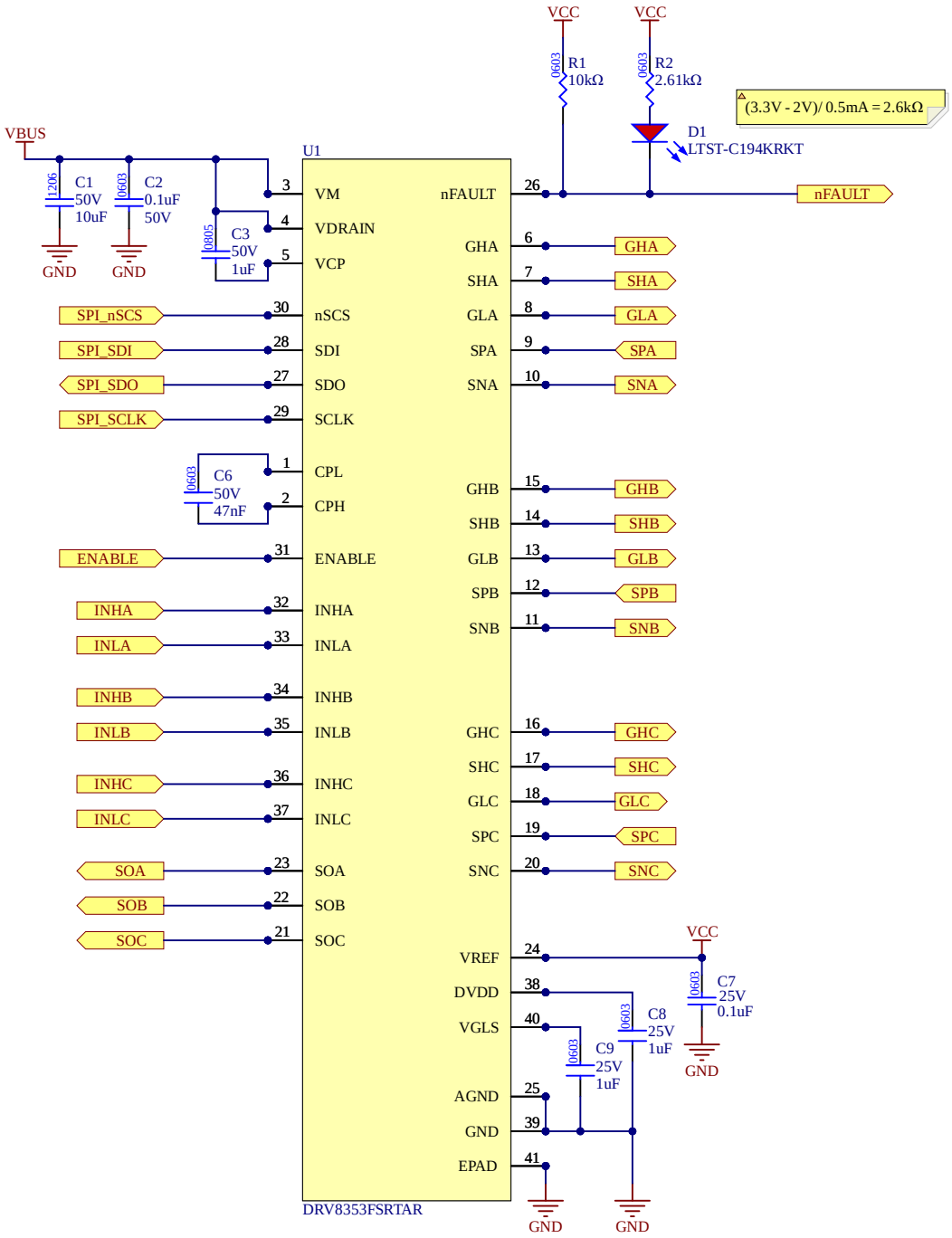
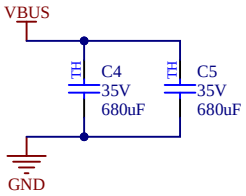
Gate Driver

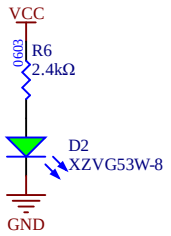


rev 2 todo:
implement the temp sensor

Bulk Capacitor



Power LED

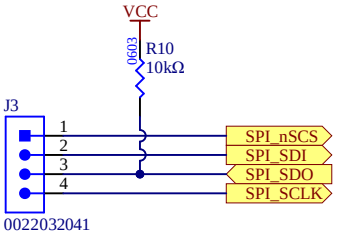


VCC = VREF = 3.3V

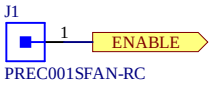
(3.3V - 2.1V) /(0.5mA) = 2.4kΩ

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: 2022-02-13
ENGINEER: Jason Skells / REVIEWER: *	SHEET 1 OF 4

