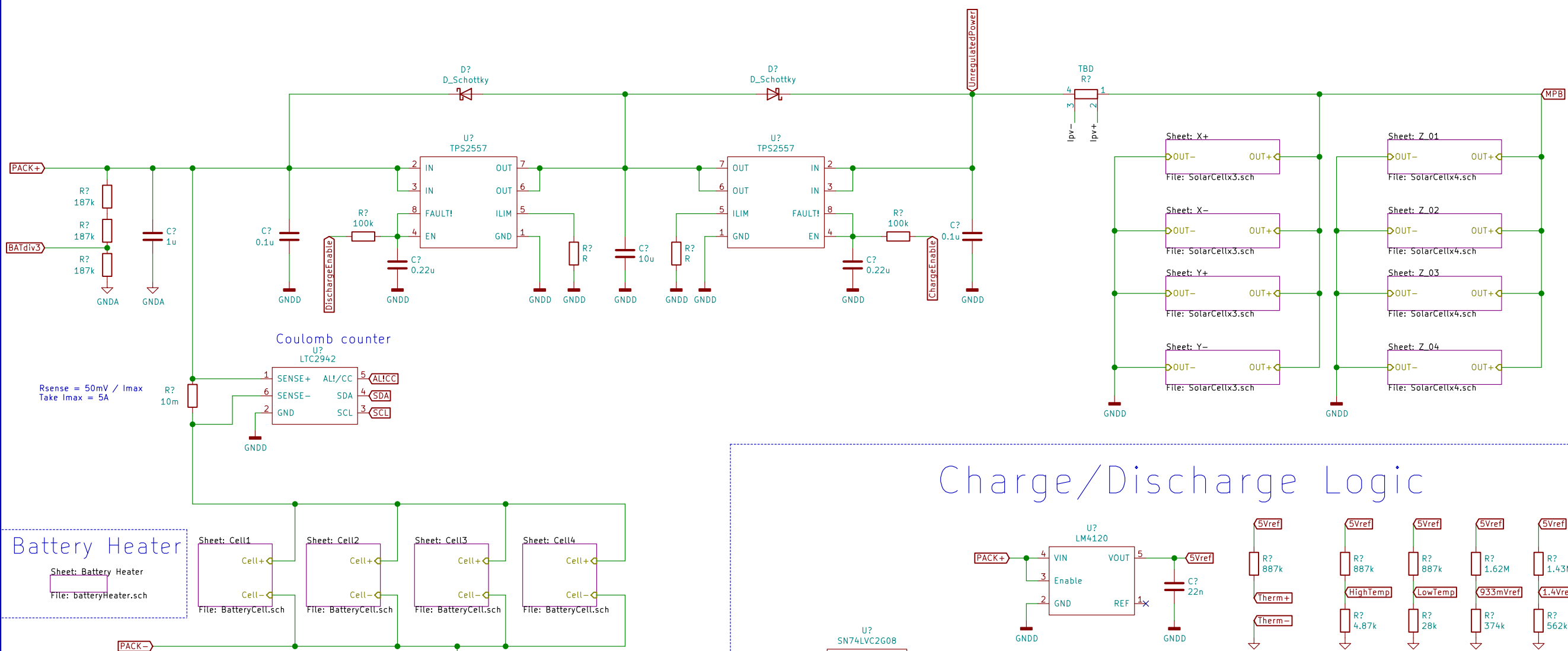
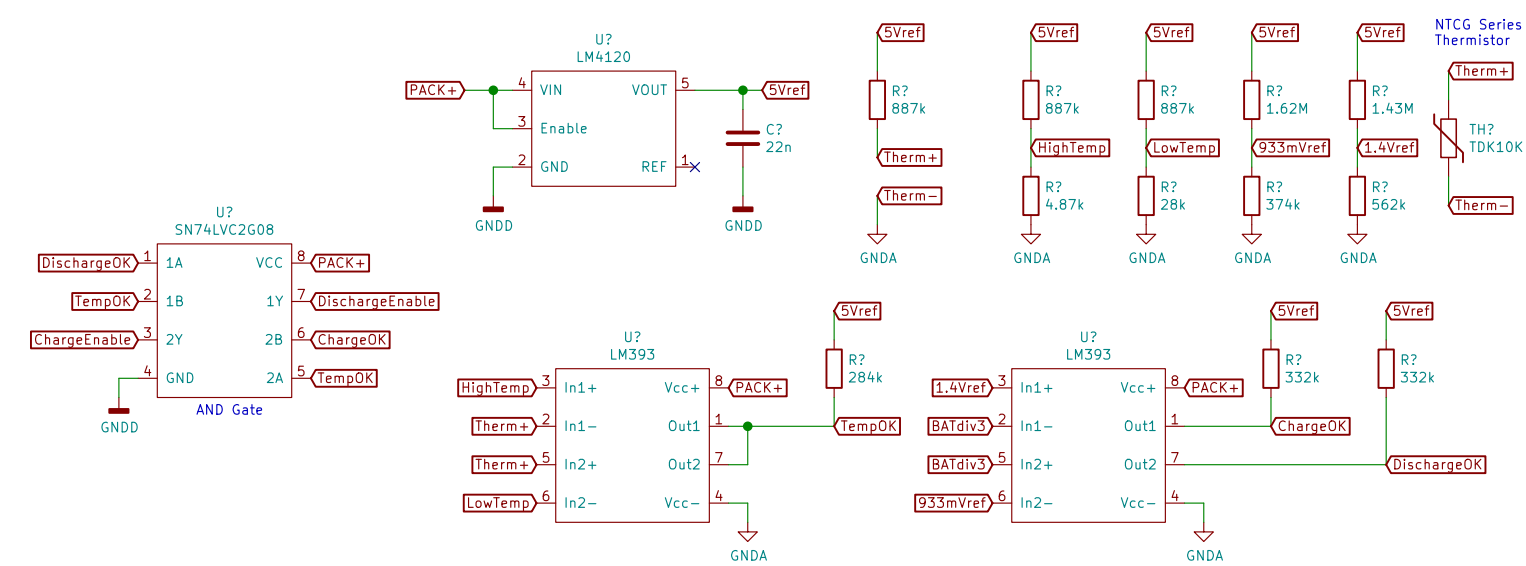


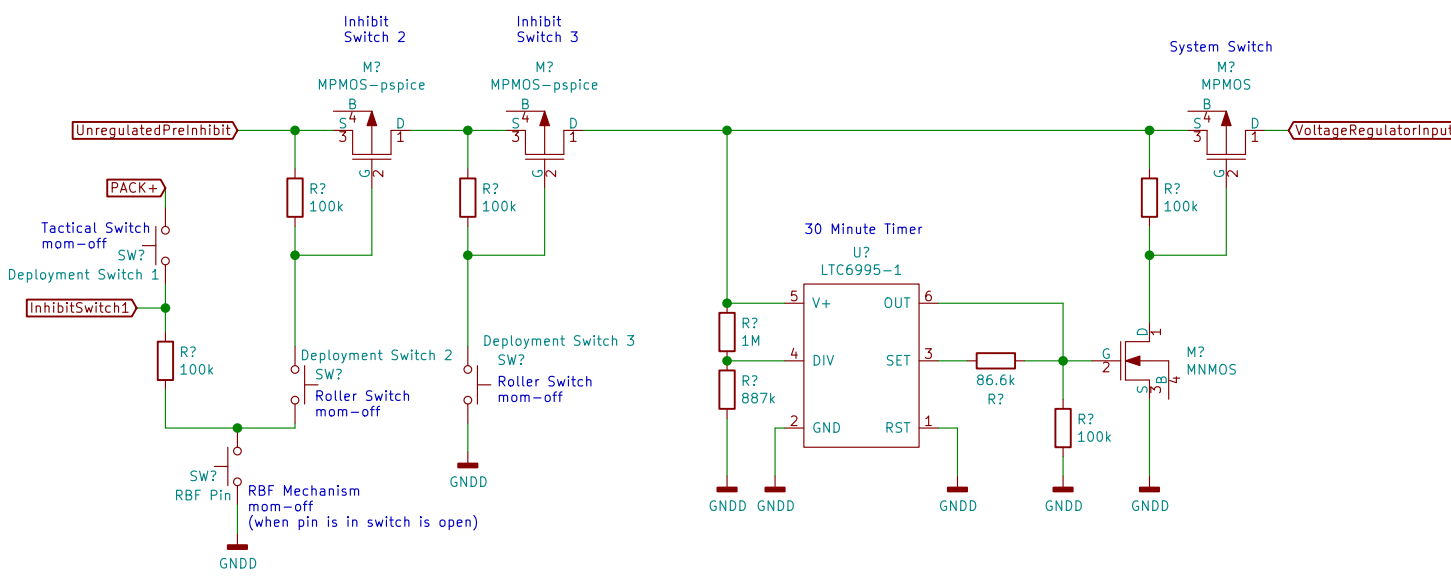
Battery Pack, Battery protection, Charge/Discharge Load Switches and Solar Cells with MPPT



