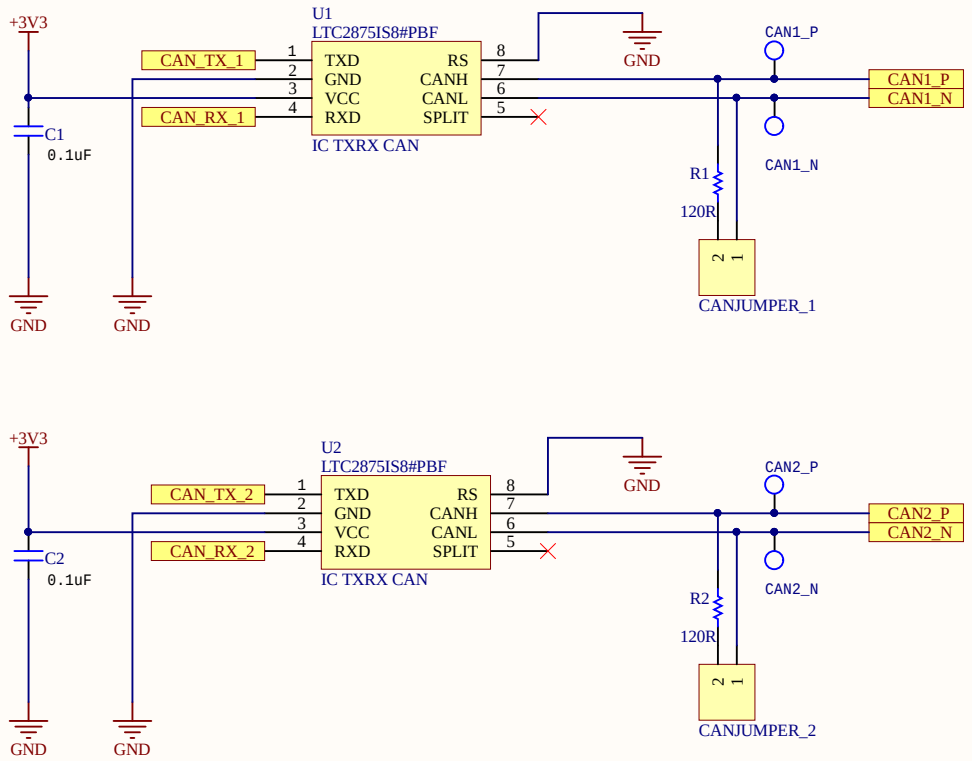

Title		UW Robotics 200 University Avenue Waterloo Ontario Canada N2L 3G6	UW ROBOTICS TEAM
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Date: 1/6/2020	Sheet of		
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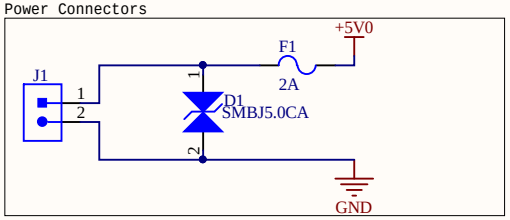
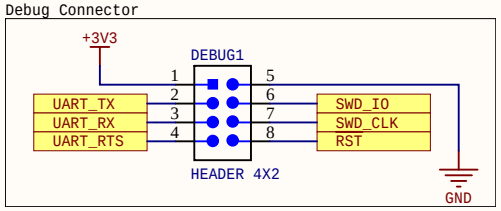
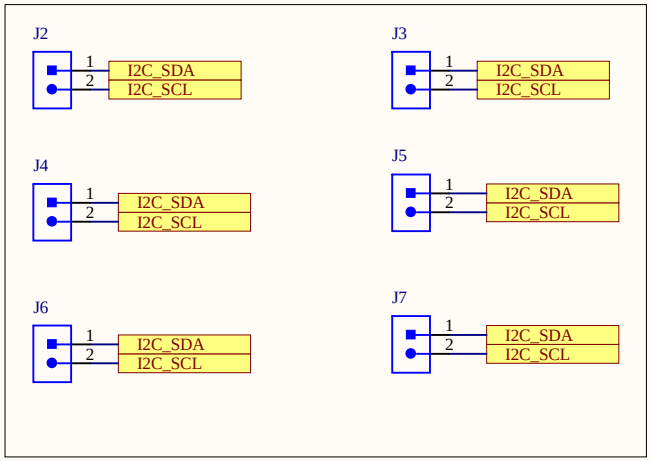
Power Connectors



