
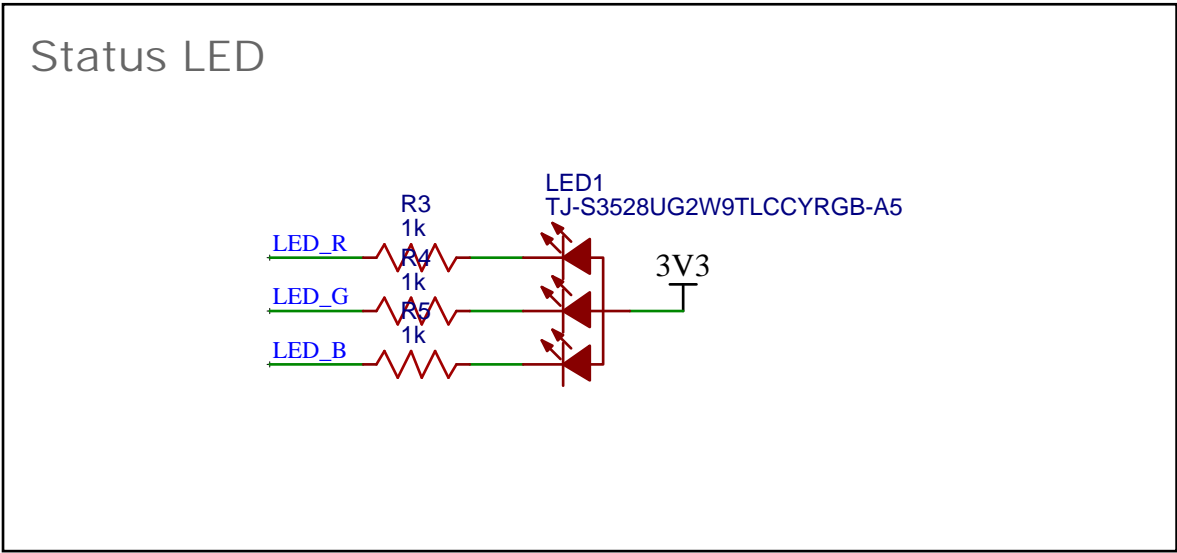
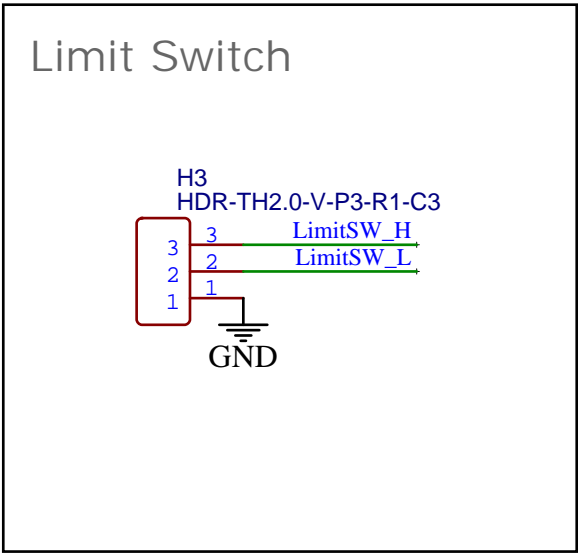
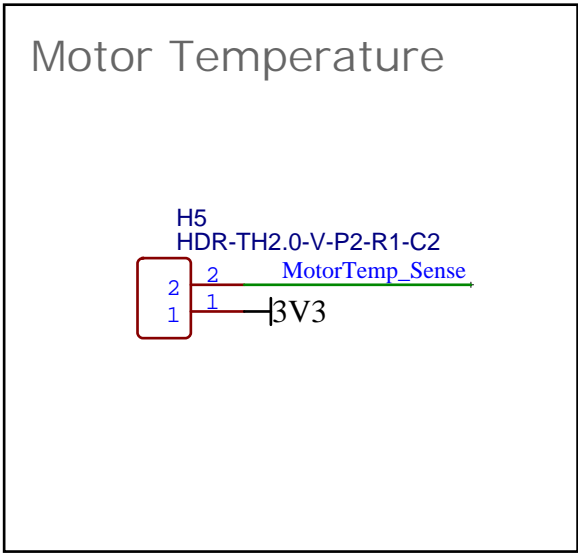