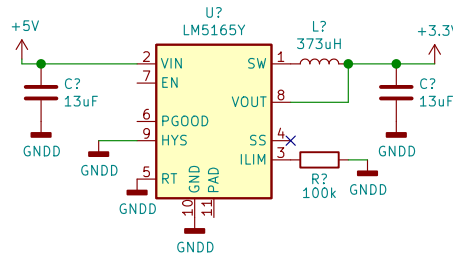
Charge/Discharge Logic



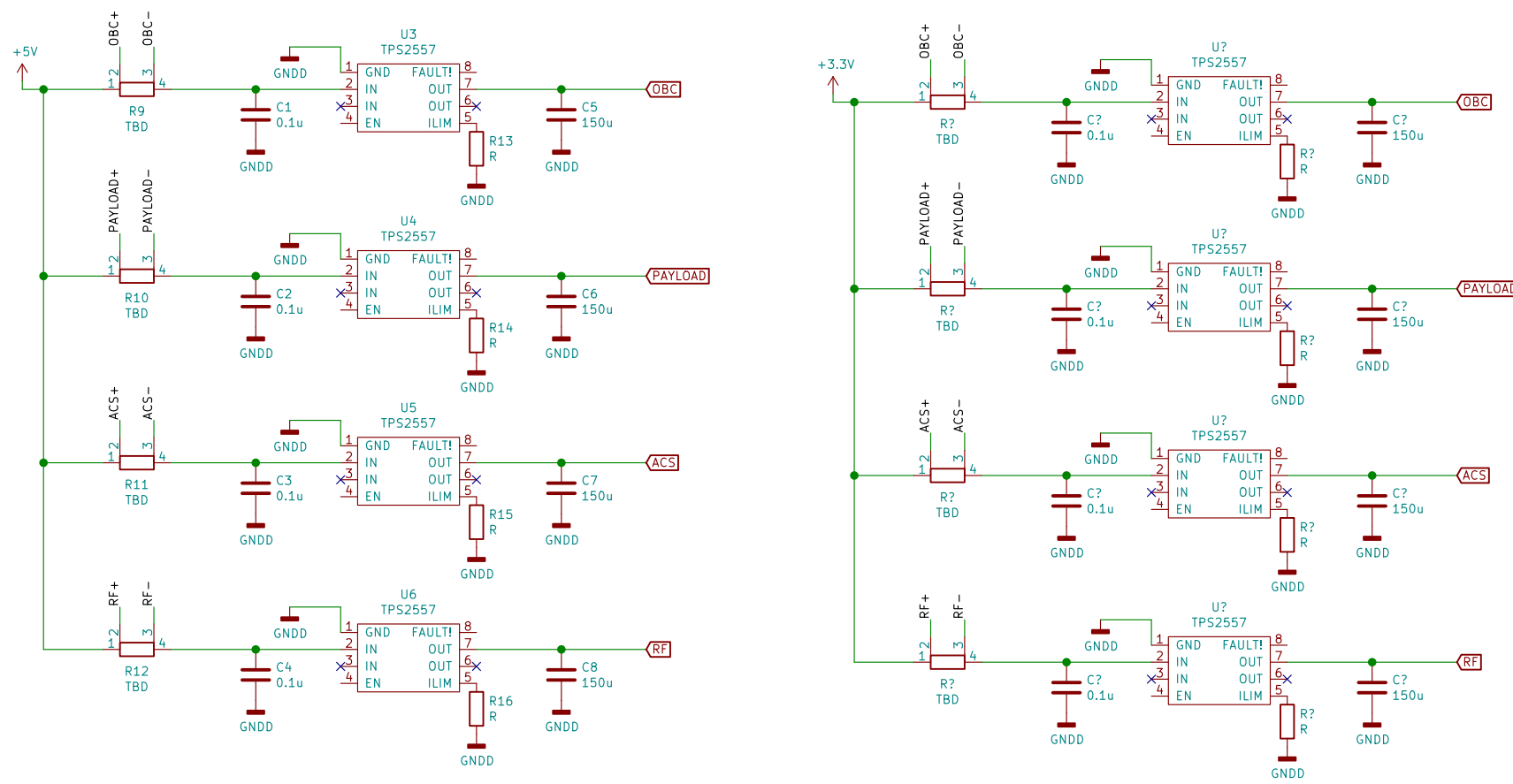
Inhibit Switches, RBF pin and 30 minute timer



