Headers
Headers.SchDoc

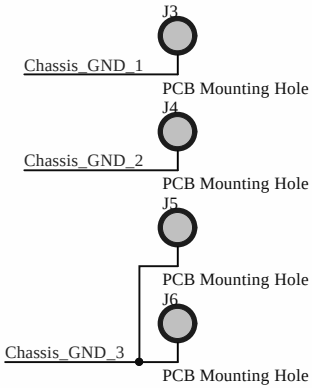
SDA
SCL
HEATERSWITCH1
HEATERSWITCH2
BATTERYSWITCH1
BATTERYSWITCH2
BATTERYSWITCH3
BATTERYSWITCH4
DEPLOY_SW
SW1-
SW1+
SW3-
BT4-
BT2-
OFF_J_RBF
DDJ_RBF

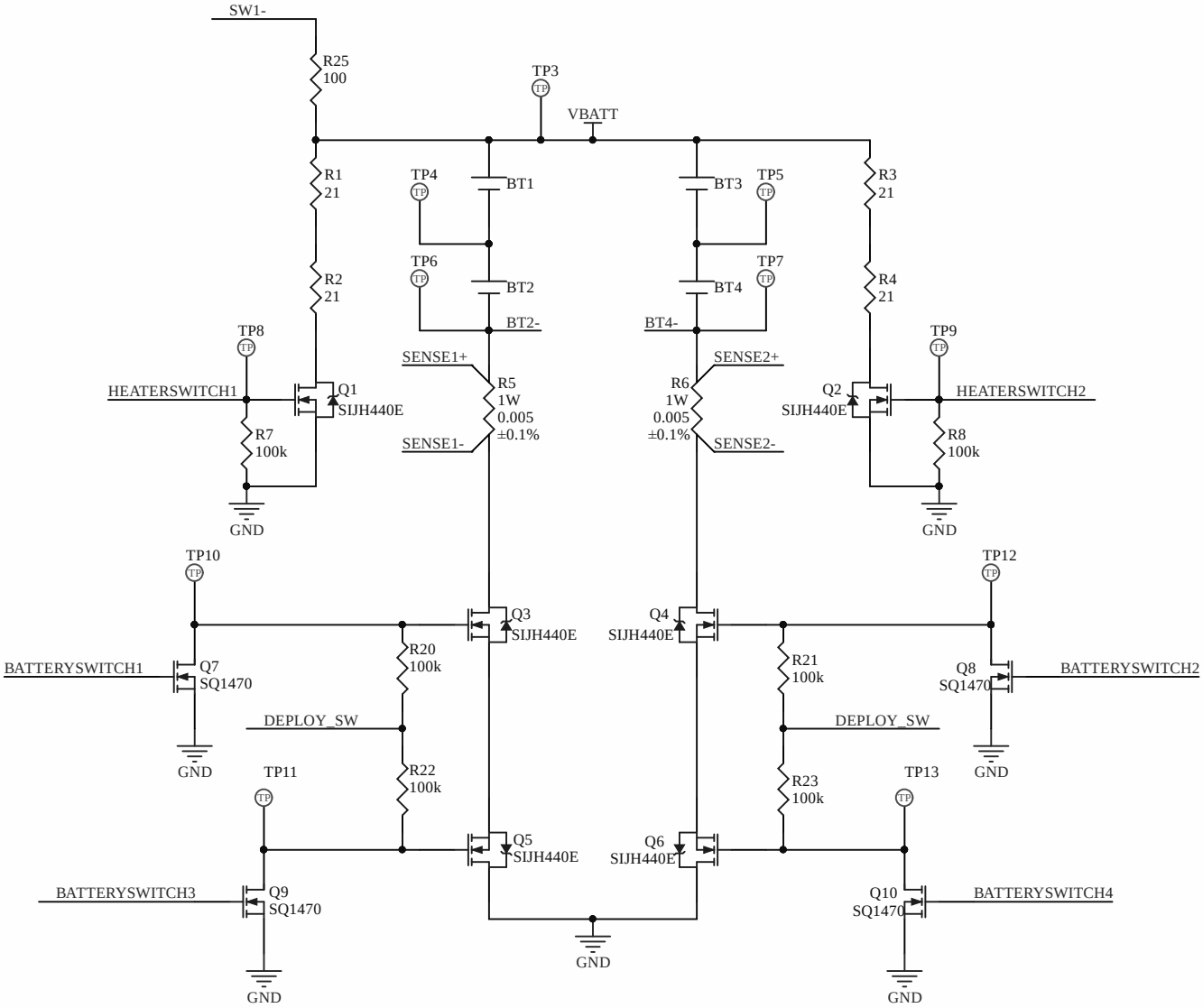
Temperature Sensor
MAX6698-Temperature-Sensor.SchDoc

