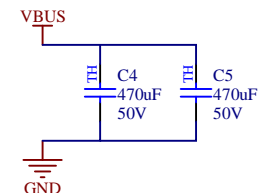
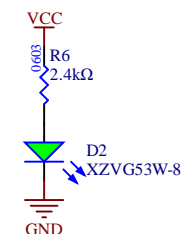


rev 2 todo:
implement the temp sensor

Bulk Capacitor



Power LED



VCC = VREF = 3.3V

$(3.3V - 2.1V) / (0.5mA) = 2.4k\Omega$

WARG

Waterloo Aerial Robotics Group
200 University Ave W
Waterloo, Ontario, Canada
N2L 3G1



PROJECT
BLDC Motor Controller.PrjPcb, [No Variations]

REVISION
1

DOCUMENT
DRV8353FS.SchDoc

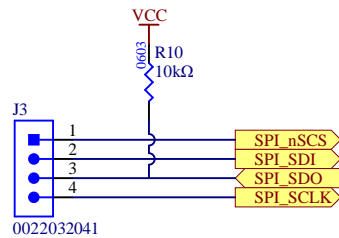
MODIFIED
2022-02-01

ENGINEER
Jason Skells

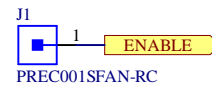
REVIEWER
*

SHEET 1 OF 4

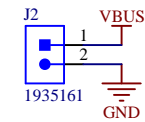
SPI Header



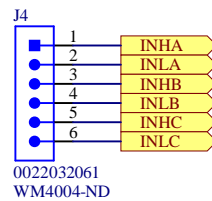
Enable Pin Header



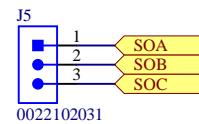
Power Header



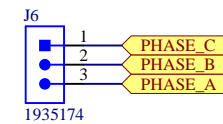
Gate Driver Input Control Header



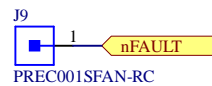
Shunt Amplifier Output Header



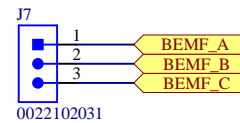
Motor Output Header



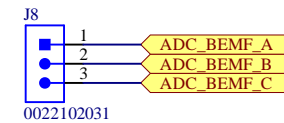
nFAULT Pin Header



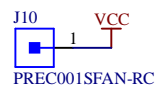
BEMF Sensing Comparator Header



BEMF Sensing ADC Header



VCC Pin Header



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PROJECT
BLDC Motor Controller.PrjPcb, [No Variations]

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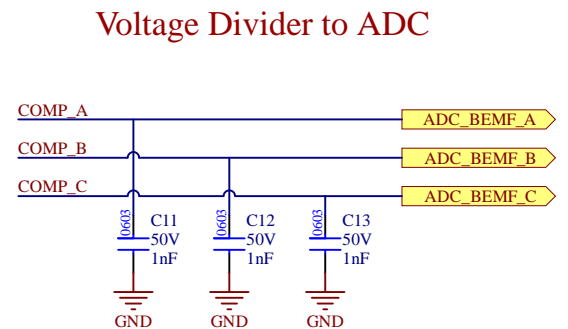
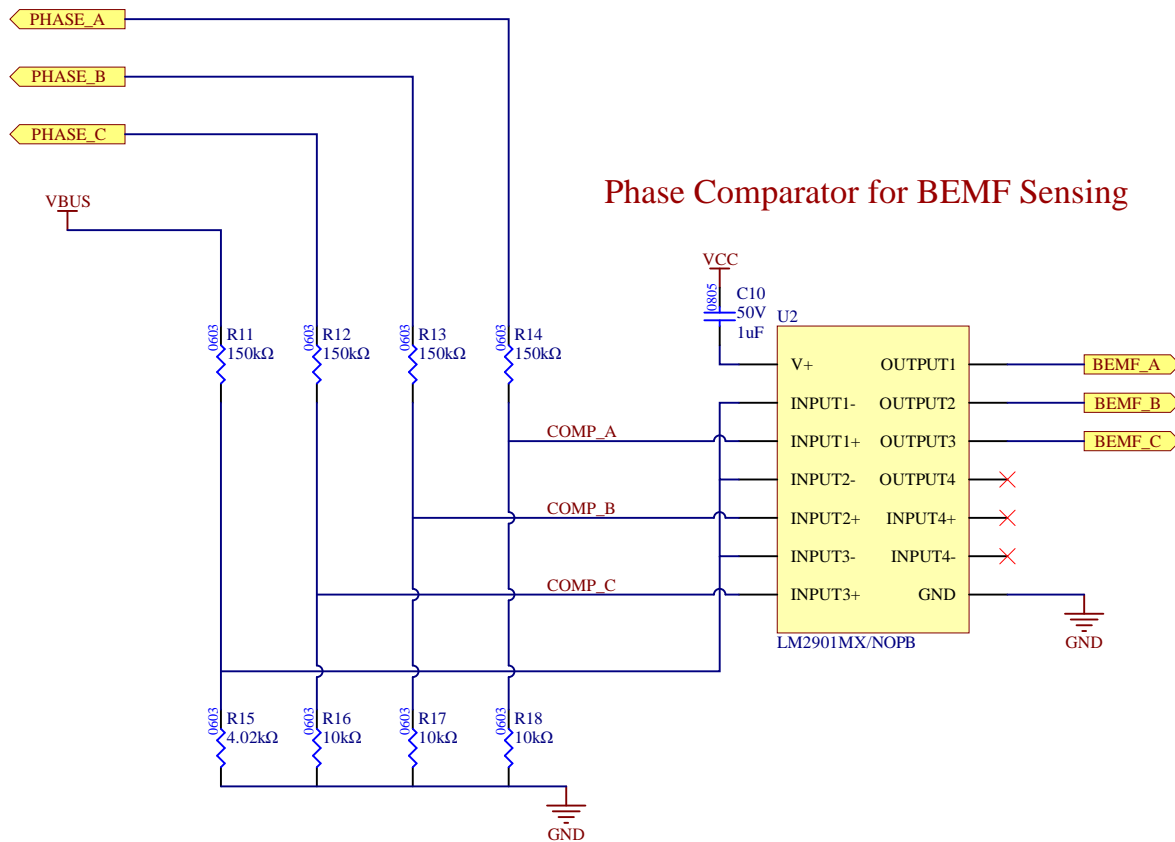
DOCUMENT
Gate_Driver_Connectors.SchDoc