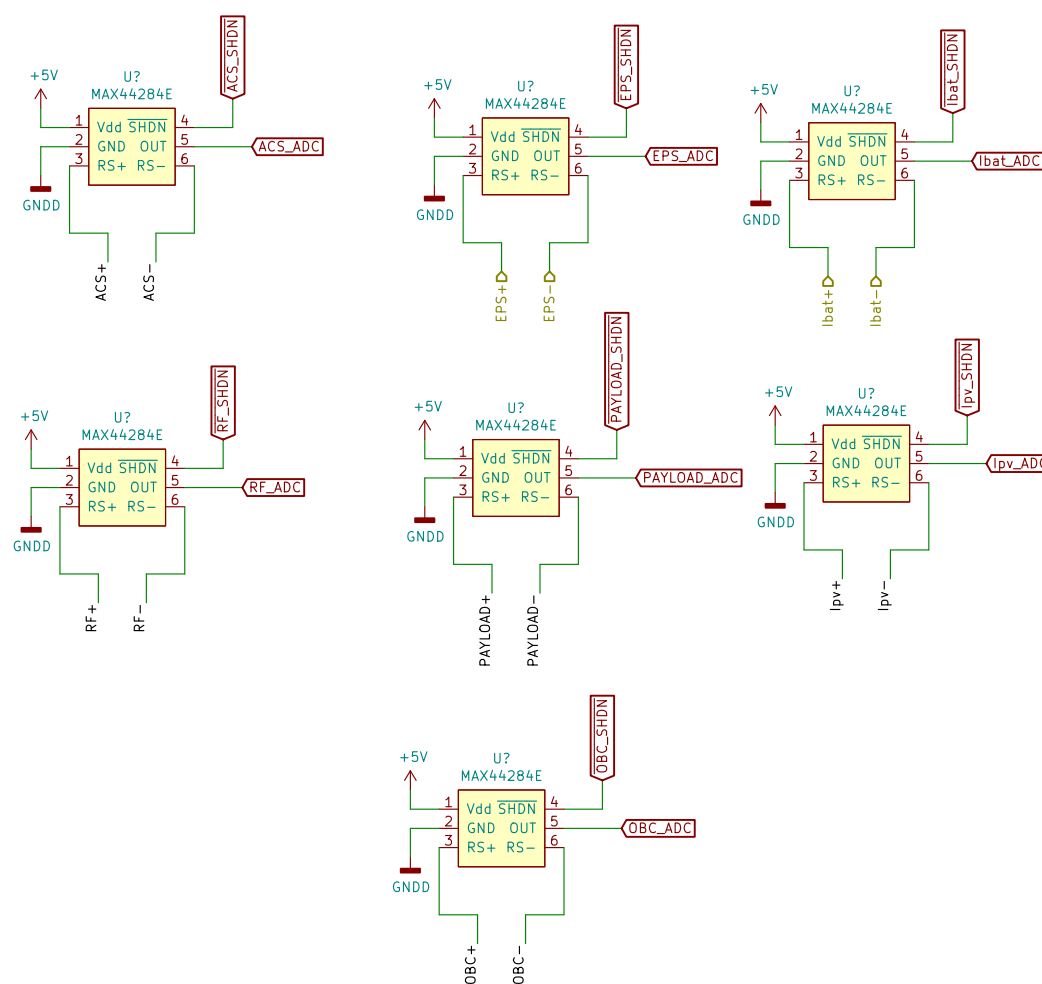
Voltage Regulators



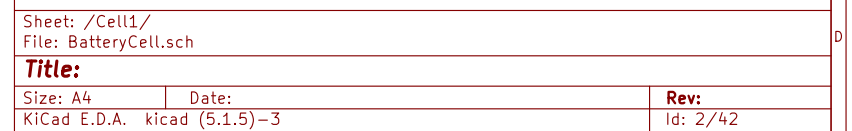
Load Switches

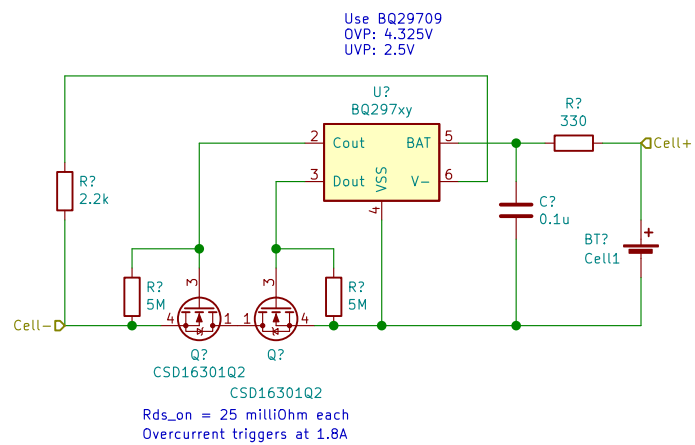


Current Sensing Op Amps



U2 MSP430F5529IPN	
1	P6-4/CB4/A4
2	P6-5/CB5/A5
3	P6-6/CB6/A6
4	P6-7/CB7/A7
5	P7-0/CB8/A12
6	P7-1/CB9/A13
7	P7-2/CB10/A14
8	P7-3/CB11/A15
9	P5-0/AB/VREF+/VREF+
10	P5-1/AB/VREF-/VREF-
11	AVCC1
12	P5-4/XIN
13	P5-5/XOUT
14	AVSS1
15	P8-0
16	P8-1
17	P8-2
18	DVCC1
19	DVSS1
20	VCORE
21	P1-0/TA0CLK/ACK
22	P1-1/TA0-0
23	P1-2/TA0-1
24	P1-3/TA0-2
25	P1-4/TA0-3
26	P1-5/TA0-4
27	P1-6/TA1CLK/CBOUT
28	P1-7/TA1-0
29	P2-0/TA1-1
30	P2-1/TA1-2
31	P2-2/TA2CLK/SMCLK
32	P2-3/TA2-0
33	P2-4/TA2-1
34	P2-5/TA2-2
35	P2-6/RTCLK/DMA0
36	P2-7/UCB0STE/UCAOCLK
37	P3-0/UCB0SMD/UCB0SCL
38	P3-1/UCB0SMD/UCB0SCL
39	P3-2/UCB0CLK/UCAOSTE
40	P3-3/UCAO1XD/UCAO1SMD
41	P6-3/CB3/A3
42	P6-2/CB2/A2
43	P6-1/CB1/A1
44	P6-0/CB0/A0
45	*RST/NMI/SBWTDIO
46	PJ-3/CLK
47	PJ-2/TMS
48	PJ-1/TDI/CLK
49	PJ-0/TDO
50	TEST/SBWTDCK
51	P5-3/X12OUT
52	P5-2/X12IN
53	AVSS2
54	V18
55	VUSB
56	VBUS
57	PU-1/DMA
58	PUR
59	PU-0/DMA
60	VSSU
61	P7-7/TB0CLK/MCLK
62	P7-6/TB0-4
63	P7-5/TB0-3
64	P7-4/TB0-2
65	P7-3/TB0-1
66	P7-2/TB0-0
67	P4-7/PM_NONE
68	P4-6/PM_NONE
69	P4-5/PM_UCAI1RXD/PM_UCAI1SMD
70	P4-4/PM_UCAI1TXD/PM_UCAI1SMD
71	DVCC2
72	DVSS2
73	P4-3/PM_UCB1CLK/PM_UCB1STE
74	P4-2/PM_UCB1SMD/PM_UCB1SCL
75	P4-1/PM_UCB1SMD/PM_UCB1SCL
76	P4-0/PM_UCB1STE/PM_UCB1CLK
77	P3-7/TB0OUTH/SWOUT
78	P3-6/TB0-6
79	P3-5/TB0-5
80	P3-4/UCAO1RXD/UCAO1SMD





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File: BatteryCell.sch

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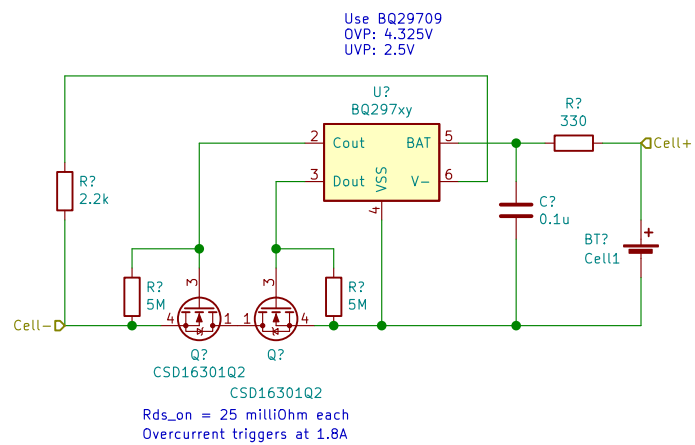
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KiCad E.D.A. kicad (5.1.5)-3

**Rev:**

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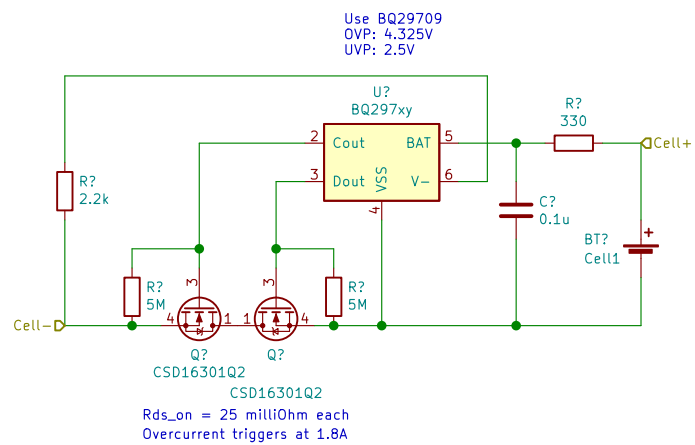
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**Rev:**