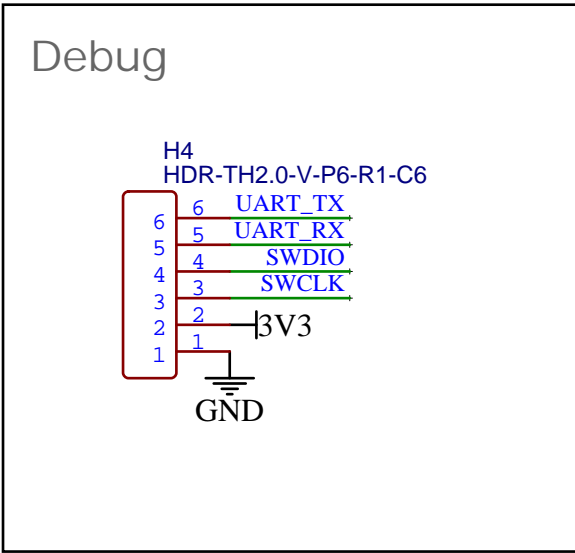
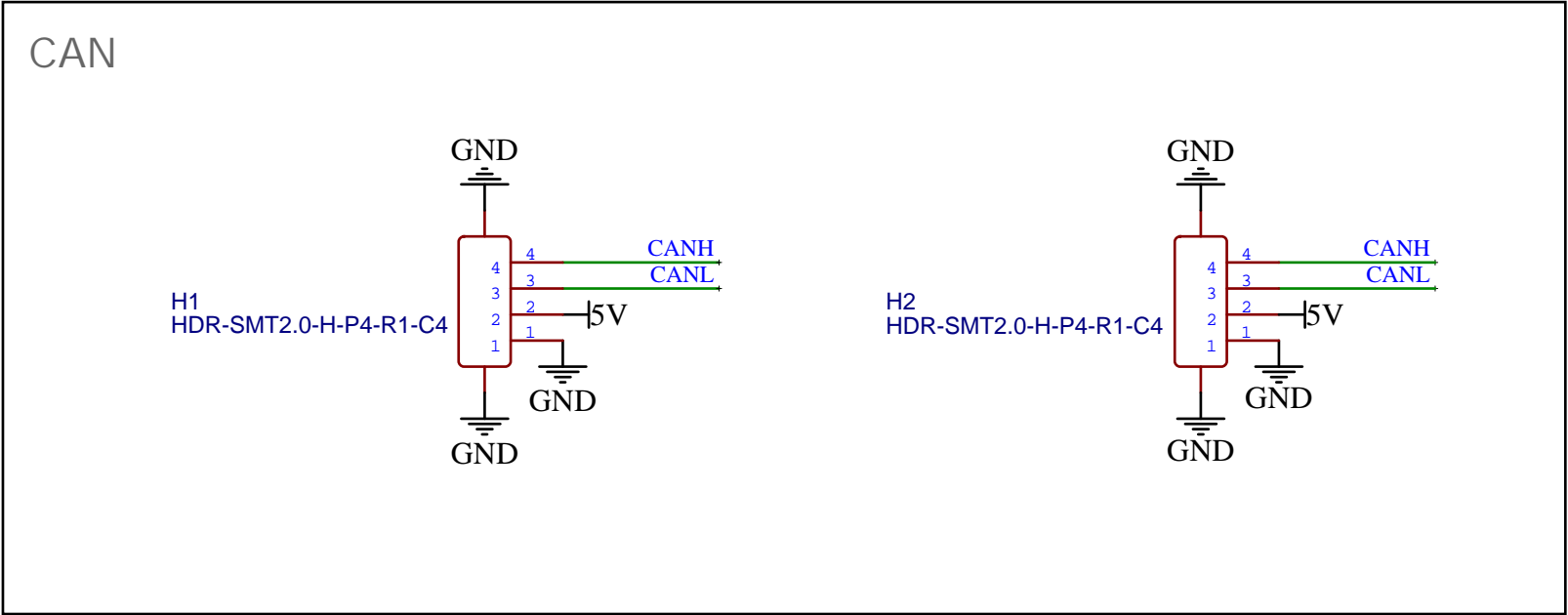
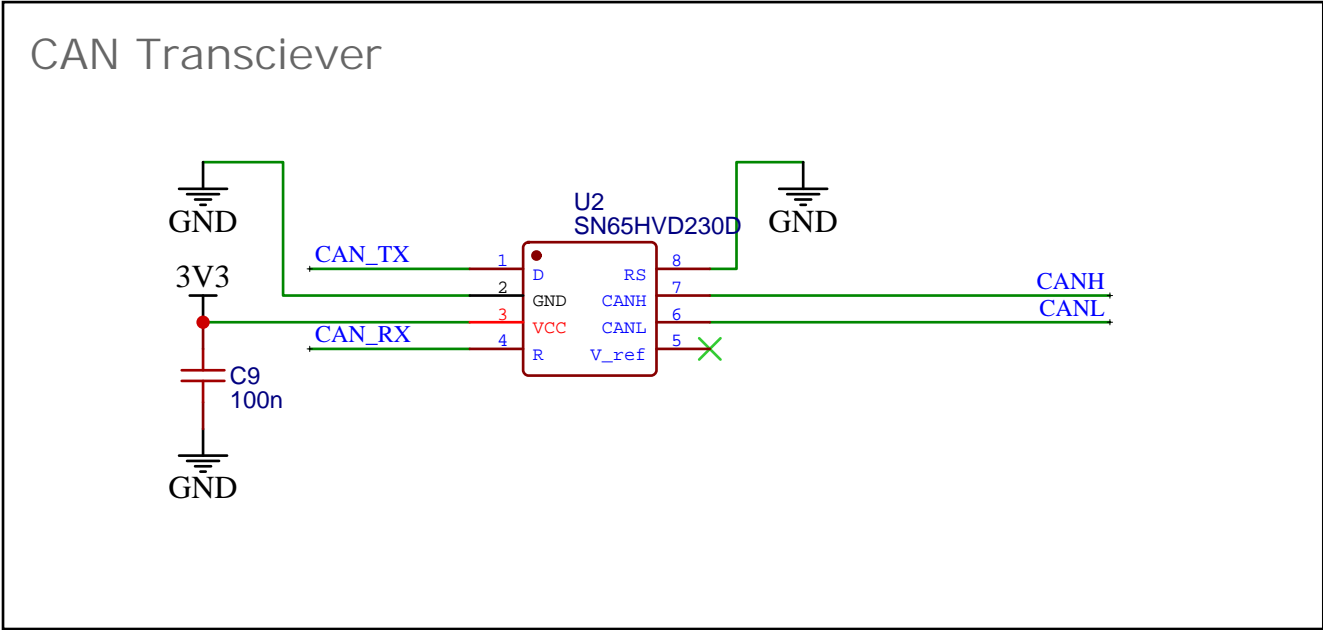