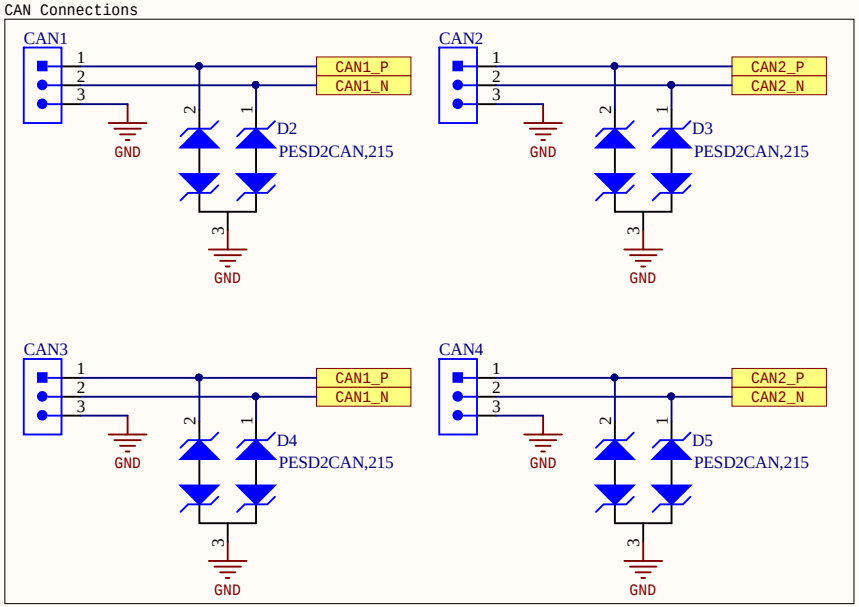
Debug Connector



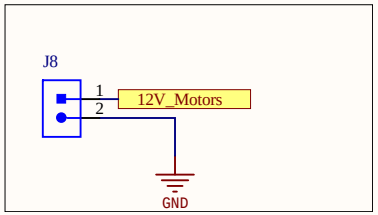
I2C Current Sensors



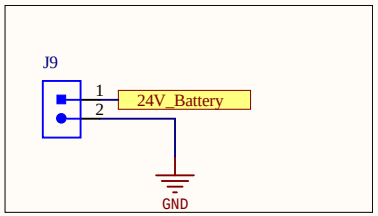
CAN Connections



Motor Voltage Sensors



