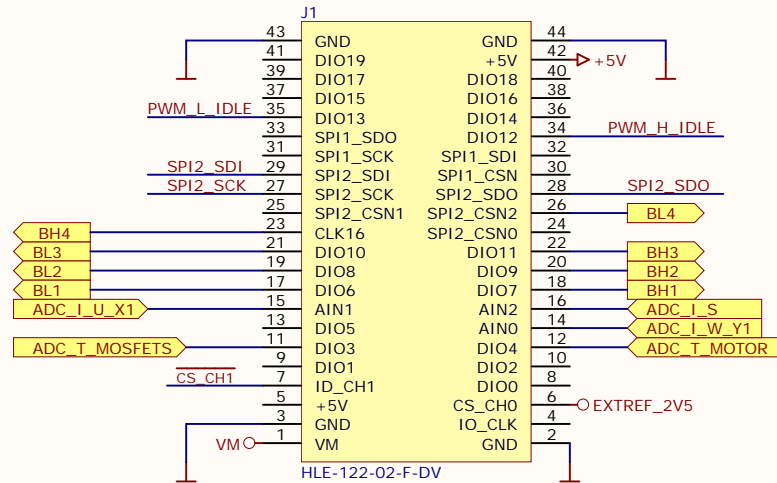
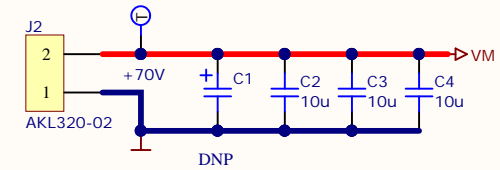


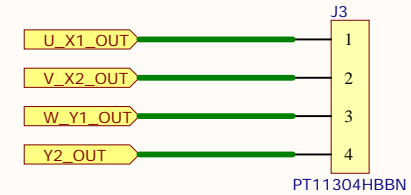
### uC or Motor Controller Connector



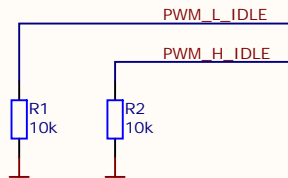
### Power Connector



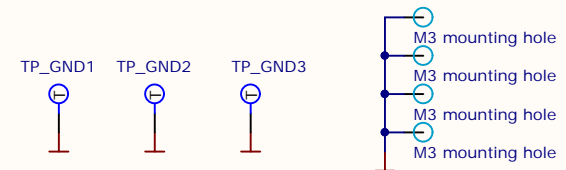
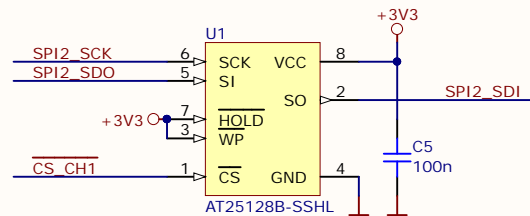
### Motor Connector



### Bridge Idle State



### Ident EEPROM



Title **TMC-UPS 10A/70V A EVAL Main & I/O**

Size: **A4**

Revision: **V1.0**

[No Variations]