The schematic shows the following connections for the STM32G431CBTx microcontroller:

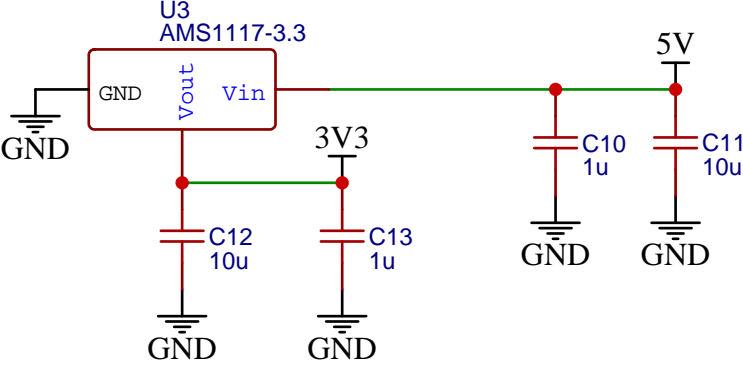
- Power and Ground:**
 - VDD (48), VSS (47), and VBAT (1) are connected to 3V3.
 - PG10-NRST (7) is connected to 3V3 through a 100k resistor (R2).
 - Other pins connected to 3V3 include VDD (36), VSS (35), CAN_TX (34), CAN_RX (33), PWMC_Hi (32), PWMB_Hi (31), PWMA_Hi (30), PWMC_Lo (29), PWMB_Lo (28), PWMA_Lo (27), FetTemp_Sense (26), and UART_RX (25).
 - PA15 (39), PA14 (38), and PA13 (37) are connected to GND.
 - PA5 (13), PA6 (14), PA7 (15), PA8 (16), PA9 (17), PA10 (18), PA11 (19), PA12 (20), PA13 (21), PA14 (22), and PA15 (23) are connected to GND.
 - Other pins connected to GND include VSS (46), nFAULT (45), ENABLE (44), NSS2 (43), MISO (42), SCLK (41), NSS1 (40), SWCLK (39), SWDIO (38), VSSA (19), VREF+ (20), VDDA (21), PB10 (22), VSS (23), and VDD (24).
- Capacitors:**
 - C1 (1uF) and C2 (1uF) are connected to 3V3 and GND.
 - C3 (100nF) is connected to 3V3 and GND.
 - C4 (100nF) is connected to 3V3 and GND.
 - C5 (100nF) is connected to the NRST pin and GND.
 - C6 (100nF) is connected to 3V3 and GND.
 - C7 (1uF) and C8 (10nF) are connected to 3V3 and GND.
- Resistors:**
 - R1 (2k2) is connected to 3V3 and GND.
 - R2 (100k) is connected to 3V3 and the NRST pin.
 - L1 (600) is connected to 3V3 and GND.
- Other Components:**
 - X1 (8M) is an oscillator connected to 3V3 and GND.
 - LimitSW_L (3) and LimitSW_H (4) are connected to 3V3 and GND.
 - OpAmpA+ (9), OpAmpA- (11), LED_G (10), and LED_B (12) are connected to 3V3 and GND.
 - OpAmpB- (13), LED_R (14), OpAmpB+ (15), OpAmpC+ (16), MotorTemp_Sense (17), and OpAmpC- (18) are connected to 3V3 and GND.
 - UART_TX (22) is connected to 3V3 and GND.