Battery Voltage Sensors



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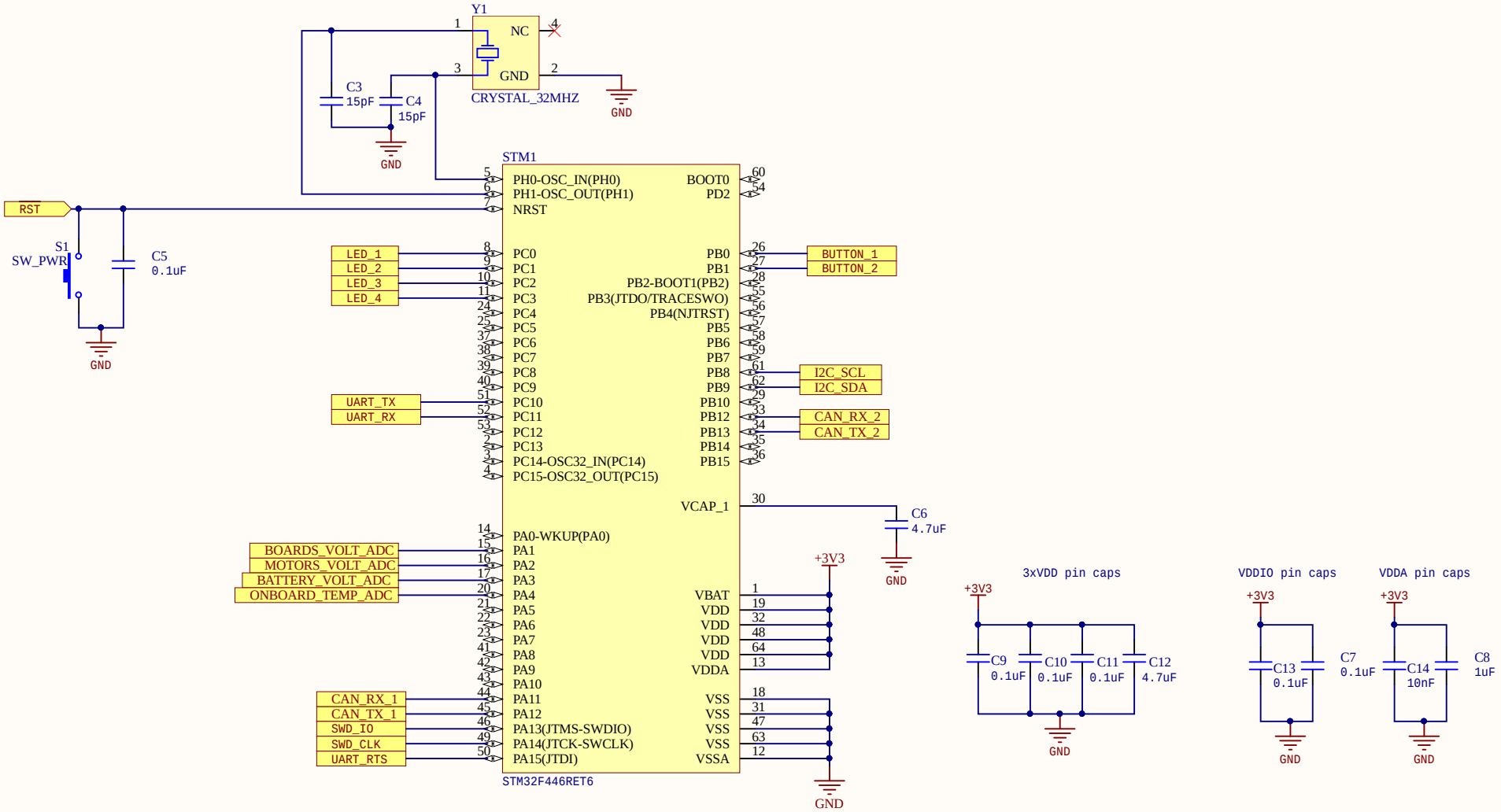
OffSheet



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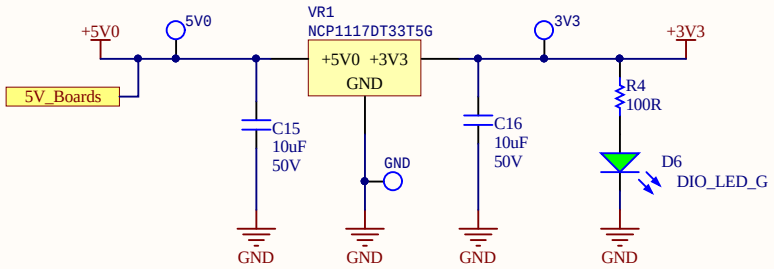