Id: 4/42



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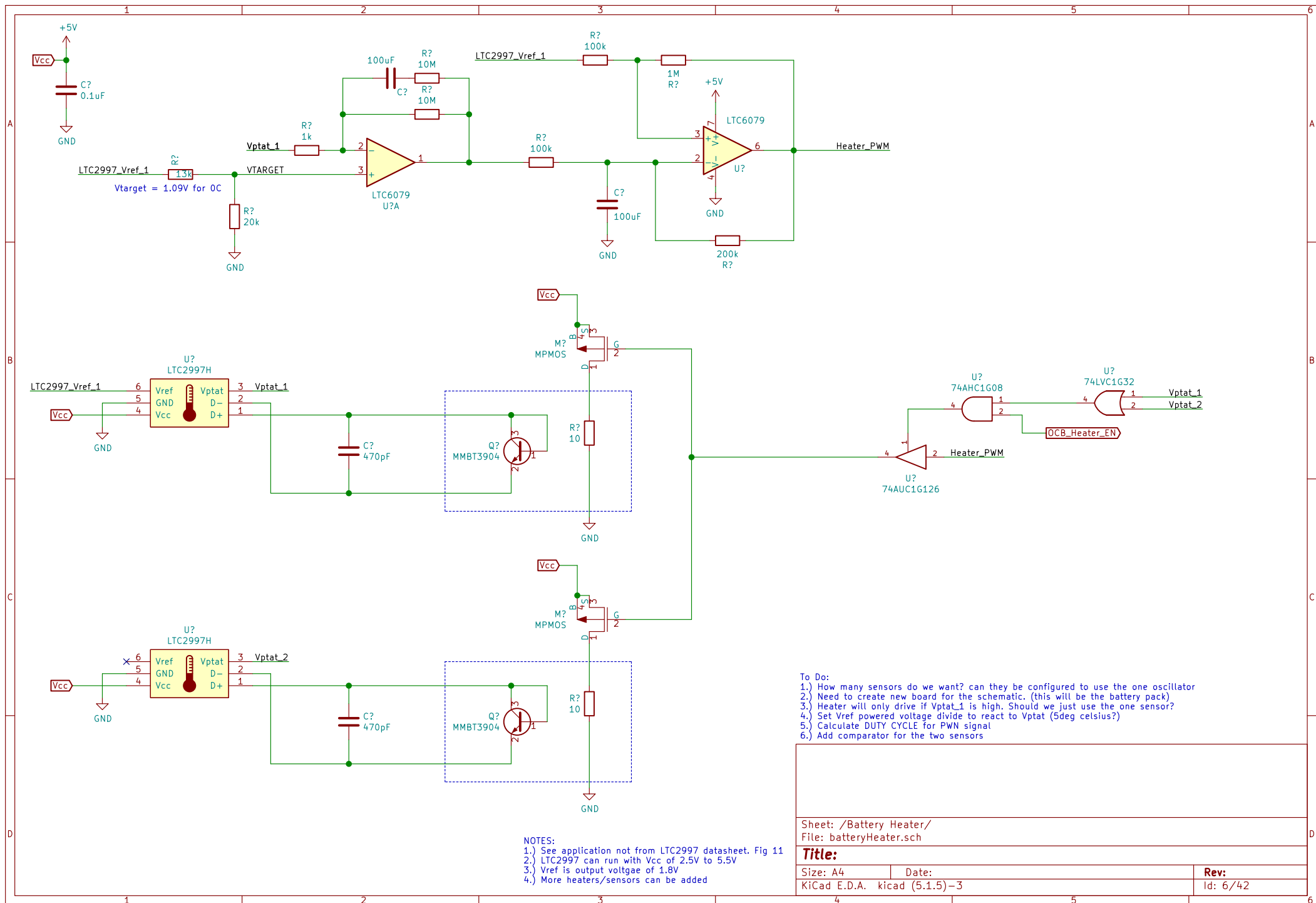
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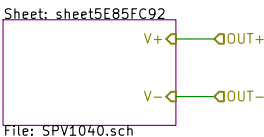
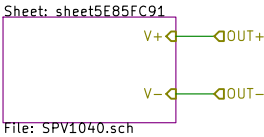
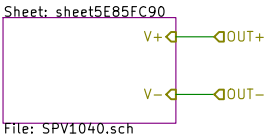
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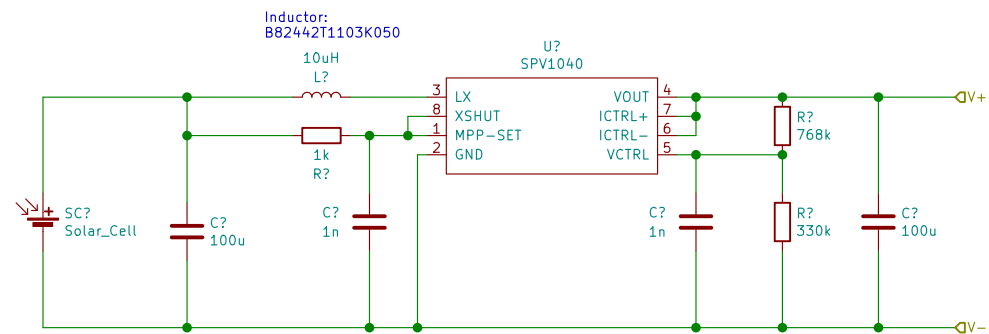
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mark.crispo@dal.ca

**Dalhousie Space Systems**

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File: SPV1040.sch

**Title: Electrical Power System**

Size: A4

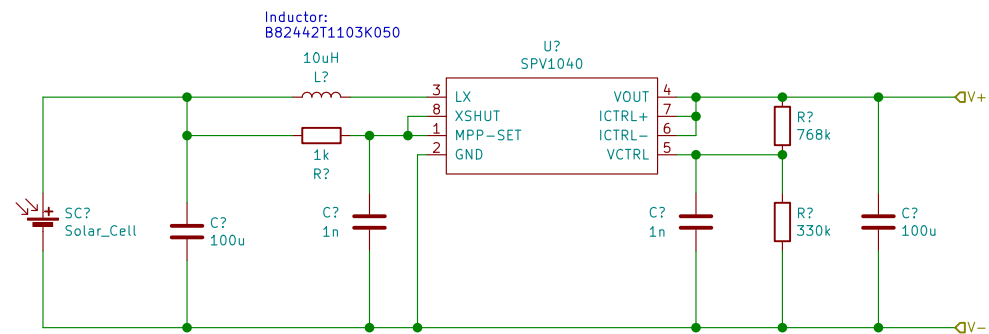
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**Rev: 1.0**

KiCad E.D.A. kicad (5.1.5)-3

Id: 8/42





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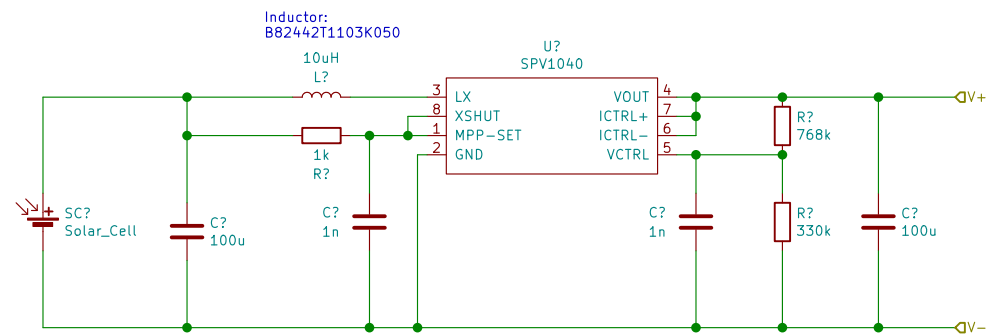
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**Rev: 1.0**

