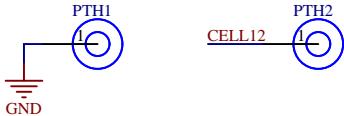


BMS

CUSTOM BATTERY CONNECTION



BMS IC

Set EN to low to put device into shutdown and reset SPI registers

CV₋ voltages are tracked when SAMPL is high

3V3

50V
0.1μF

GND

EN

CS_n

SPI_CLK

SPI_SDI

SPI_SDO

SAMPL

VL

DGND

T3

T2

T1

AOUT

AGND

VA

LDOIN

VP

CV16

BA16

CT16

CB16

CV15

BA15

CT15

CB15

CV14

BA14

CT14

CB14

CV13

BA13

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CB13

CV12

BA12

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CB12

CV11

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CB5

CV4

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CB3

CV2

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CB2

CV1

BA1

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CB1

CV0

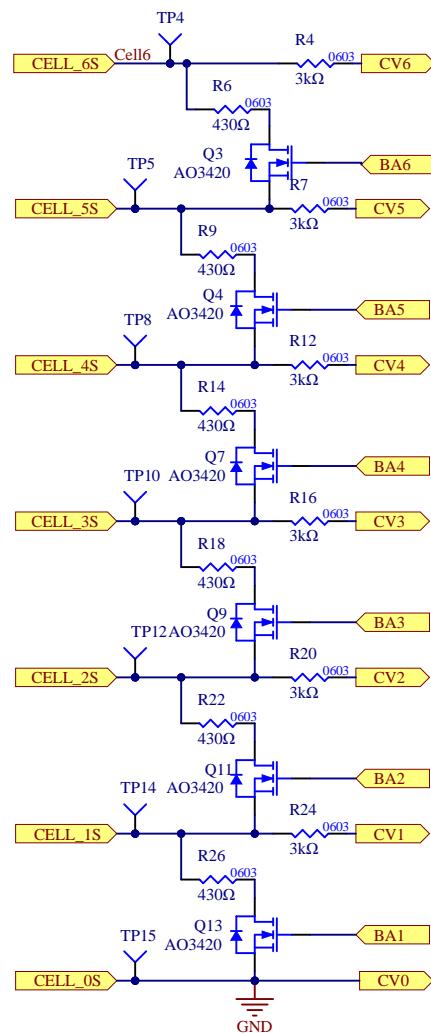
BMS IC

U1
MAX14921ECS+

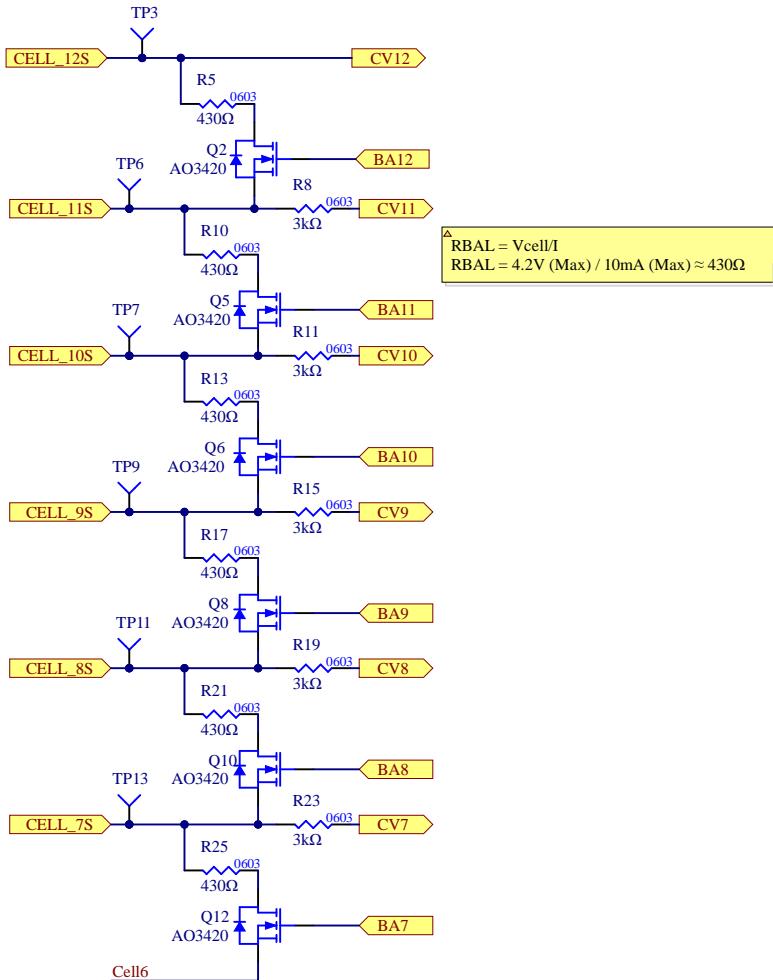
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Passive Cell Balancing Circuit