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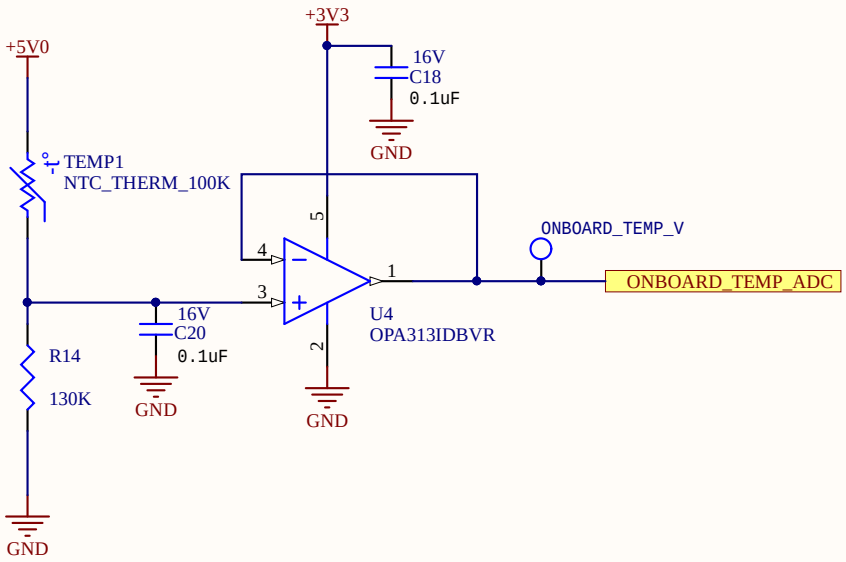
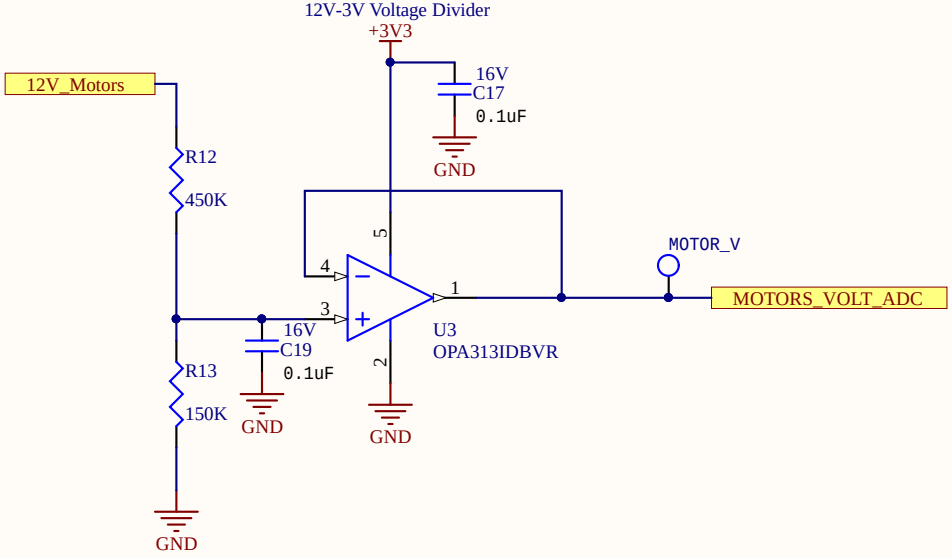
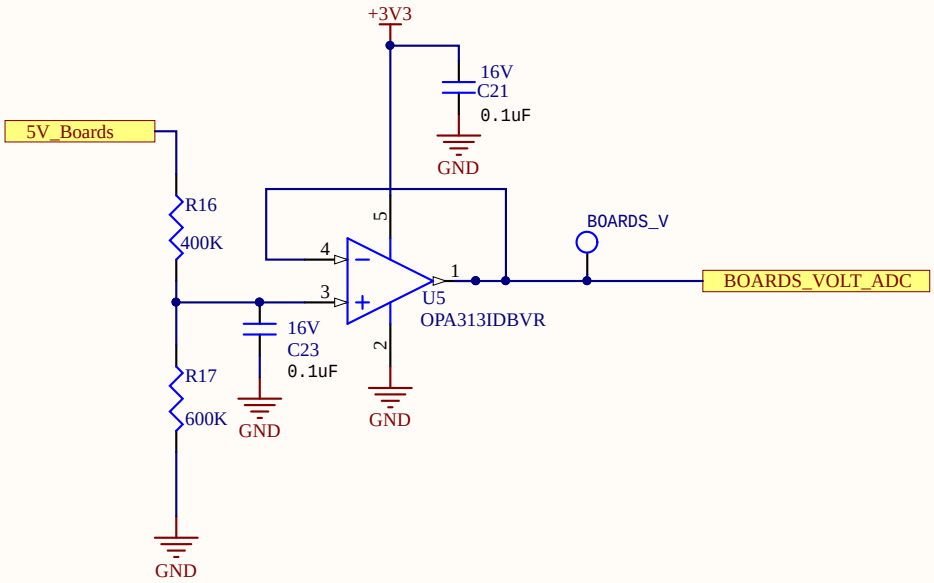
Thermistor (4700K) creates R = 280872K @ -40C and R = 80.464K @ 125C