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Id: 9/42



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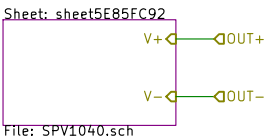
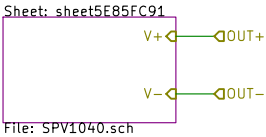
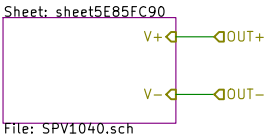
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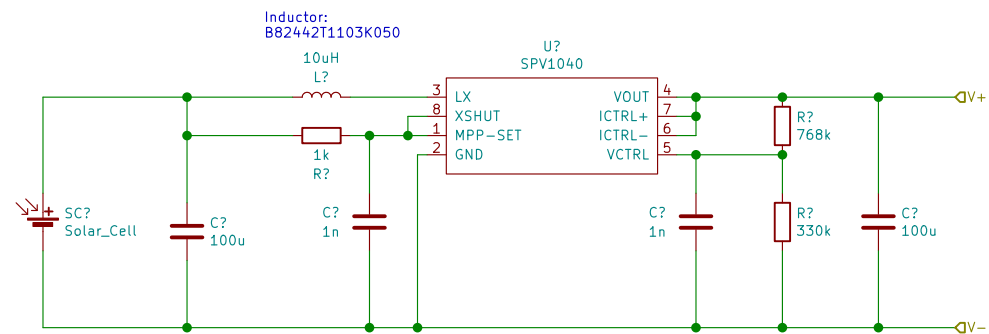
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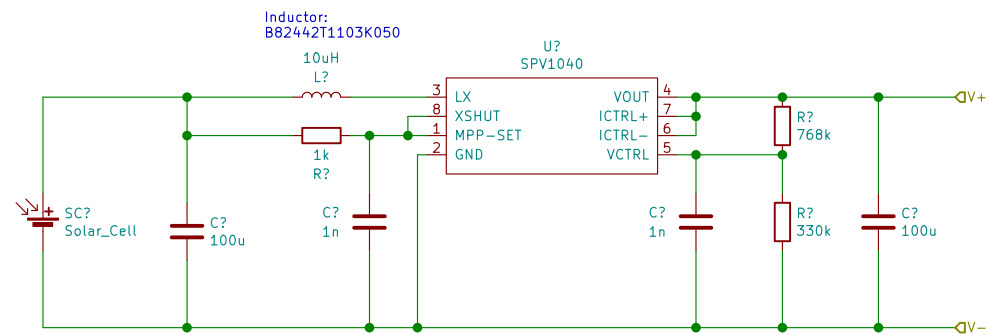
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**Rev: 1.0**

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Id: 12/42



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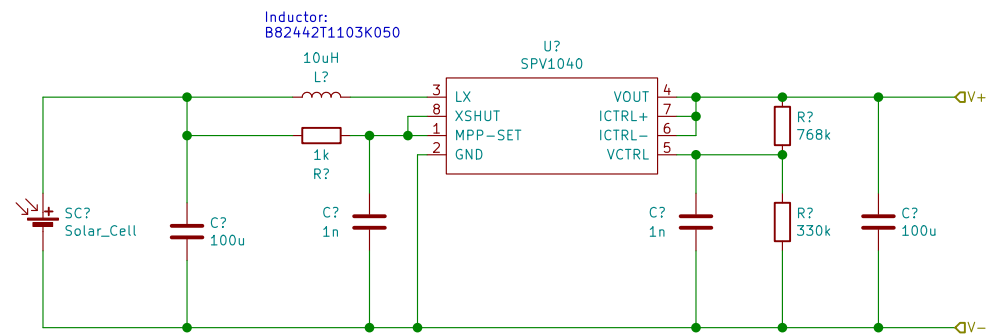
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**Rev: 1.0**

Id: 13/42



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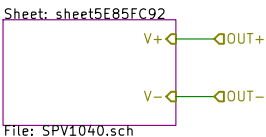
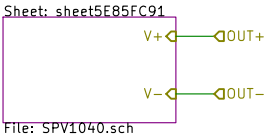
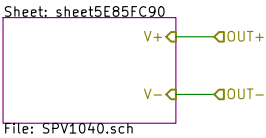
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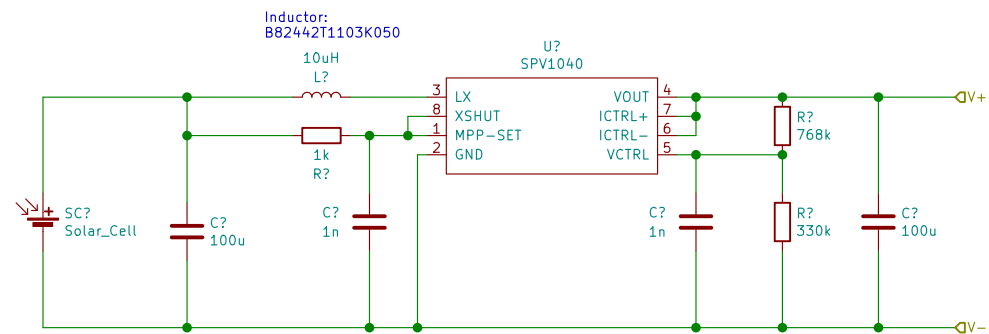
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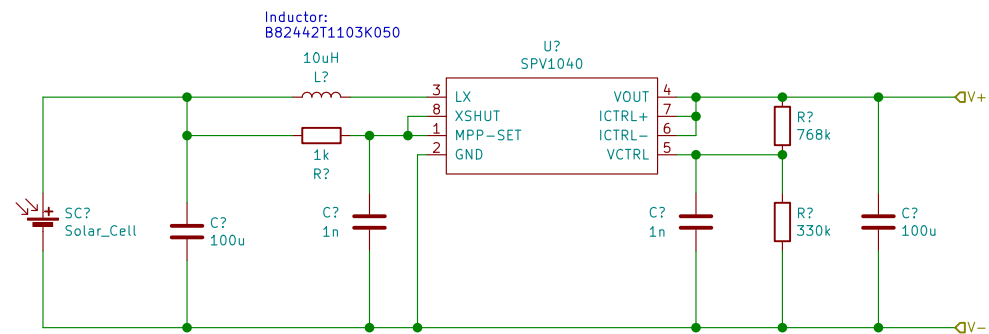
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**Rev: 1.0**

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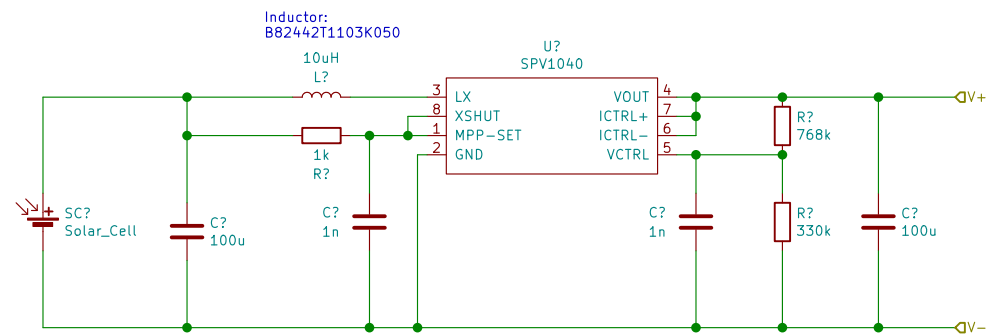
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Rev: 1.0

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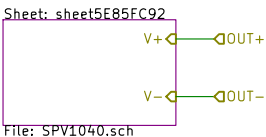
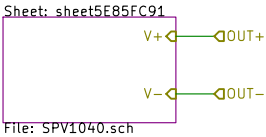
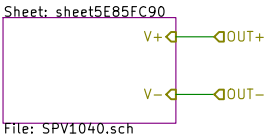
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**Rev: 1.0**