TITLE: Sheet_1		REV: 1.0
	Company: Your Company	Sheet: 1/1
	Date: 2022-09-24 Drawn By: T-K-233	



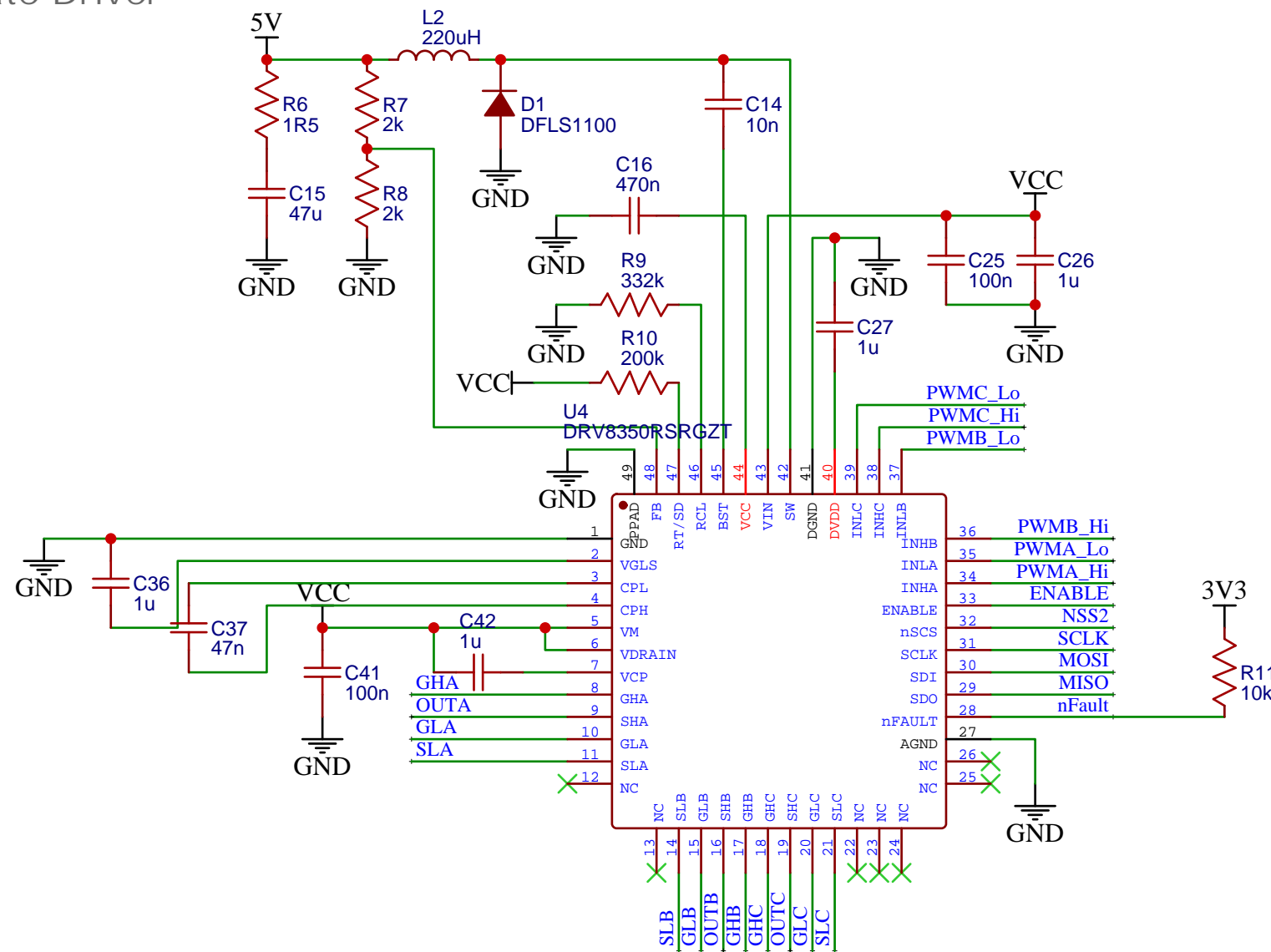
TITLE: Sheet_2		REV: 1.0
	Company: Your Company	Sheet: 1/1
	Date: 2022-09-24 Drawn By: T-K-233	