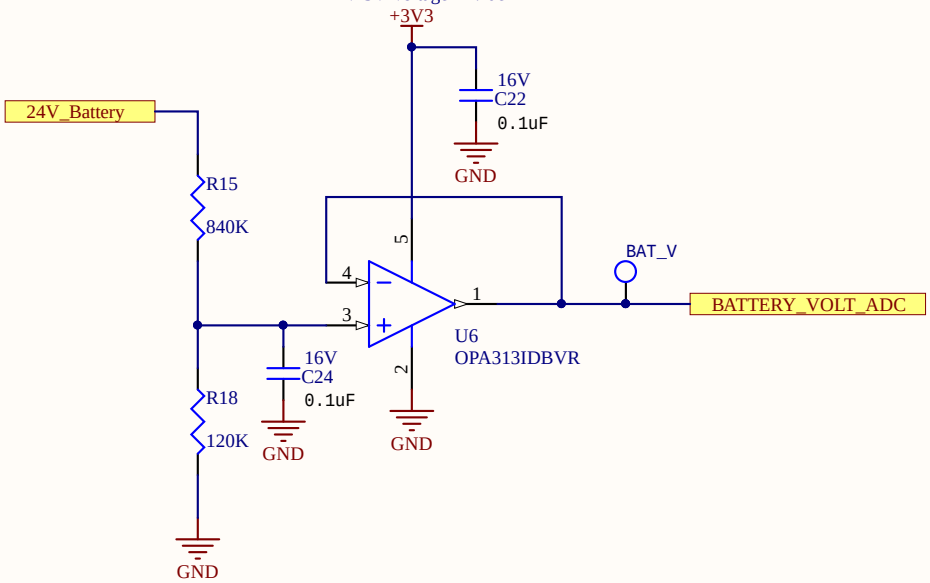
12V-3V Voltage Divider



5V-3V Voltage Divider



24V-3V Voltage Divider



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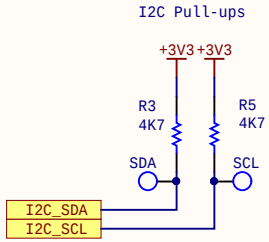