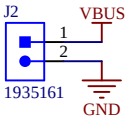
SPI Header



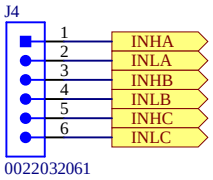
Enable Pin Header



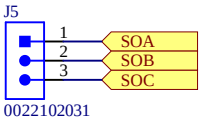
Power Header



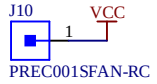
Gate Driver Input Control Header



Shunt Amplifier Output Header

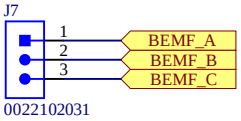


VCC Pin Header

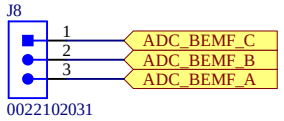


nFAULT Pin Header

BEMF Sensing Comparator Header



BEMF Sensing ADC Header



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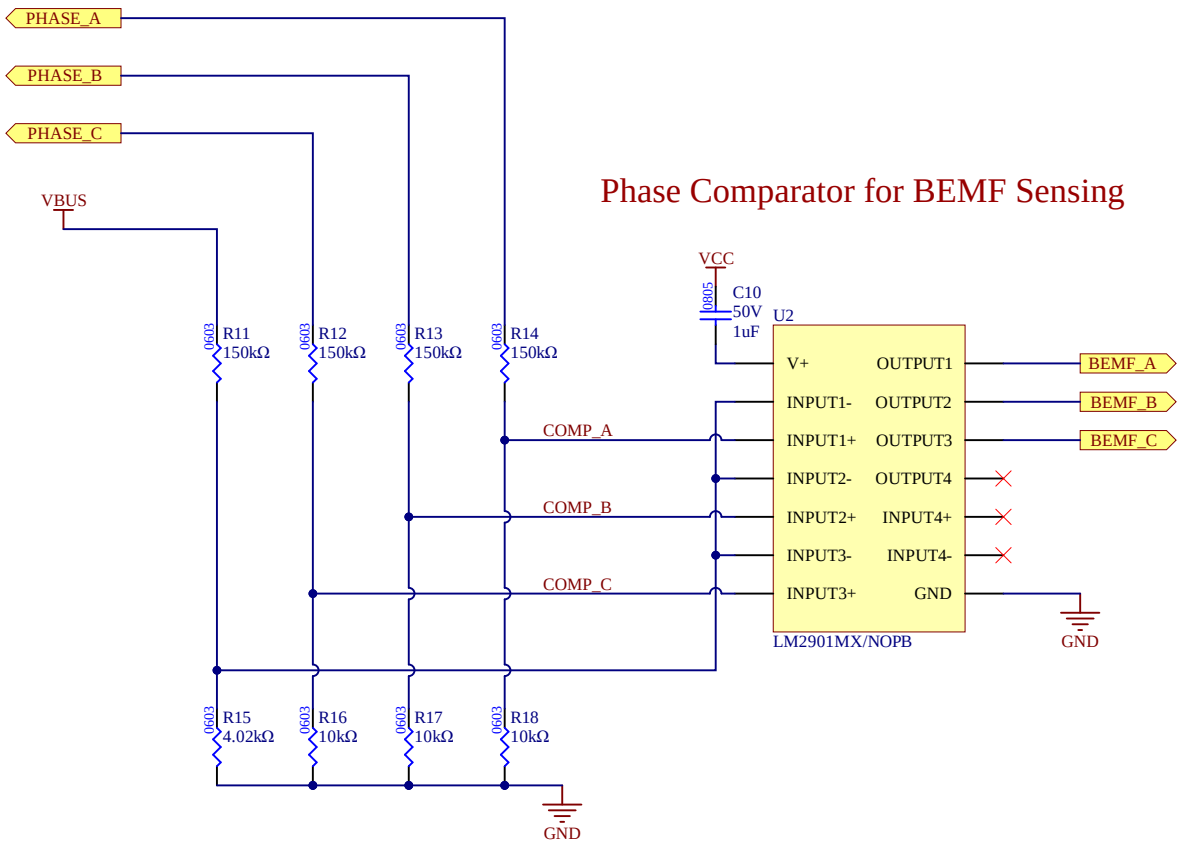
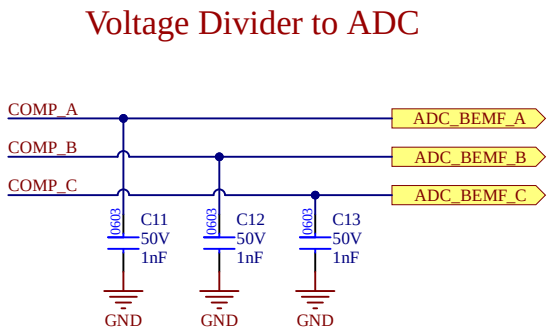
PROJECT: BLDC Motor Controller.PrjPcb, [No Variations]	REVISION: 1
DOCUMENT: Gate_Driver_Connectors.SchDoc	MODIFIED: 2022-02-11
ENGINEER: Jason Skells / REVIEWER: *	SHEET 2 OF 4