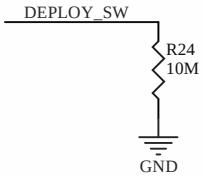
SDA
SCL

Current Sensors
INA226-Current-Sensors.SchDoc

SDA
SCL
SENSE1+
SENSE1-
SENSE2+
SENSE2-







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Title **Prometheus**			*University of Alberta Deptartment of Electrical and Computer Engineering Edmonton AB, Canada T6G 1H9*
Size: Letter	Number:	Revision 4.1	
Date: 2/26/2020	Time: 2:16:57 PM	Sheet 1 of 4	
File: C:\Users\nicho\AlbertaSat\projects\Battery Board\Altium\Prometheus.SchDoc			

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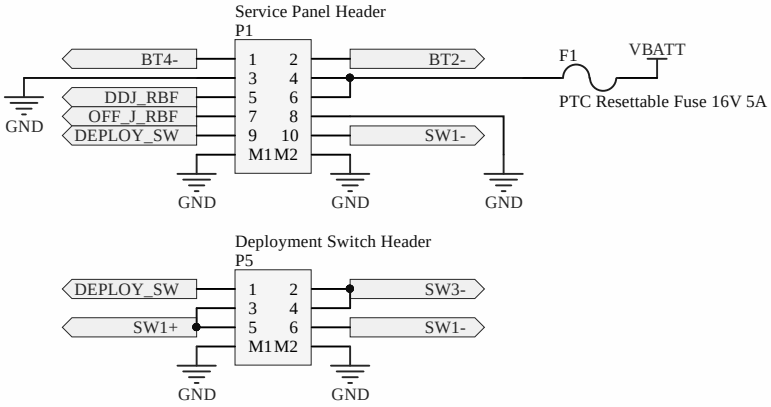
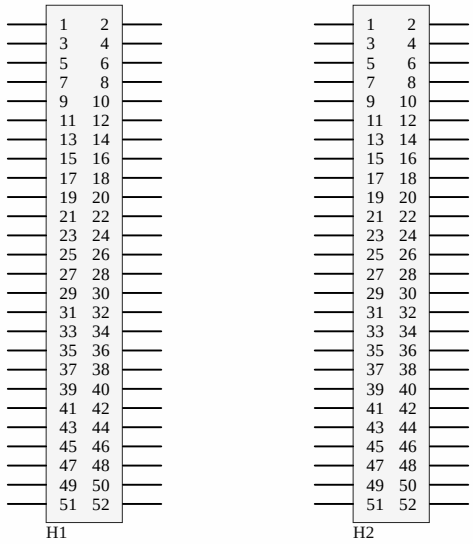
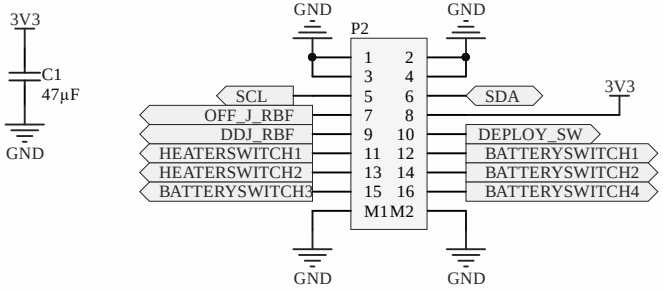
Service Panel/Deployment Header