3V3 Supply

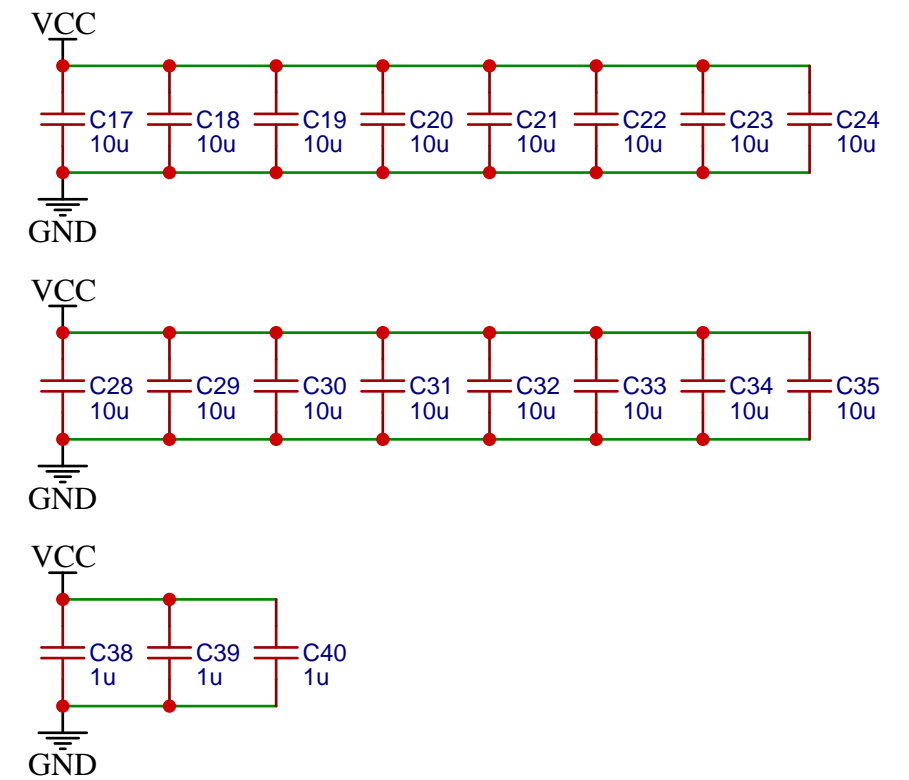


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	Date: 2022-09-24 Drawn By: T-K-233	