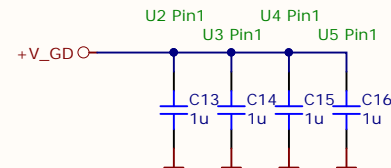
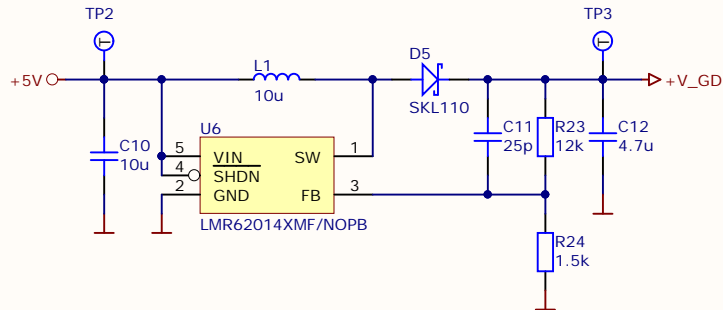
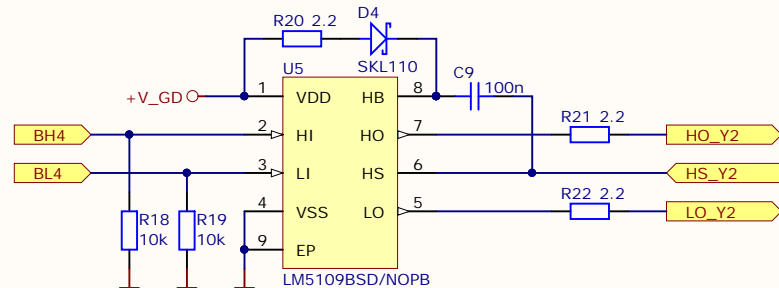
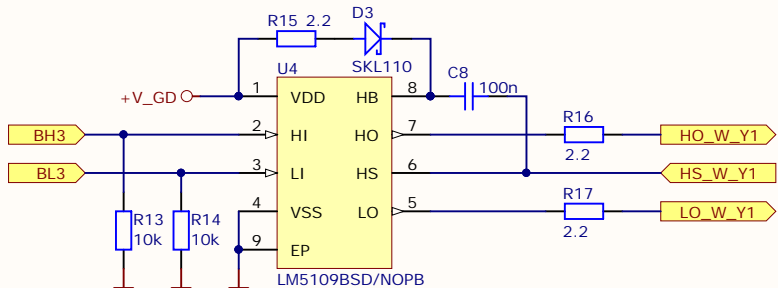
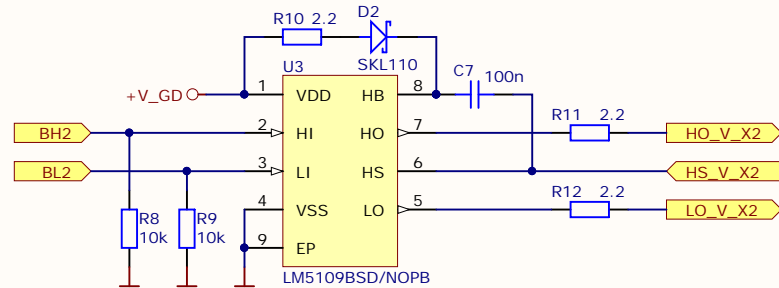
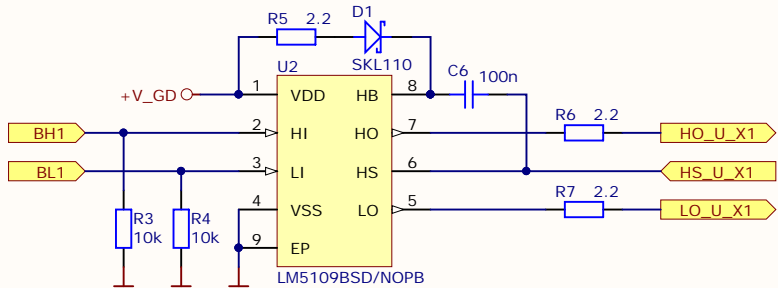
Date: **15.04.2019** Time: **14:06:43** Sheet **1** of **5**