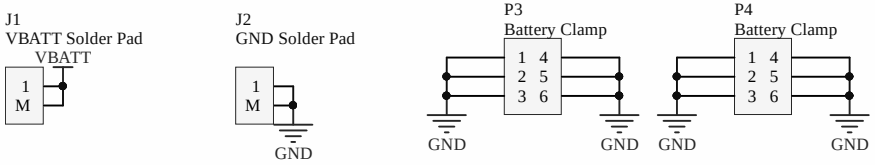


Stack Header



Data Header





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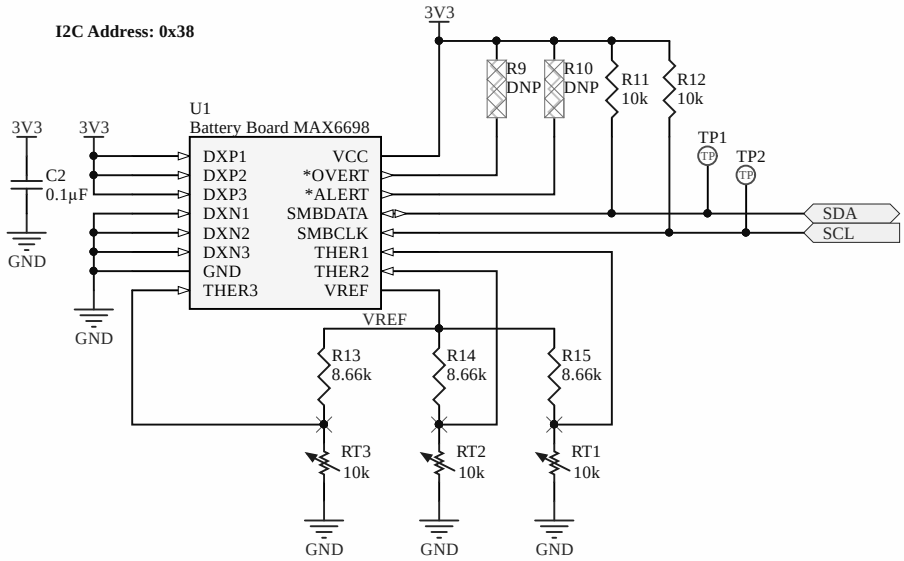
Title ***Headers***			*University of Alberta Deptartment of Electrical and Computer Engineering Edmonton AB, Canada T6G 1H9*
Size: Letter	Number:	Revision 4.1	
Date: 2/26/2020	Time: 2:16:57 PM	Sheet 2 of 4	
File: C:\Users\nicho\AlbertaSat\projects\Battery Board\Altium\Headers.SchDoc			

Temperature Sensor



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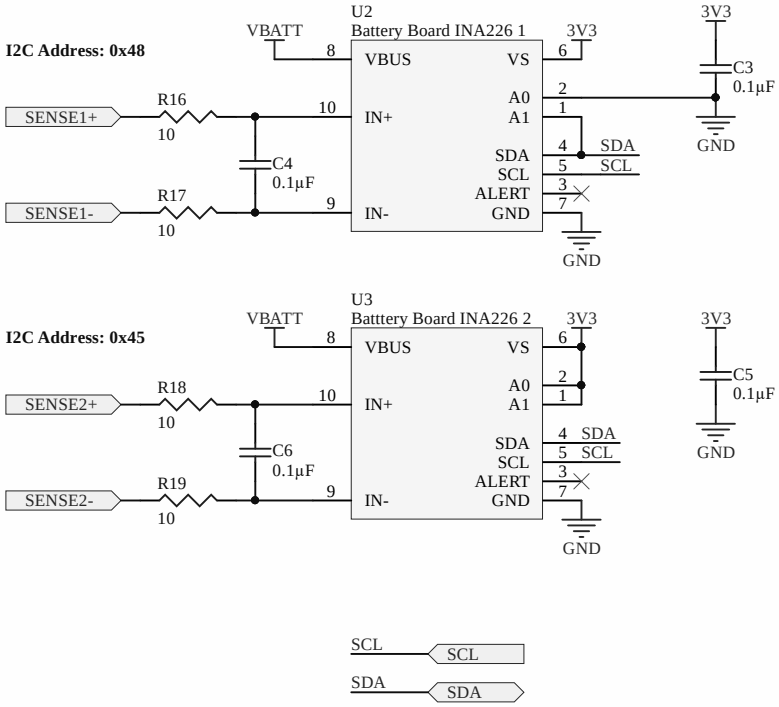
Title ***MAX6698 Temperature Sensor***			*University of Alberta Deptartment of Electrical and Computer Engineering Edmonton AB, Canada T6G 1H9*
Size: Letter	Number:	Revision 4.1	
Date: 2/26/2020 Time: 2:16:57 PM	Sheet 3 of 4		
File: C:\Users\nicho\AlbertaSat\projects\Battery Board\Altium\MAX6698-Temperature-Sensor.SchDoc			