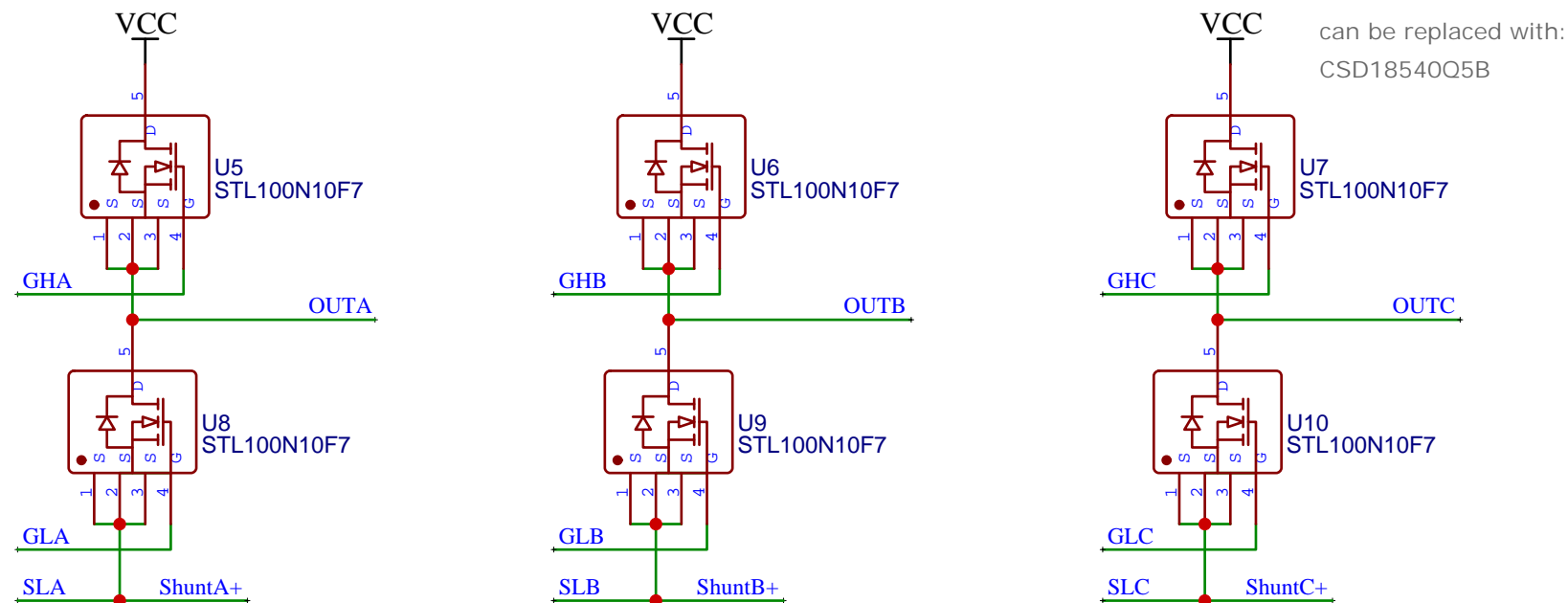
Gate Driver



Bulk Caps

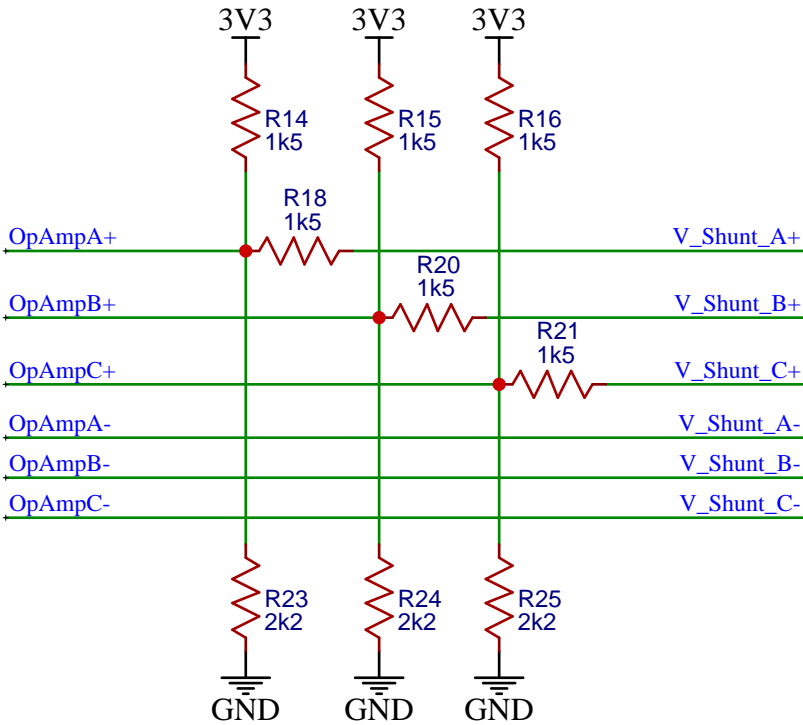
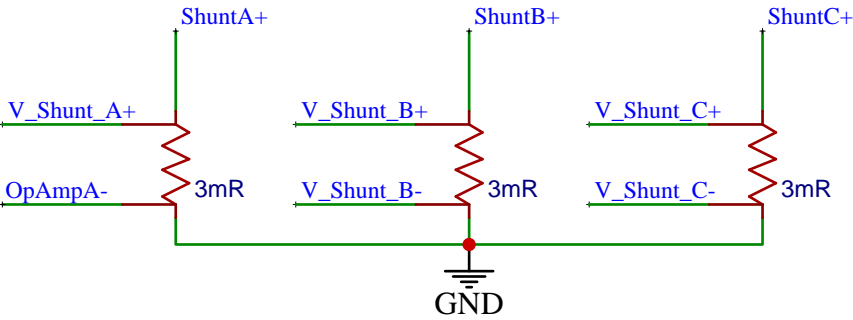