MODIFIED
2022-01-15

ENGINEER
Jason Skells

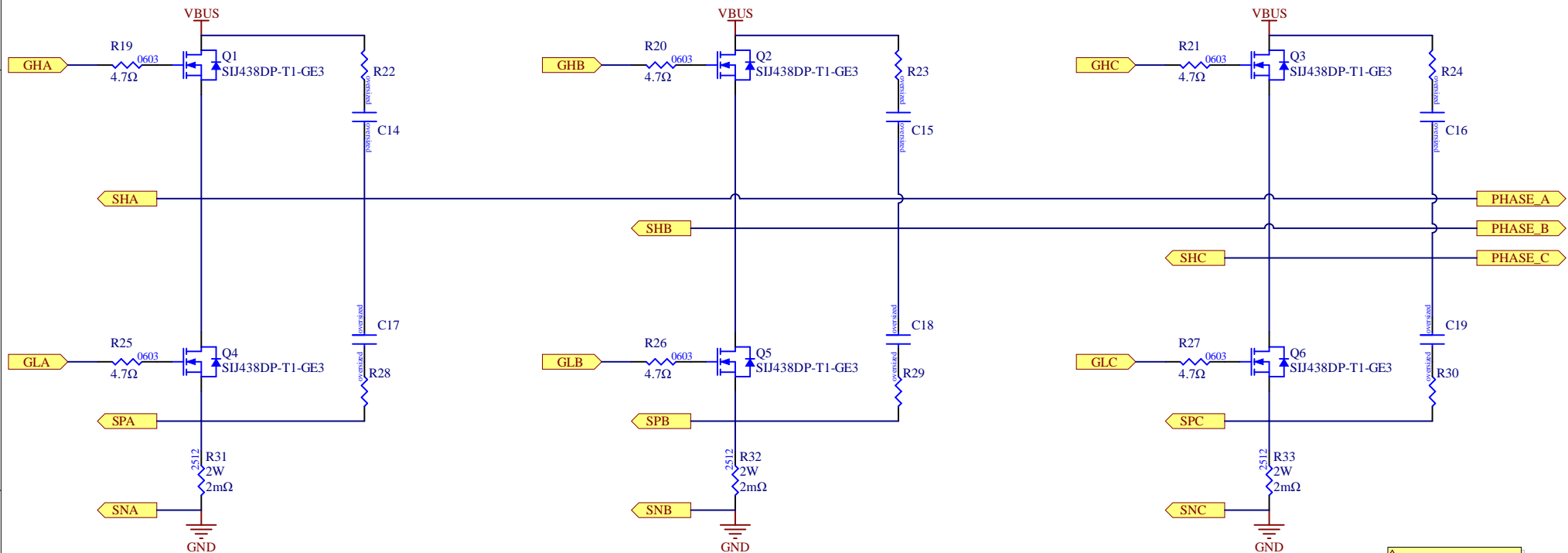
REVIEWER
*

SHEET 2 OF 4



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PROJECT				REVISION	
BLDC Motor Controller.PrjPcb, [No Variations]				1	
DOCUMENT				MODIFIED	
BEMF_Sensing.SchDoc				2022-01-17	
ENGINEER		REVIEWER		SHEET	
Jason Skells		*		3 OF 4	

Three-Phase Inverter



^ARsense (2mΩ) was calculated assuming VREF = 3.3V
The gain must be set to 20V/V

^Apage 11 on "system design considerations for high-power motor driver applications" TI application note is very useful for bulk cap, RC snubber circuit and high-side drain to low-side source capacitor
It will be a 300uF - 500uF aluminum cap (possibly with a smaller electrolytic cap)

^AThe RC values have to be found experimentally for the Subber circuit. It also might not be necessary but we will still include oversized footprints to accomodate it if we choose to use it.

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PROJECT				REVISION	
BLDC Motor Controller.PrjPcb, [No Variations]				1	
DOCUMENT				MODIFIED	
Three_Phase_Inverter.SchDoc				2022-02-01	
ENGINEER		REVIEWER		SHEET	
Jason Skells		*		4 OF 4	