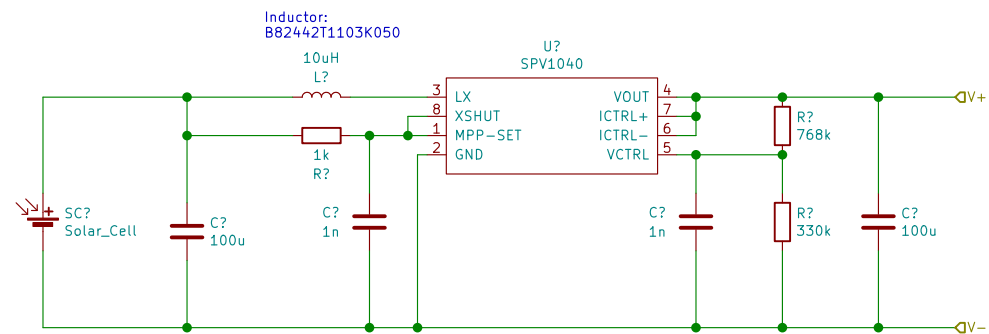
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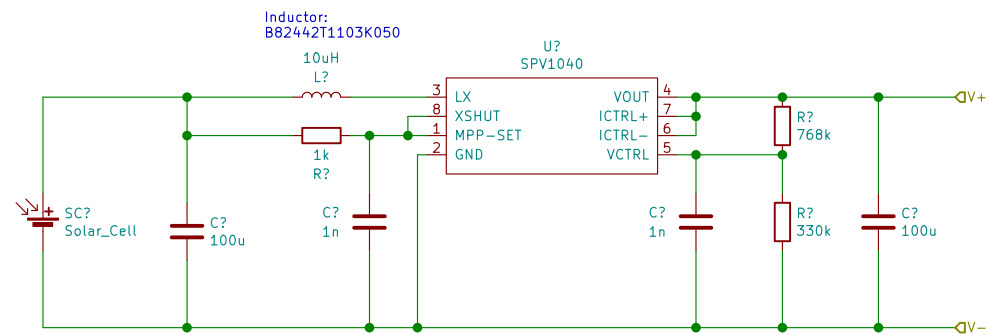
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Rev: 1.0

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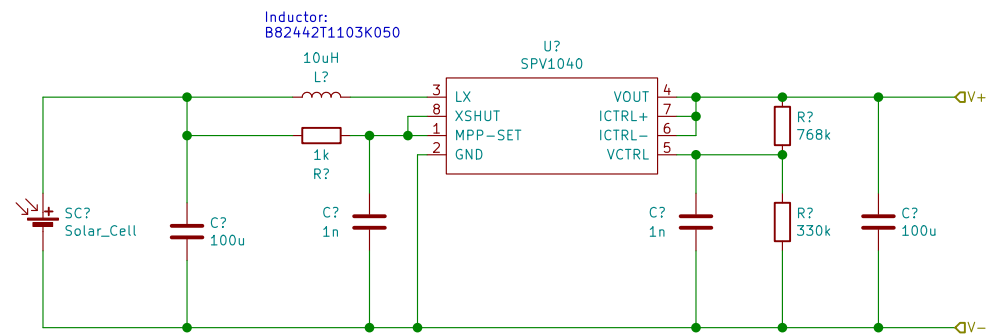
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Date: 2019-04-25

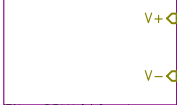
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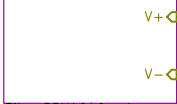


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Sheet: sheet5E80E604



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Sheet: sheet5E80E605



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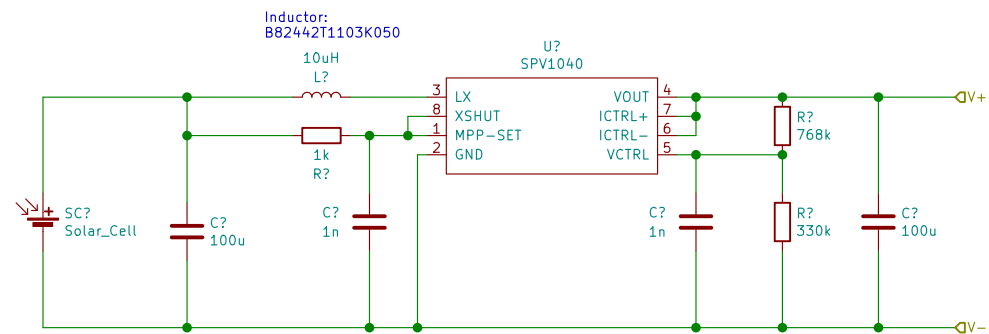
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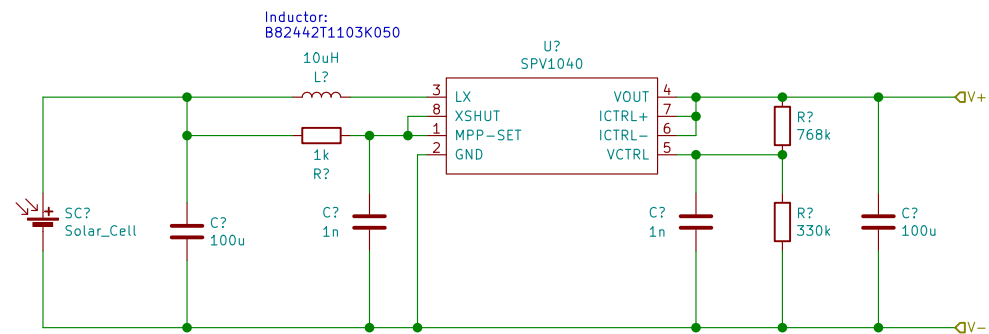
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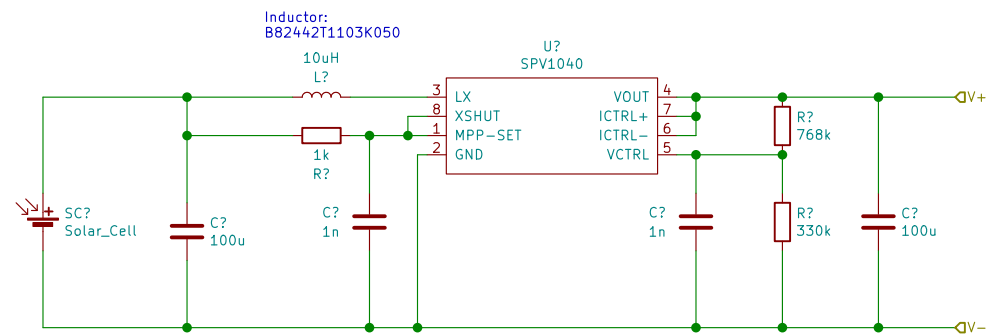
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Rev: 1.0

KiCad E.D.A. kicad (5.1.5)-3

Id: 25/42



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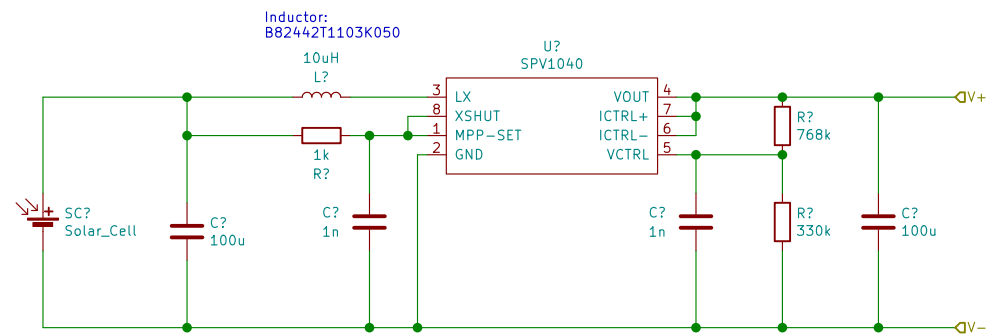
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Rev: 1.0

KiCad E.D.A. kicad (5.1.5)-3

Id: 26/42



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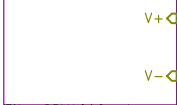
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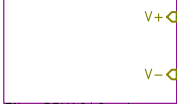


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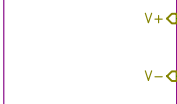