File: **TMC-UPS-10A70V-A-EVAL-V10 Main.SchDoc**

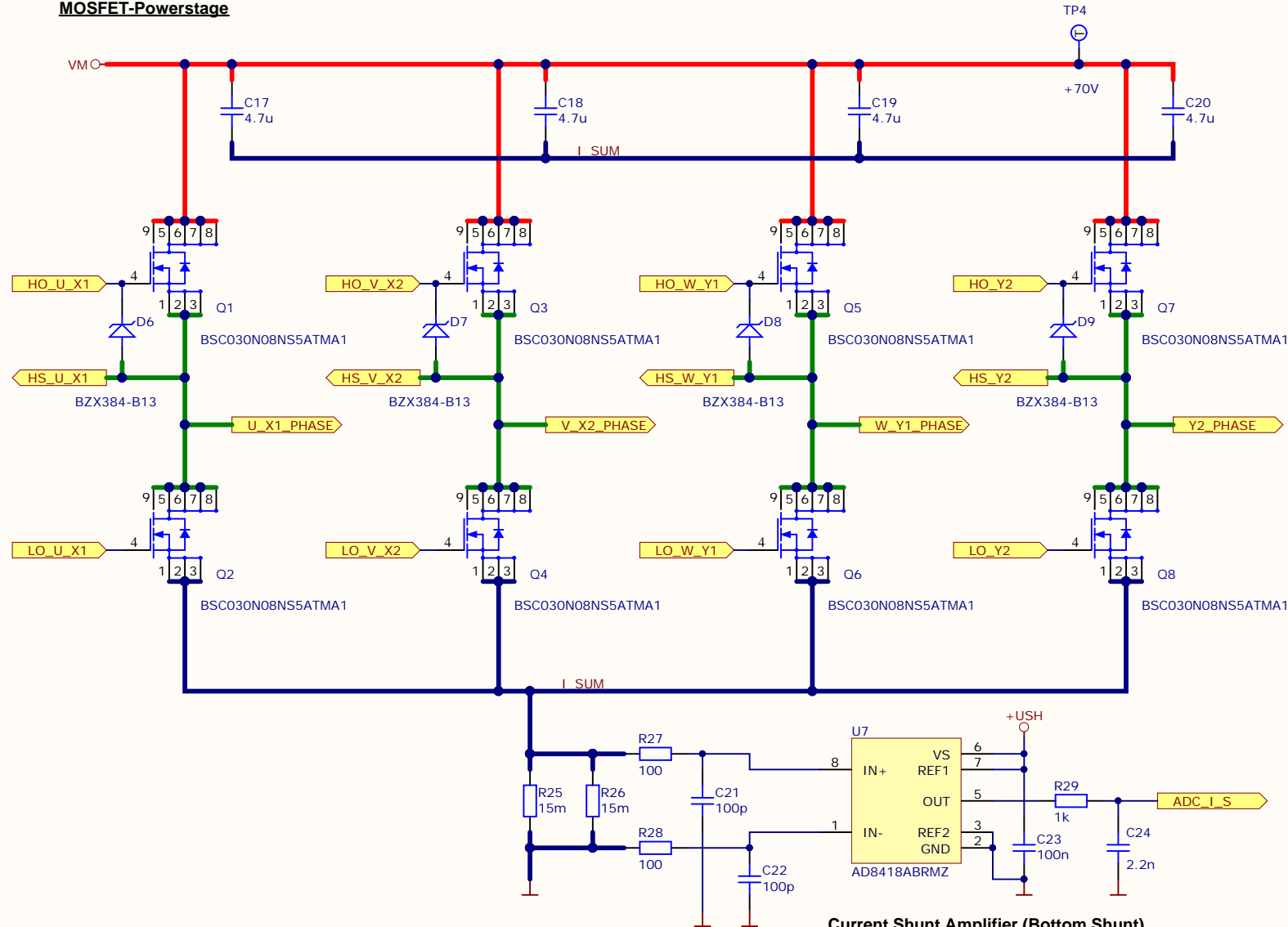


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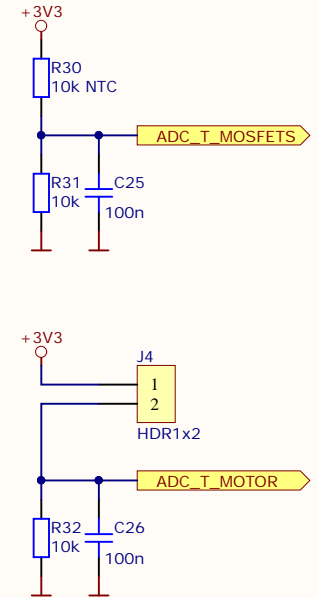
MOSFET Predrivers