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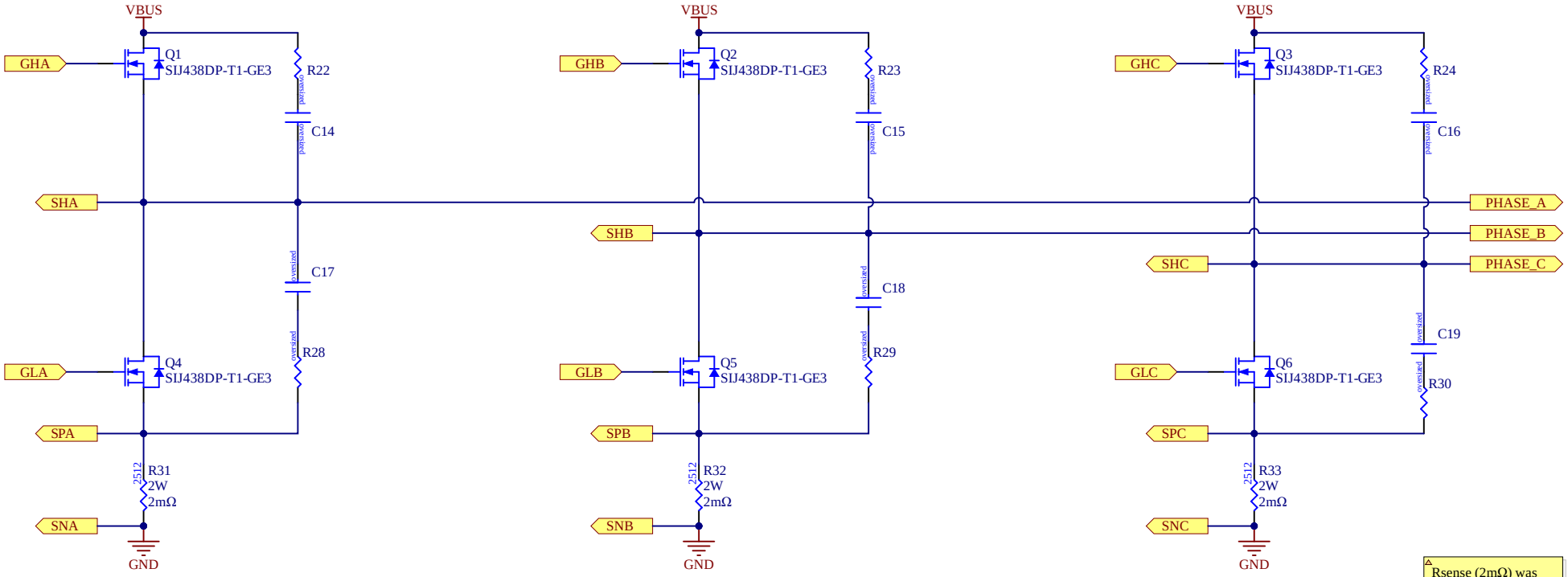
PROJECT: BLDC Motor Controller.PrjPcb, [No Variations]	REVISION: 1
DOCUMENT: BEMF_Sensing.SchDoc	MODIFIED: 2022-02-11
ENGINEER: Jason Skells / REVIEWER: *	SHEET 3 OF 4

Three-Phase Inverter



Rsense (2mΩ) was calculated assuming VREF = 3.3V

The gain must be set to 20V/V

The 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 accomondate it if we choose to use it.

WARG

Waterloo Aerial Robotics Group
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N2L 3G1

PROJECT: BLDC Motor Controller.PrjPcb, [No Variations]	REVISION: 1
DOCUMENT: Three_Phase_Inverter.SchDoc	MODIFIED: 2022-02-11
ENGINEER: Jason Skells / REVIEWER: *	SHEET 4 OF 4