Current Sensors



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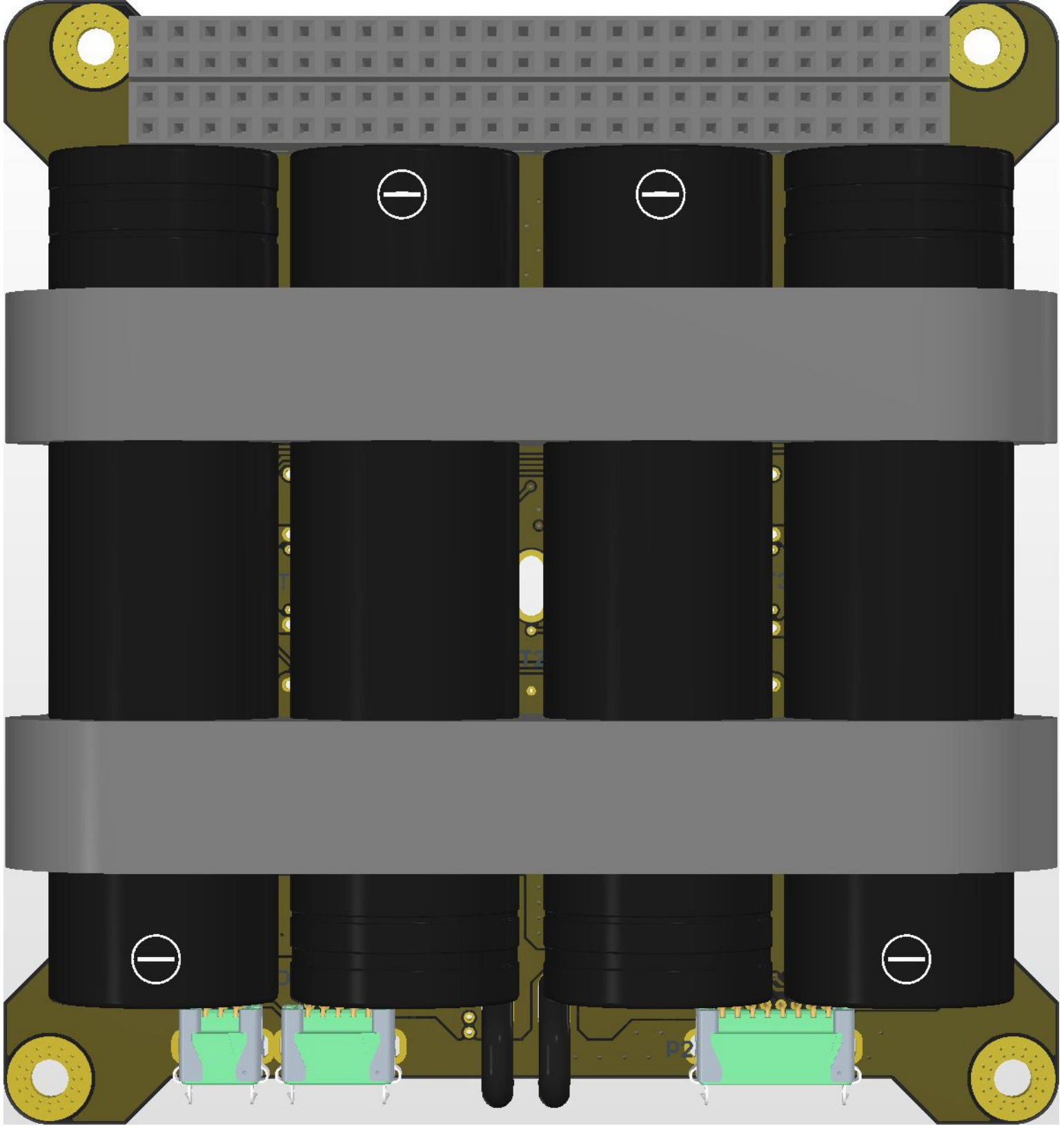
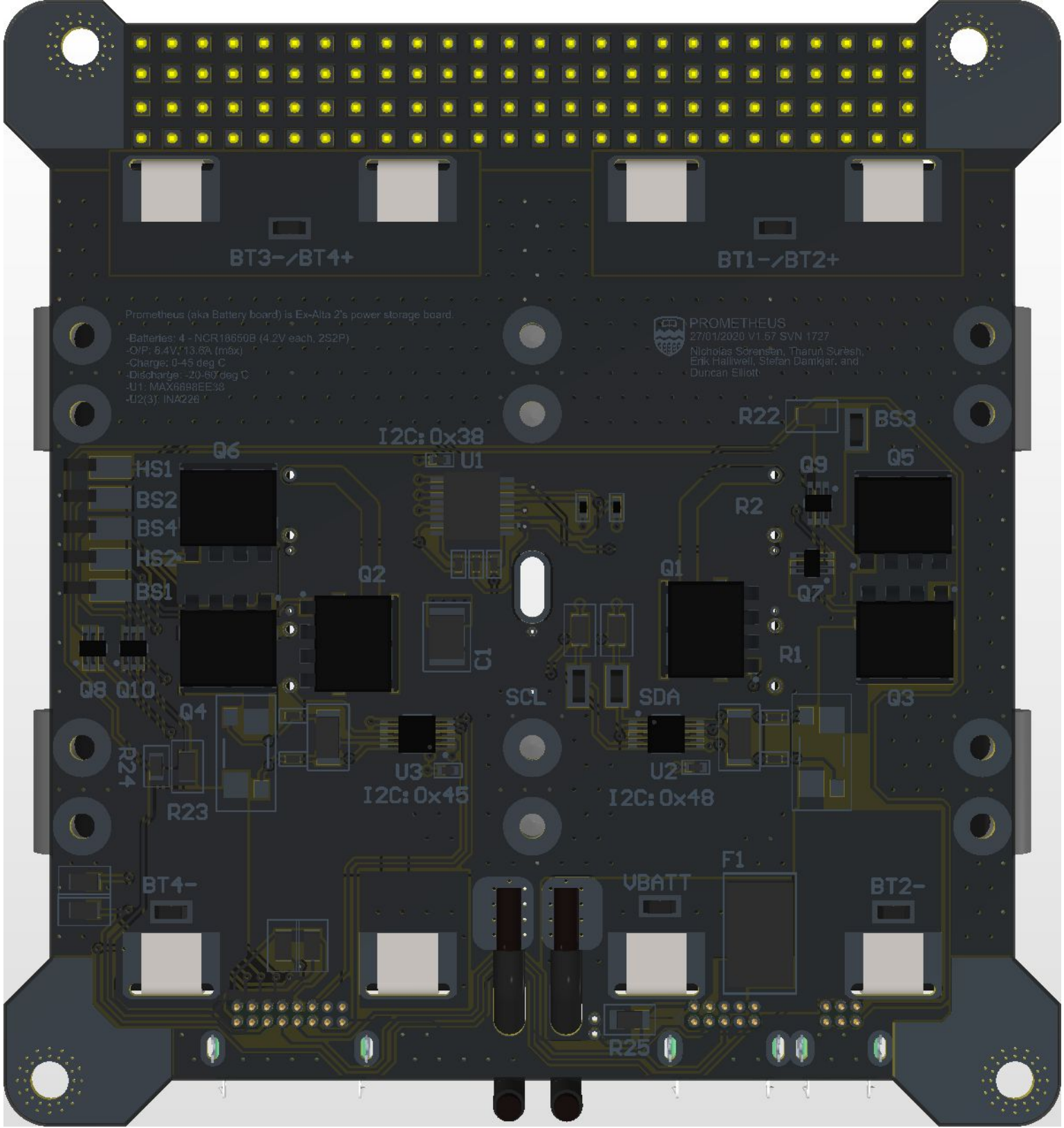