A



B



C



University of Waterloo Robotics Team
200 University Ave W
Waterloo, Ontario, Canada
N2L 3G1

REV
3

PROJECT
Battery Management System Rev3.PjrPcb, [No Variations]

DOCUMENT
BatteryBalancingRev3.SchDoc

MODIFIED
2022-09-27

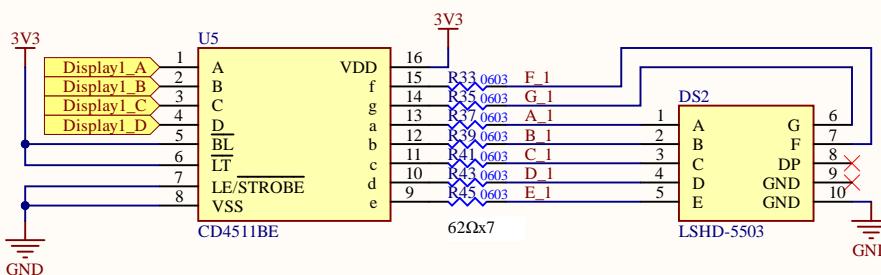
ENGINEER
Josh Harper

REVIEWER
*

SHEET 3 OF 6

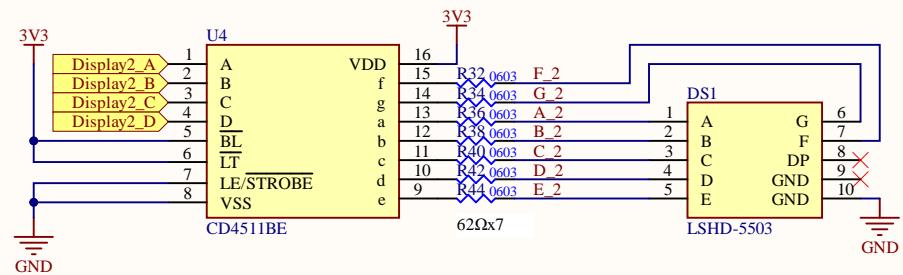
Display

DISPLAY 1

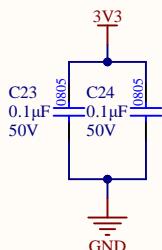


Resistor Calculations
(3.3V-2.1V)/20mA=60Ohms
(62Ohm based on availability)

DISPLAY 2



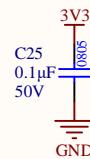
Decoupling Caps



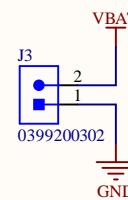
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Power