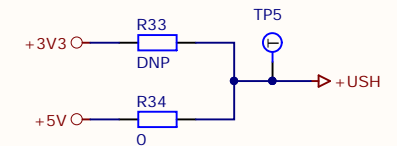
## MOSFET-Powerstage



## Temp sensing



## Shunt Amplifier power select (default +5V)



## Current Shunt Amplifier (Bottom Shunt)

Title <b>TMC-UPS 10A/70V A EVAL MOSFETs</b>		
Size: <b>A4</b>	Revision: <b>V1.0</b>	[No Variations]
Date: <b>15.04.2019</b>	Time: <b>14:06:44</b>	Sheet <b>3</b> of <b>5</b>
File: <b>TMC-UPS-10A70V-A-EVAL-V10 MOSFETs.SchDoc</b>		



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## Power Sense

U\_X1\_PHASE

V\_X2\_PHASE

W\_Y1\_PHASE

Y2\_PHASE

Power limit for 1W current sense resistors

$$15\text{m}\Omega / 2 = 7.5\text{m}\Omega$$

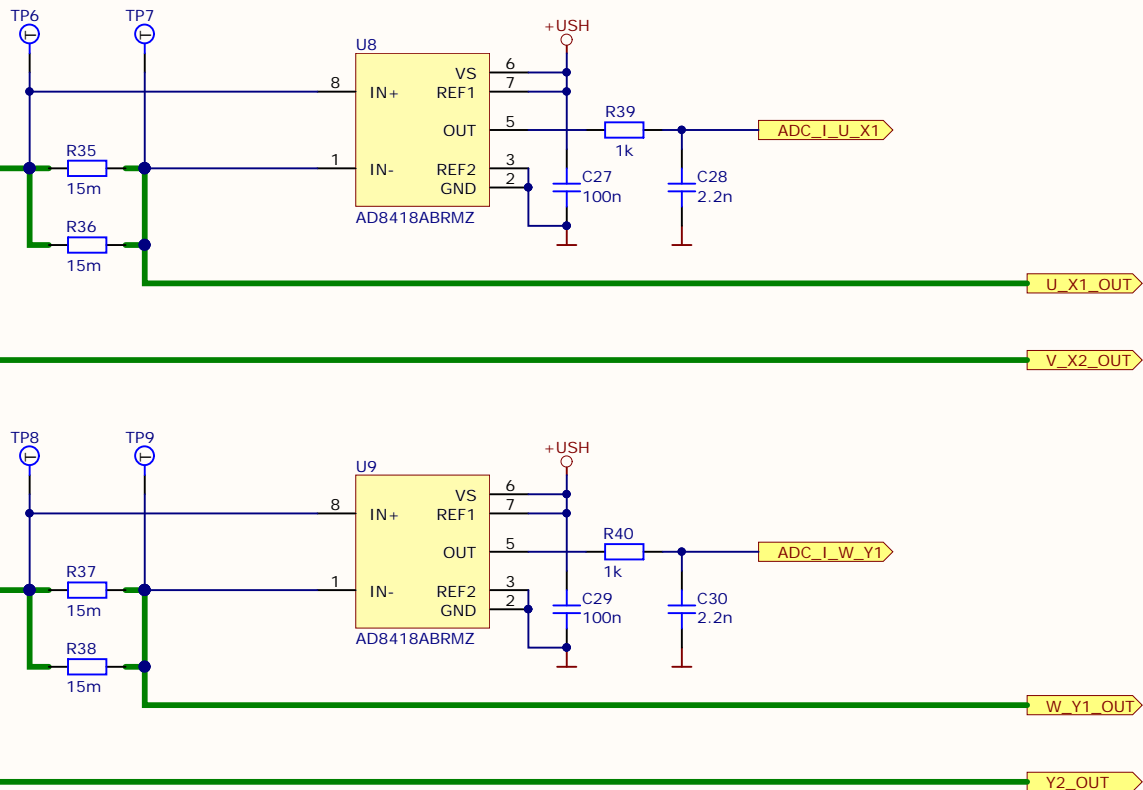
Voltage pass for current sense

$$10\text{A} * 7.5\text{m}\Omega = 75\text{mV}$$

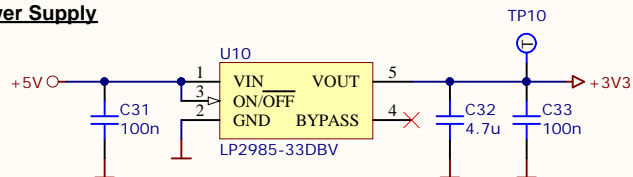
$$10\text{A} * 75\text{mV} = 0.75\text{W} < 2 \times 1\text{W}$$

AD8418 G=20

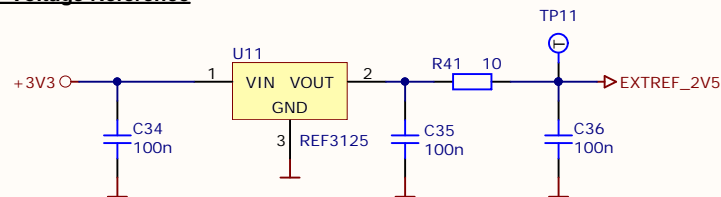
$$75\text{mV} * 20 = 1.5\text{V}$$



## 3.3V Power Supply



## Ext 2.5V Voltage Reference



Title **TMC-UPS 10A/70V A EVAL Power Sense**

Size: **A4**

Revision: **V1.0**


[No Variations]

Date: **15.04.2019** Time: **14:06:44** Sheet **4** of **5**

File: **TMC-UPS-10A70V-A-EVAL-V10 Power Sense.SchDoc**