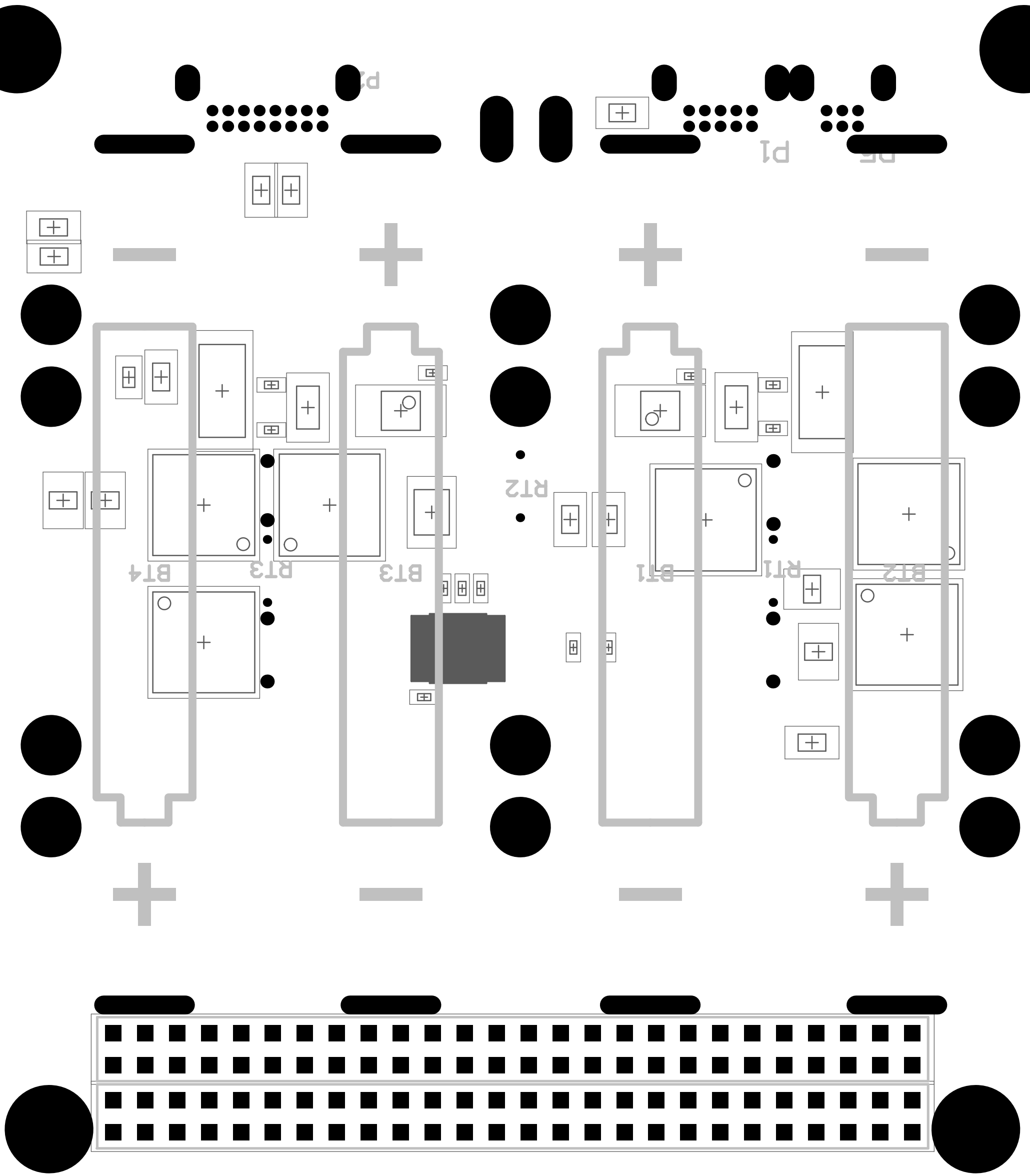
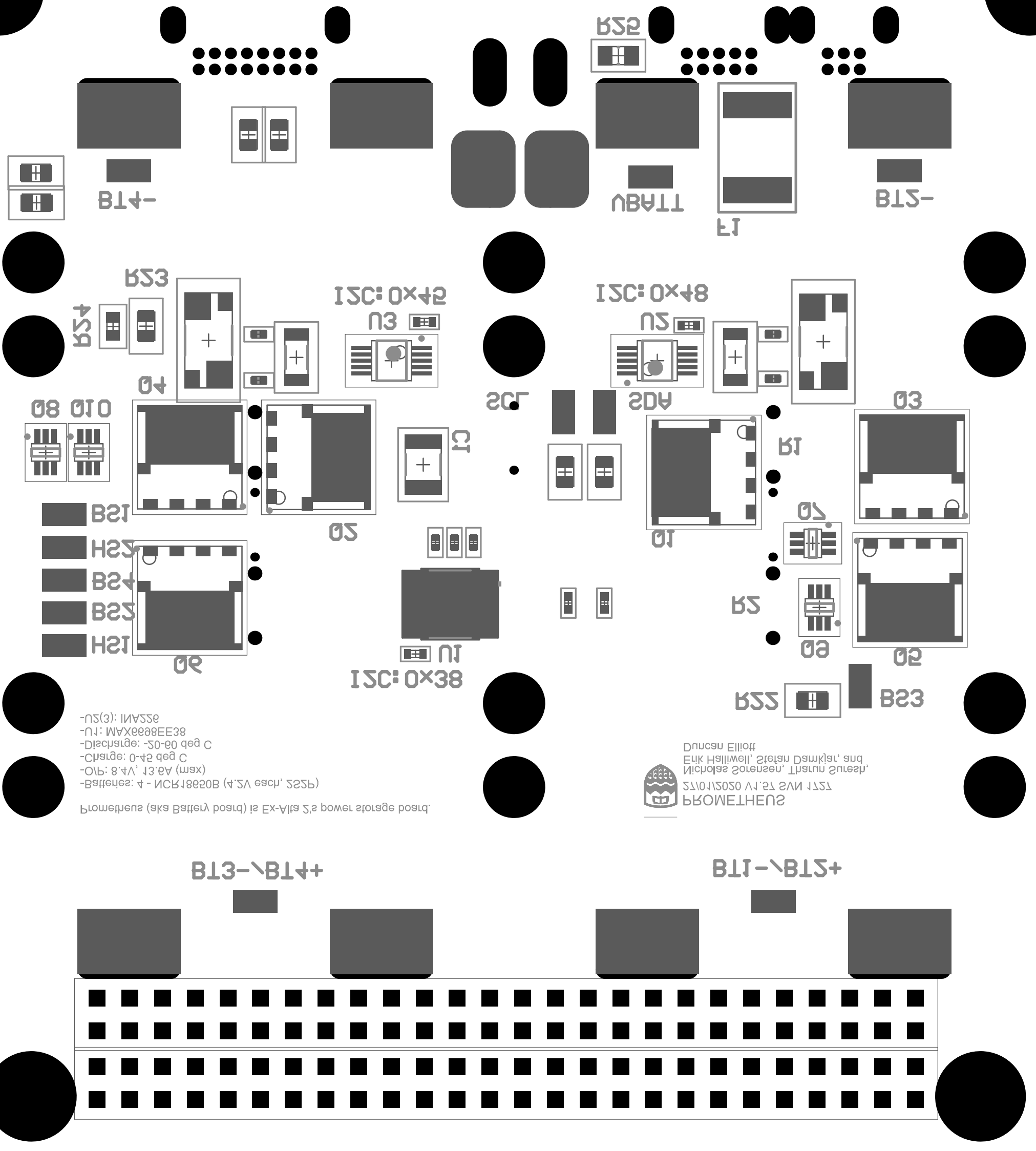
Title ***INA226 Current Sensors***			*University of Alberta Deptartment of Electrical and Computer Engineering Edmonton AB, Canada T6G 1H9*
Size: Letter	Number:	Revision 4.1	
Date: 2/26/2020 Time: 2:16:57 PM		Sheet 4 of 4	
File: C:\Users\nicho\AlbertaSat\projects\Battery Board\Altium\INA226-Current-Sensors.SchDoc			