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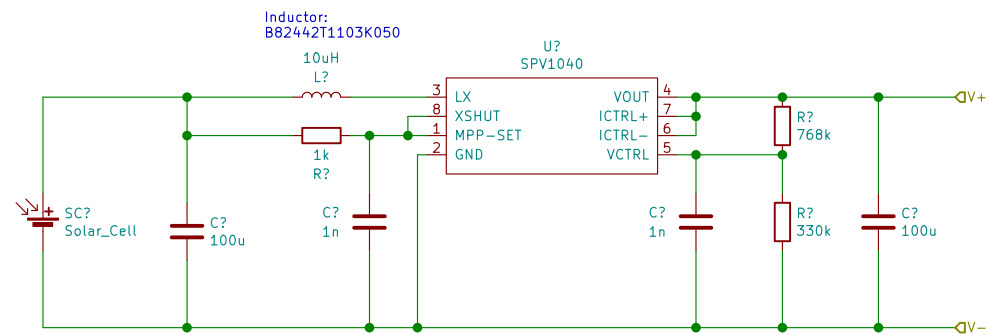
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Rev:

Id: 28/42



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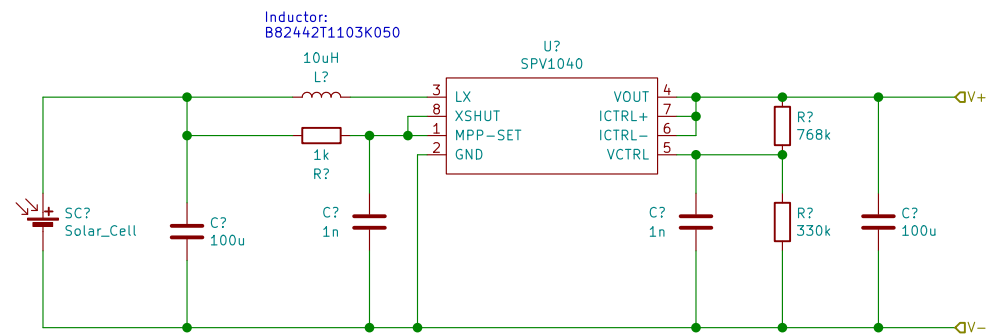
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**Rev: 1.0**

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Id: 29/42



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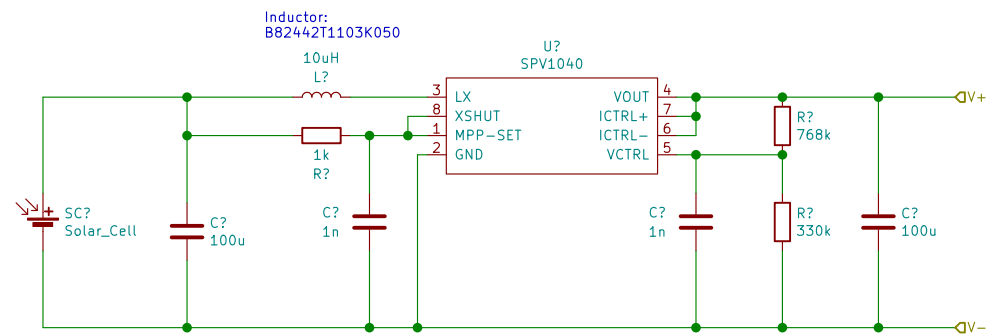
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**Rev: 1.0**

KiCad E.D.A. kicad (5.1.5)-3

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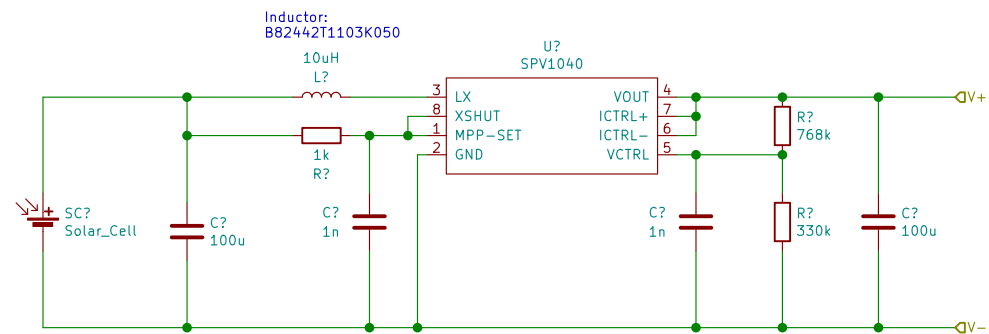
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Date: 2019-04-25

**Rev: 1.0**

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mark.crispo@dal.ca

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Sheet: /Z\_03/sheet5E80E605/

File: SPV1040.sch

**Title: Electrical Power System**

Size: A4

Date: 2019-04-25

**Rev: 1.0**

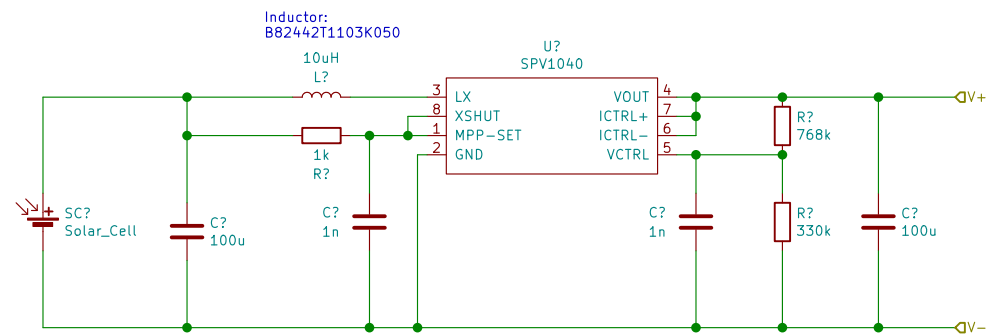
KiCad E.D.A. kicad (5.1.5)-3

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B	<div>Sheet: sheet5E80D367</div> <div><div>V+</div><div>V-</div></div> <div>OUT+</div> <div>OUT-</div> <div>File: SPV1040.sch</div>				B
C	<div>Sheet: sheet5E80E604</div> <div><div>V+</div><div>V-</div></div> <div>OUT+</div> <div>OUT-</div> <div>File: SPV1040.sch</div>				C
D	<div>Sheet: sheet5E80E605</div> <div><div>V+</div><div>V-</div></div> <div>OUT+</div> <div>OUT-</div> <div>File: SPV1040.sch</div>				D
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Sheet: /Z_02/		
File: SolarCellx4.sch		
Title:		
Size: A4	Date:	Rev:
KiCad E.D.A. kicad (5.1.5)-3		Id: 33/42



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**Dalhousie Space Systems**

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**Title: Electrical Power System**

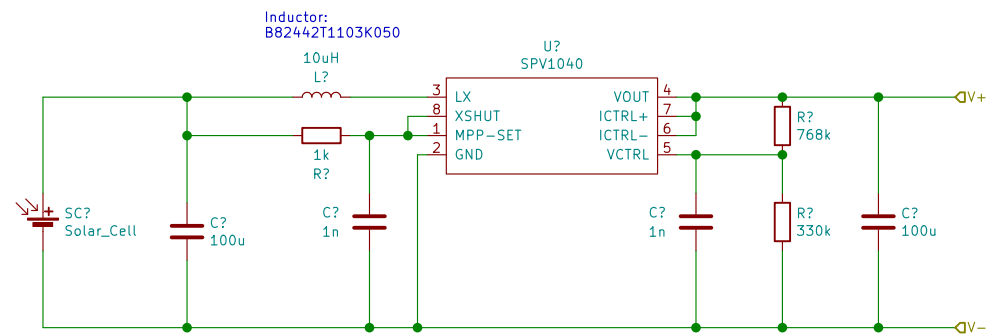
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Date: 2019-04-25