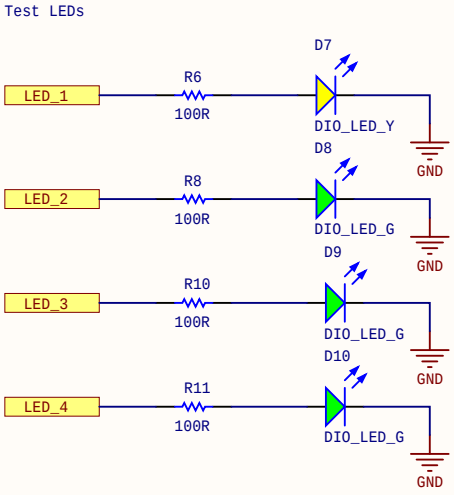

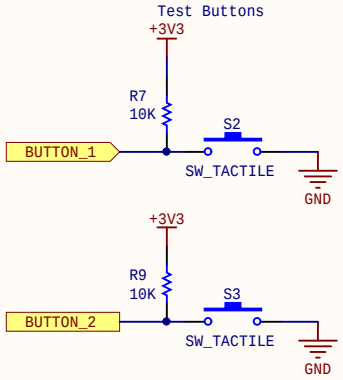

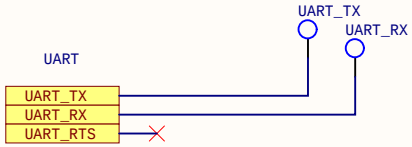

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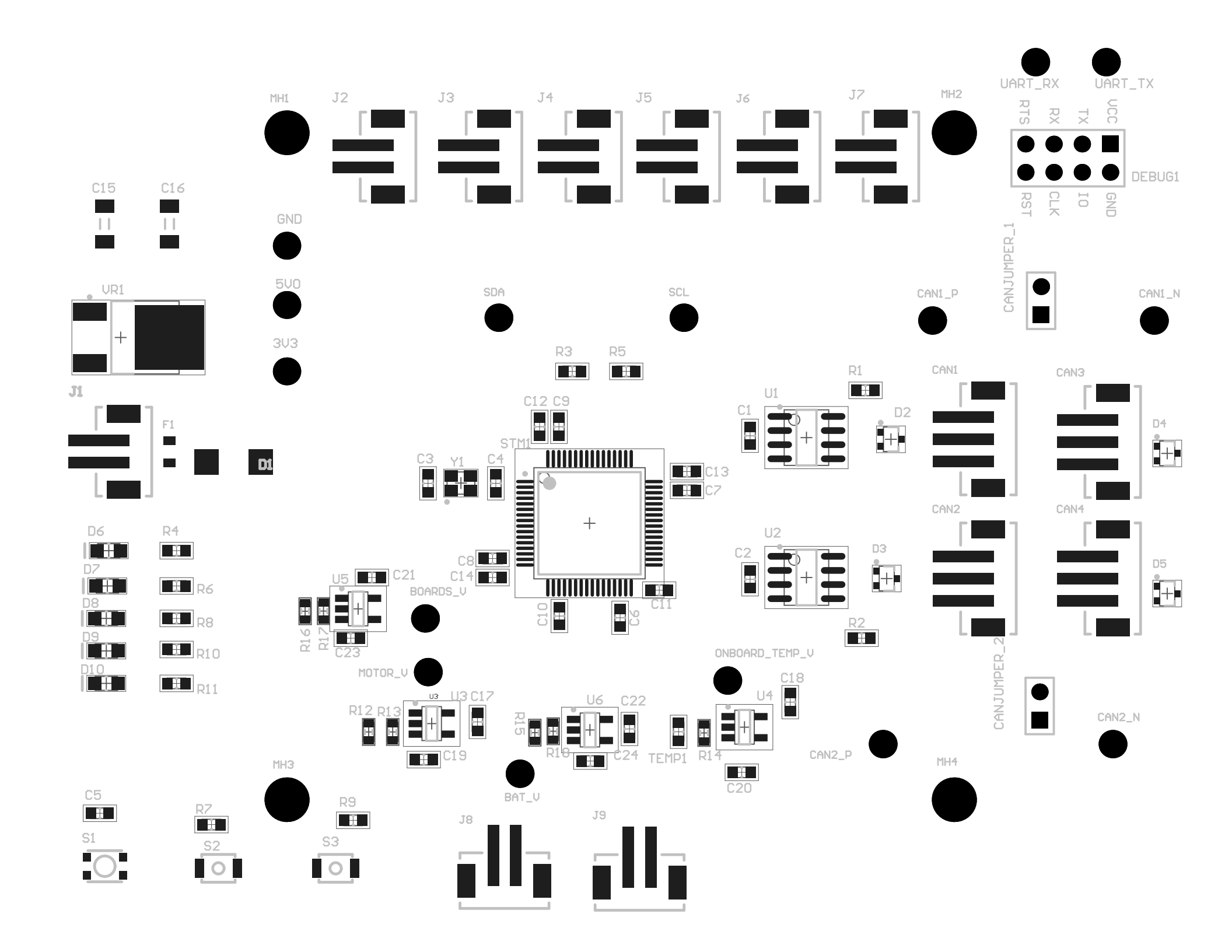
MH1
J2
J3
J4
J5
J6
J7
MH2
UART_RX
UART_TX
RTS
RX
TX
VCC
RST
CLK
IO
GND
DEBUG1
C15
C16
GND
5V0
3V3
VR1
J1
F1
D1
SDA
SCL
CAN1_P
CAN1_N
CANJUMPER_1
R3
R5
R1
U1
C1
D2
C12
C9
STM1
C3
Y1
C4
C13
C7
CAN1
CAN3
D4
C8
C14
C10
C6
C11
U2
C2
D3
R2
CAN2
CAN4
D5
D6
R4
D7
R6
D8
R8
D9
R10
D10
R11
U5
C21
BOARDS_V
R16
R17
C23
MOTOR_V
U3
U3
C17
R12
R13
C19
U6
C22
R15
R18
C24
TEMP1
R14
ONBOARD_TEMP_V
C18
U4
C20
CAN2_P
CANJUMPER_2
CAN2_N
MH3
BAT_V
MH4
C5
R7
R9
S1
S2
S3
J8
J9