P2


BT3-/BT4+
BT1-/BT2+
Prometheus (aka Battery board) is Ex-Alta 2's power storage board.
-Batteries: 4 - NCR18650B (4.2V each, 2S2P)
-O/P: 8.4V, 13.6A (max)
-Charge: 0-45 deg C
-Discharge: -20-60 deg C
-U1: MAX6698EE38
-U2(3): INA226
PROMETHEUS
27/01/2020 V1.57 SVN 1727
Nicholas Sorensen, Tharun Suresh, Erik Halliwell, Stefan Damkjar, and Duncan Elliott
R22
BS3
I2C: 0x38
U1
Q6
Q9
Q5
HS1
BS2
BS4
HS2
BS1
R2
Q2
Q1
Q7
C1
R1
Q8
Q10
SCL
SDA
Q3
Q4
R24
U3
U2
I2C: 0x45
I2C: 0x48
R23
F1
BT4-
VBATT
BT2-
R25

Comment	Description	Designator	Footprint	LibRef	Quantity
NCR18650PF	18650 Battery-Panas	BT1, BT2, BT3, BT4	ORB-PROTECTED186	PBT-ORB-00001	4
Cap	CAP CER 47UF 6.3V X	C1	TDK-CGA6P	PC-TDK-02951	1
Cap	CAP CER 0.1UF 50V X	C2, C3, C5	TDK-CGA2B	PC-TDK-02262	3
Cap	CAP CER 0.1UF 50V N	C4, C6	TDK-CGA5L	PC-TDK-02295	2
PTC Resettable Fuse	PTC RESET FUSE 16V	F1	2920L500/16	PF-LTF-00001	1
SSW-126-23-G-D		H1, H2	SSW-126-23-G-D	PP-SAM-00002	2
VBATT Solder Pad		J1	VBATT-wire-pad	Pad I/O	1
GND Solder Pad		J2	GND-WIRE-PAD	Pad I/O	1
PCB Mounting Hole		J3, J4, J5, J6	PCB MOUNTING HOL	PCB Mounting Hole	4
G125-MH11005L1	CONN HEADER R/A 1	P1	HWN-G125-MH1100	PP-HWN-00015	1
G125-MH11605L1	CONN HEADER R/A 1	P2	HWN-G125-MH1160	PP-HWN-00017	1
Battery Clamp		P3, P4	Battery Clamp	Battery Clamp	2
G125-MH10605L1	CONN HEADER R/A 6	P5	HWN-G125-MH1060	PP-HWN-00014	1
SIJH440E	NMOS-2	Q1, Q2, Q3, Q4, Q5,	VSH-POWERPAK8X8L	PQ-VSH-00270	6
SQ1470	MOSFET N-CH 30V 2	Q7, Q8, Q9, Q10	VSH-SQ1470AEH	PQ-VSH-00227	4
Res3	21 Ohms ±1% 1W Th	R1, R2, R3, R4	VSH-CPF1	PR-VSH-00269	4
Res Sense	RES SMD 0.005 OHM	R5, R6	VSH-2512R4B	PR-VSH-00234	2
Res3	RES SMD 100K OHM	R7, R8, R11, R12, R2(	PANA-ERJ6EN	18749, 17208	8
Res3	RES SMD 8.66KOHM	R13, R14, R15, R16, F	PANA-ERA2A	17098, 13235	7
Res3	RES SMD 10M OHM	R24	VSH-0603MCT	PR-VSH-00224	1
Res3	RES SMD 100 OHM 1	R25	VSH-0805MCU	PR-VSH-00029	1
Res Adj1	NTC THERMISTOR 10	RT1, RT2, RT3	VSH-1M1002	PRT-VSH-00266	3
5017	PC TEST POINT MINI	TP1, TP2, TP3, TP4, T	KS-5017	PTP-KS-00001	13
Battery Board MAX6	SENSOR TEMPERATU	U1	MAX-21-0055H-16	PU-MAX-00004	1
Battery Board INA22	IC MONITOR PWR/CU	U2	TI-DGS	19	1
Batttery Board INA22	IC MONITOR PWR/CU	U3	TI-DGS	19	1


P2
P1
BT4
RT3
BT3
RT2
BT1
RT1
BT2



Prometheus (aka Battery board) is Ex-Alfa's power storage board.

- Batteries: 4 - NCR18650B (4.2V each, 3250)
- OVP: 8.4V, 13.8A (max)
- Charge: 0-45 deg C
- Discharge: -20-60 deg C
- U1: MAX68EE38
- U2(3): INA226

PROMETHEUS

Nicholas Sorensen, Tyanu Sriesh,
Erik Hallimell, Stefan Damkjer, and
Duncan Elliott

27\07\2020 V1.23 SVN 1727