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**Dalhousie Space Systems**

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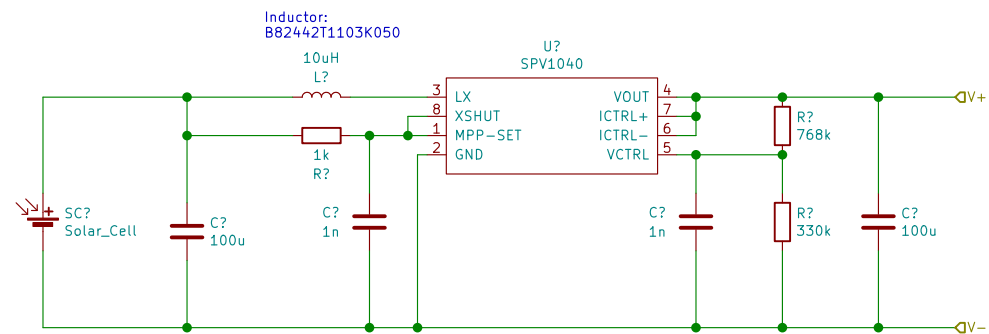
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Date: 2019-04-25

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**Dalhousie Space Systems**

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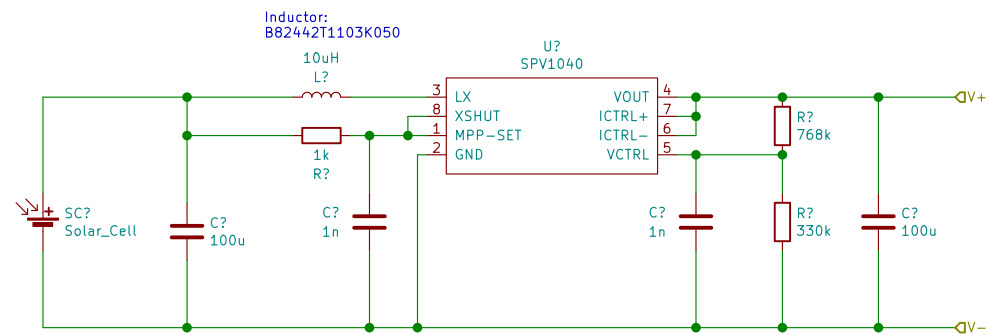
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Date: 2019-04-25

Rev: 1.0

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**Dalhousie Space Systems**

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File: SPV1040.sch

**Title: Electrical Power System**

Size: A4

Date: 2019-04-25

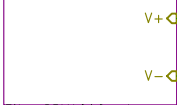
**Rev: 1.0**

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C						
D						
	1	2	3	4	5	6

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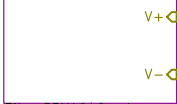


OUT+

OUT-

File: SPV1040.sch

Sheet: sheet5E80D367



OUT+

OUT-

File: SPV1040.sch

Sheet: sheet5E80E604



OUT+

OUT-

File: SPV1040.sch

Sheet: sheet5E80E605



OUT+

OUT-

File: SPV1040.sch

Sheet: /Z\_01/  
File: SolarCellx4.sch

Title:

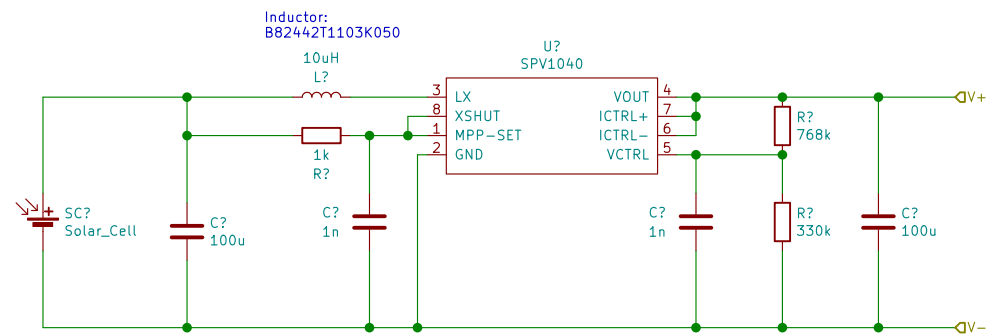
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**Title: Electrical Power System**

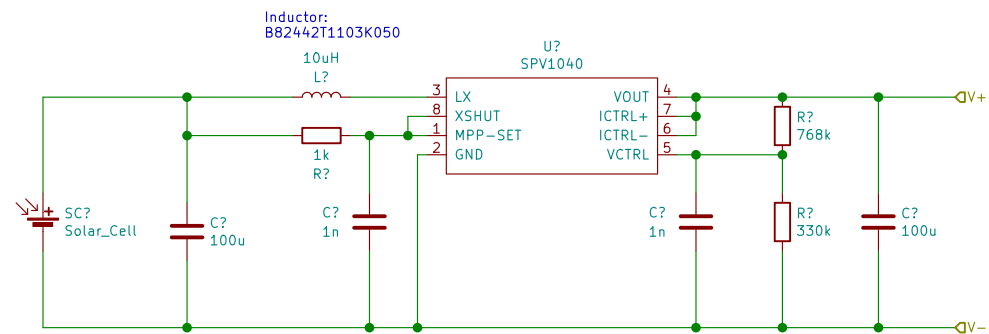
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Date: 2019-04-25

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**Dalhousie Space Systems**

Sheet: /Z\_01/sheet5E80D367/

File: SPV1040.sch

**Title: Electrical Power System**

Size: A4

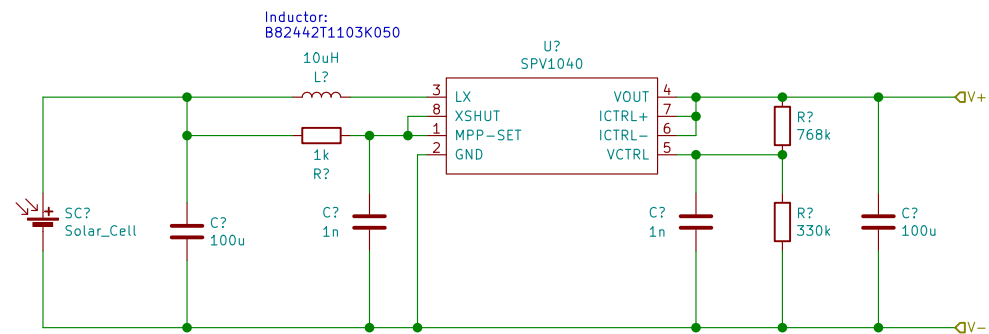
Date: 2019-04-25

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**Dalhousie Space Systems**

Sheet: /Z\_01/sheet5E80E604/

File: SPV1040.sch

**Title: Electrical Power System**

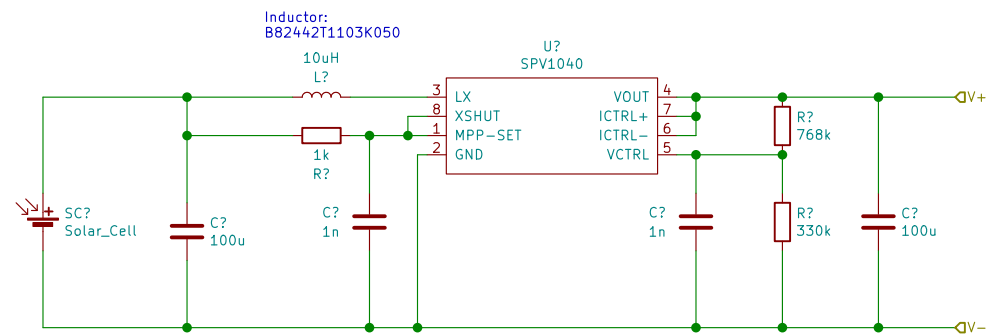
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KiCad E.D.A. kicad (5.1.5)-3

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mark.crispo@dal.ca

**Dalhousie Space Systems**

Sheet: /Z\_01/sheet5E80E605/

File: SPV1040.sch

**Title: Electrical Power System**

Size: A4

Date: 2019-04-25

Rev: 1.0

KiCad E.D.A. kicad (5.1.5)-3

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