Comment	Description	Designator	Footprint	LibRef	Qu
3v3	Loop testpoint throug	3V3	TESTPOINT_LOOP	TESTPOINT_LOOP	
5V0	Loop testpoint throug	5V0	TESTPOINT_LOOP	TESTPOINT_LOOP	
TESTPOINT_LOOP	Loop testpoint throug	BAT_V, BOARDS_V, M	TESTPOINT_LOOP	TESTPOINT_LOOP	
	CAP CER 0.1UF 16V X	C1, C2, C17, C18, C19	CAPC0603(1608)55_N	CAP_0.1uF_16V_0603	
CAP_15pF_0603	CAP CER 15PF 250V N	C3, C4	CAPC0603(1608)55_N	CAP_15pF_0603	
CAP_0.1uF_16V_0603	CAP CER 0.1UF 16V X	C5, C7, C9, C10, C11,	CAPC0603(1608)55_N	CAP_0.1uF_16V_0603	
CAP_4.7uF_0603	CAP CER 4.7UF 6.3V X	C6, C12	CAPC0603(1608)55_N	CAP_4.7uF_0603	
CAP_1uF_16V_0603	CAP CER 1UF 16V Y5V	C8	CAPC0603(1608)55_N	CAP_1uF_16V_0603	
CAP_10nF_0603	CAP CER 10000PF 16V	C14	CAPC0603(1608)55_N	CAP_10nF_0603	
10uF	CAP CER 10UF 50V X5	C15, C16	CAPC1206(3216)	CAP_10uF_50V_1206	
CON_3M_SM4		CAN1, CAN2, CAN3, C	JST-B3B-SM4-TB	CON_3M_SM4	
ESTPOINT_LOOP	Loop testpoint throug	CAN1_N, CAN1_P, CA	TESTPOINT_LOOP	TESTPOINT_LOOP	
JUMPER_2	HEADER 2X1	CANJUMPER_1, CANJ	HDR1X2	JUMPER_2	
TVS_DIODE_BIDIREC	TVS DIODE 5V 9.2V D	D1	TVS_DIODE_BIDIREC	TVS_DIODE_BIDIREC	
TVS_DIODE_CAN	TVS DIODE 24V 41V S	D2, D3, D4, D5	NXP-SOT323-3	TVS_DIODE_CAN	
DIO_LED_G	LED GREEN DIFFUSE	D6, D8, D9, D10	LED_0805_LINE	DIO_LED_G	
DIO_LED_Y	LED YELLOW DIFFUS	D7	LED_0805_LINE	DIO_LED_Y	
HEADER 4X2	Header, 4-Pin Dual ro	DEBUG1	HEADER_2X4	HEADER 4X2	
FUSE_2A_0603	FUSE SMD 2A 32V	F1	FUSE_0603	FUSE_2A_0603	
GND	Loop testpoint throug	GND	TESTPOINT_LOOP	TESTPOINT_LOOP	
CON_2M_SM4		J1, J2, J3, J4, J5, J6, J	JST-B2B-SM4-TB	CON_2M_SM4	
	RES SMD 120 OHM 5%	R1, R2	RESC0603(1608)_N	RES_120R_0603	
RES_4K7_0603	RES SMD 4.7K OHM 5	R3, R5	RESC0603(1608)_N	RES_4K7_0603	
RES_100R_0603	RES SMD 100 OHM 1%	R4, R6, R8, R10, R11	RESC0603(1608)_N	RES_100R_0603	
RES_10K_0603	RES SMD 10K OHM 5%	R7, R9	RESC0603(1608)_N	RES_10K_0603	
Res3	Resistor	R12, R13, R14, R15, R	J1-0603	Res3	
SW_PWR	Power Switch (Red)	S1	PTS830GM140	SW_PWR	
SW_TACTILE	Tactile Switch (Grey)	S2, S3	B3U-1100P	SW_TACTILE	
STM32F446RET6	ARM Cortex-M4 32-bit	STM1	STM-LQFP64_L	MCU_STM32F446RET	
NTC_THERM_100K	THERM NTC 100KOHM	TEMP1	RESC0603(1608)_N	NTC_THERM_100K	
IC TYPX CAN	IC TYPX CAN 4MBPS	U1, U2	LT_S8_N	LTC2875	