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<div>A</div> <div>B</div> <div>C</div> <div>D</div>	<div>1</div> <div>2</div>	<div>3</div> <div>ToDo:</div> <div>4</div>	<div>A</div> <div>B</div> <div>C</div> <div>D</div> <div> <div> <div>Drafted by: Peep Narusberg</div> <div>Checked by: ---</div> <div>Approved by: Stephan Kubisch</div> </div> <div> <table> <tr> <td>Title</td> <td colspan="3">TMC-UPS 10A/70V A EVAL log and approval</td> </tr> <tr> <td>Size:</td> <td>A4</td> <td>Revision:</td> <td>V1.0 [No Variations]</td> </tr> <tr> <td>Date:</td> <td>15.04.2019</td> <td>Time:</td> <td>14:06:44 Sheet 5 of 5</td> </tr> <tr> <td>File:</td> <td colspan="3">TMC-UPS-10A70V-A-EVAL-V10_Log_SchDoc</td> </tr> </table> <div>  <div> <div>Waterloohain 5</div> <div>22769 Hamburg</div> <div>Germany</div> <div>tmc_info@trinamic.com</div> </div> </div> </div> </div>	Title	TMC-UPS 10A/70V A EVAL log and approval			Size:	A4	Revision:	V1.0 [No Variations]	Date:	15.04.2019	Time:	14:06:44 Sheet 5 of 5	File:	TMC-UPS-10A70V-A-EVAL-V10_Log_SchDoc		
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Size:	A4	Revision:	V1.0 [No Variations]																
Date:	15.04.2019	Time:	14:06:44 Sheet 5 of 5																
File:	TMC-UPS-10A70V-A-EVAL-V10_Log_SchDoc																		
1	2	3	4																