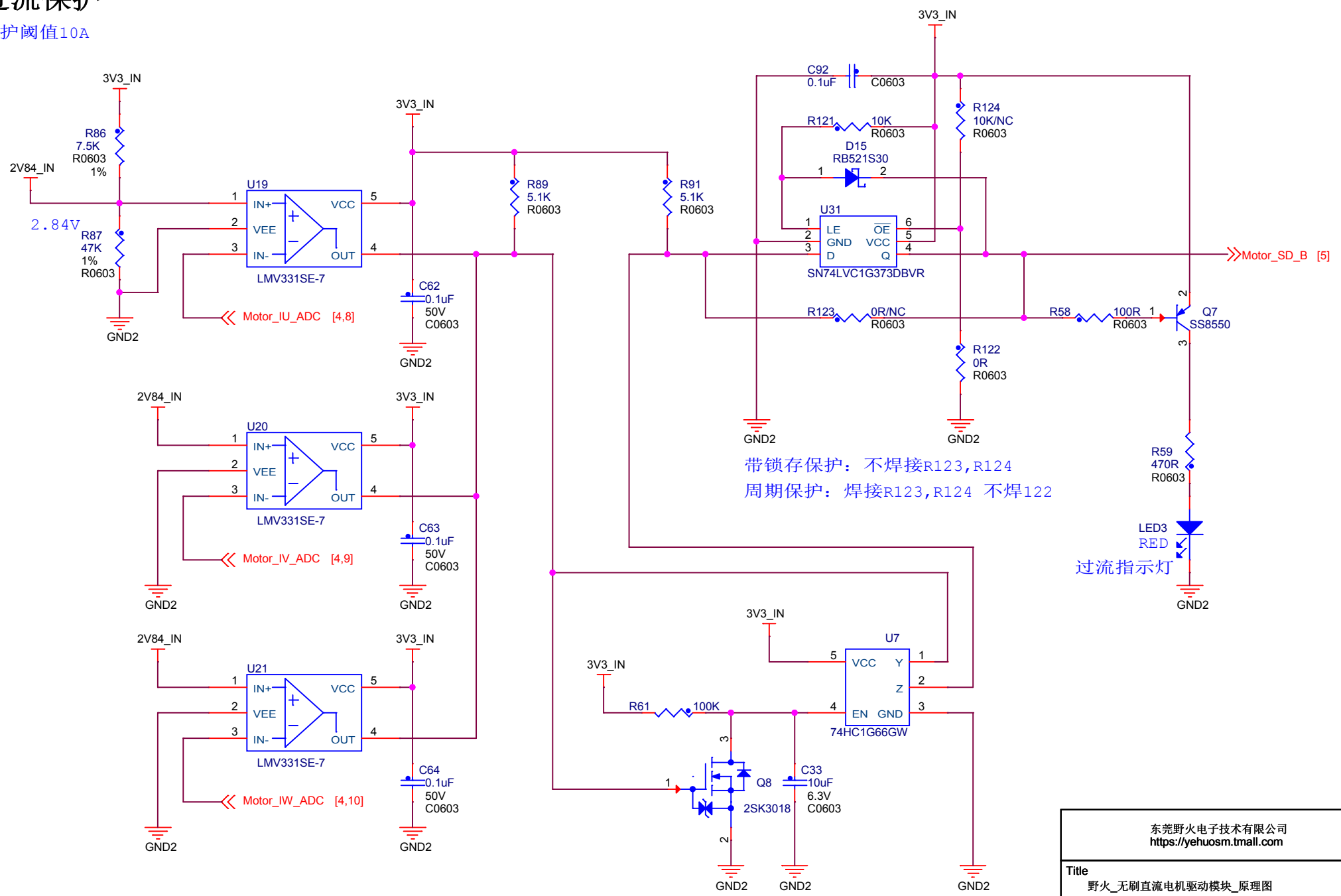
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过流保护

保护阈值10A



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