MOSFets

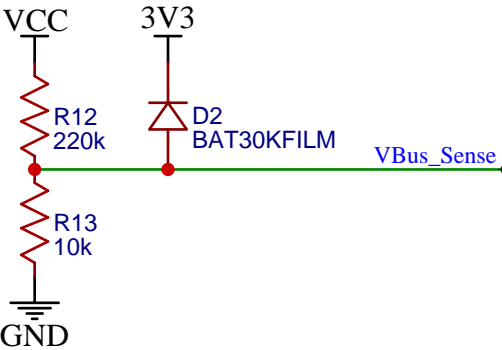


TITLE: Sheet_4		REV: 1.0
	Company: Your Company	Sheet: 1/1
	Date: 2022-09-24 Drawn By: T-K-233	

Current Sense



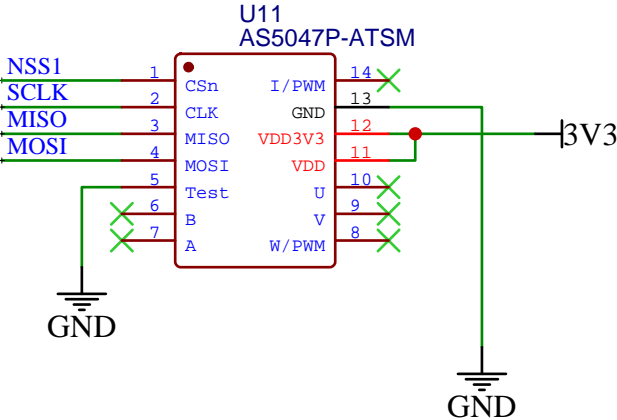
Voltage Sense



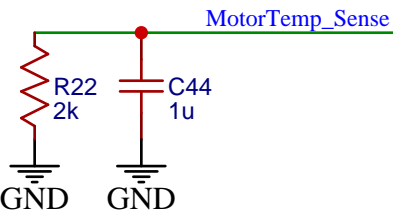
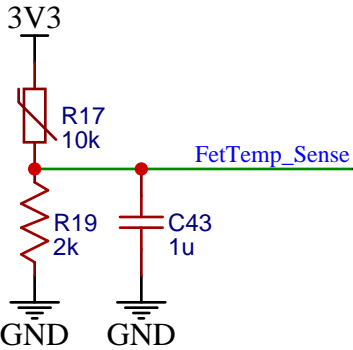
$$VBus_Sense = VCC * (10k / (220k + 10k))$$

range: 5V ~ 75V

Encoder



Temperature Sense



$$Temp_Sense = 3V3 * (2k / (NTC + 2k))$$

$$NTC = 10 * \text{math.exp}(3428 * (1/\text{temp_in_K} - 1/298))$$

range: 10C ~ 100C

TITLE: Sheet_5		REV: 1.0
嘉立创EDA	Company: Your Company	Sheet: 1/1
	Date: 2022-09-24	Drawn By: T-K-233