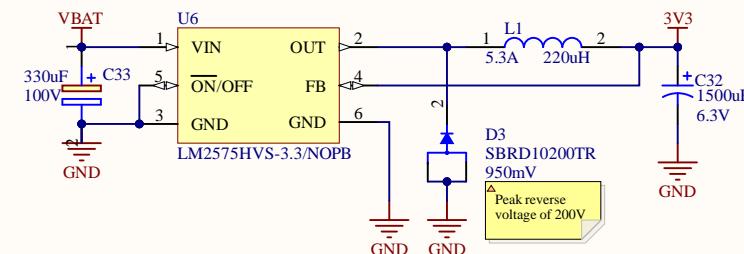
DECOUPLING CAP



POWER CONNECTOR



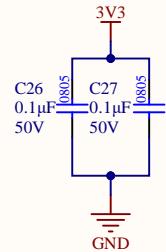
3.3V BUCK CONVERTER



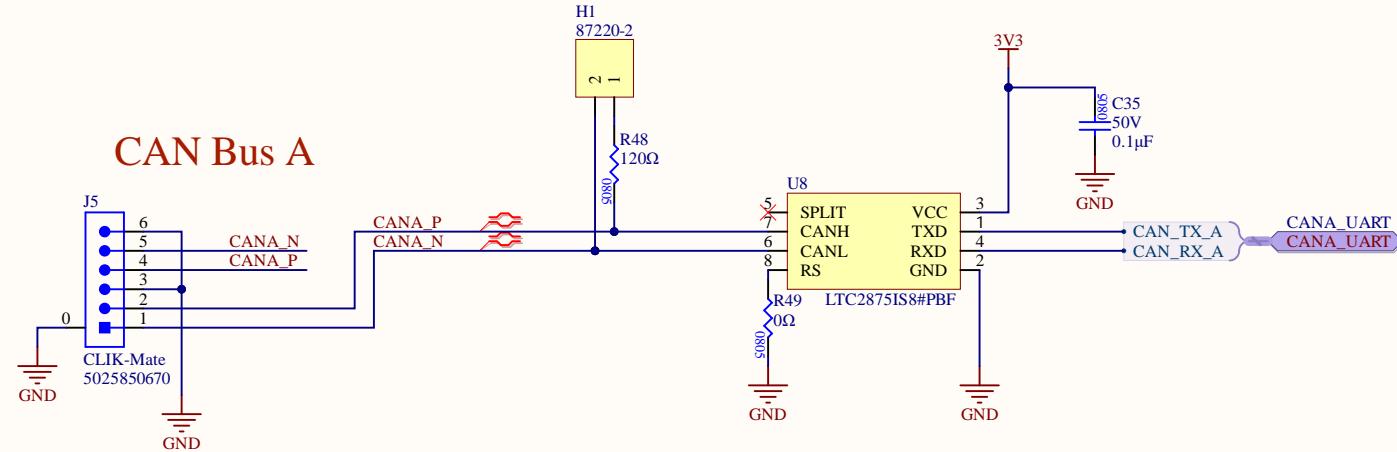
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CAN Transceivers

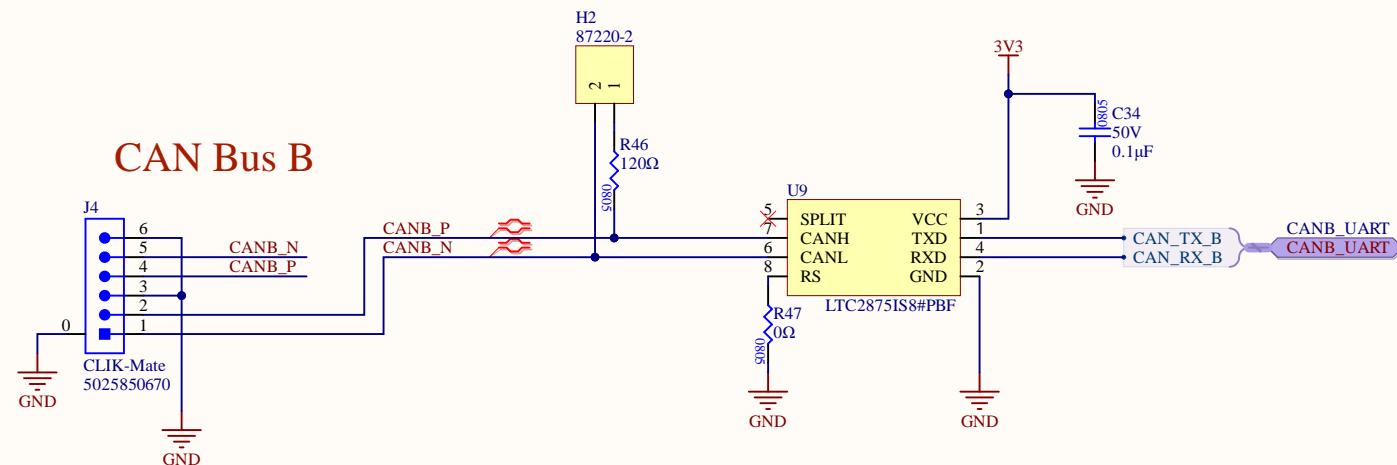
Decoupling Caps



CAN Bus A



CAN Bus B



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