H1
MountingHole
H2
MountingHole
H3
MountingHole
H4
MountingHole

J10
Conn_02x10_Odd_Even
VC0 2 1 VC0
VC2 4 3 VC1
VC4 6 5 VC3
VC6 8 7 VC5
VC8 10 9 VC7
VC10 12 11 VC9
VC12 14 13 VC11
VC14 16 15 VC13
VC16 18 17 VC15
20 19

MCU
ALERT ALERT SCL SCL
SDA SDA
File: mcu.kicad_sch

5v Regulator
VC16 Vin+ 5.25V+ +5V
5VReg_EN EN Iso_5V+ +5VCAN
Iso_5V- -5VCAN

High Side Fets
J5
Conn_01x01_Pin
BATT+ PACK+
J4
Conn_01x01_Pin
CHG DSG CD PDSG PCHG
CHGD DSGD CD PDSGD PCHGD PACK+

Protector
VC16 CELL_16
VC15 CELL_15
VC14 CELL_14
VC13 CELL_13
VC12 CELL_12
VC11 CELL_11
VC10 CELL_10
VC9 CELL_9
VC8 CELL_8
VC7 CELL_7
VC6 CELL_6
VC5 CELL_5
VC4 CELL_4
VC3 CELL_3
VC2 CELL_2
VC1 CELL_1
VC0 CELL_0
SCL SCL
SDA SDA
ALERT ALERT
HDQ TP2
REG1 5VReg_EN
DCHGD TS5
DDSGD TS4
TS3 TS3
TS2 TS2
TS1 TS1
SRP SRN
GND

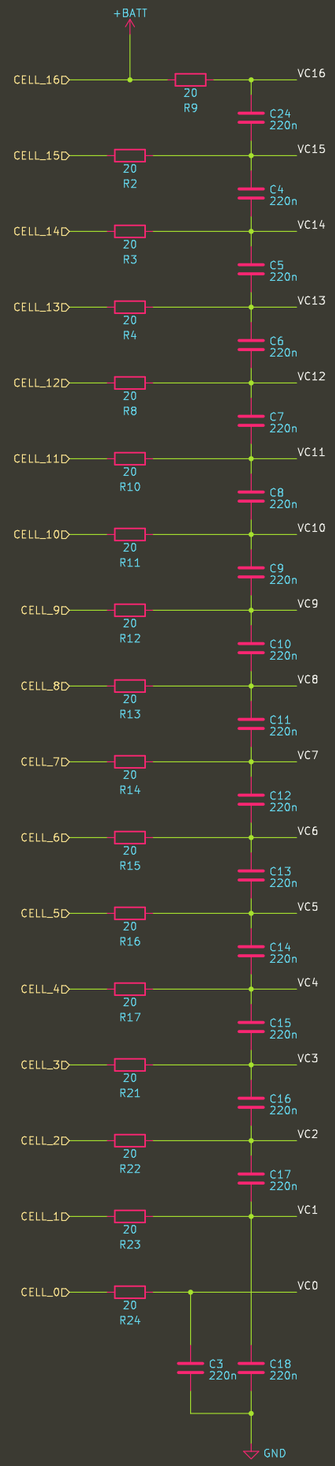
C37
100n
C36
100n

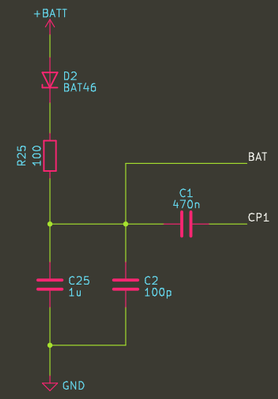
TS1 10
TS2 9
8
TS3 7
6
TS4 5
4
TS5 3
2
1
J9
Conn_01x10_Pin
GND

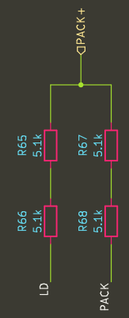
J6
Conn_01x01_Pin
BATT- PACK-
J3
Conn_01x01_Pin
Sense Resistor
NT4
GND1

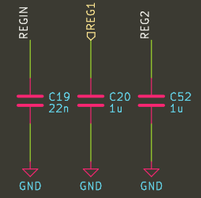
Dumb bitch got a 3A charger
54.6v

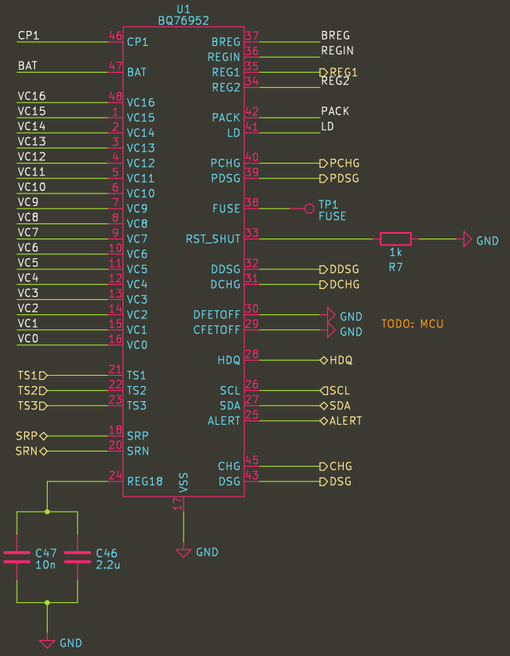
QTech BMS Dept
Sheet: /
File: bms.kicad_sch
Title: BMS
Size: B Date: 2022-10-30 Rev: Rev 0
KiCad E.D.A. kicad 7.0.6 Id: 1/6

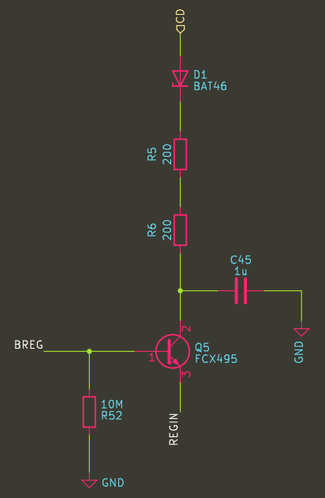












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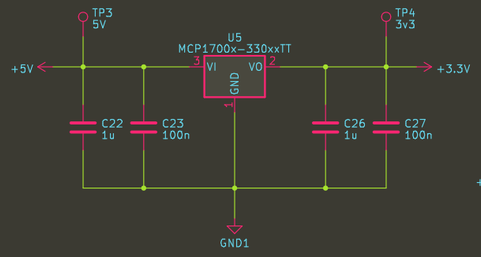
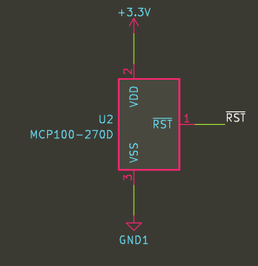
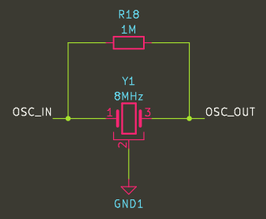
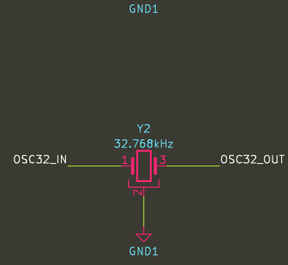
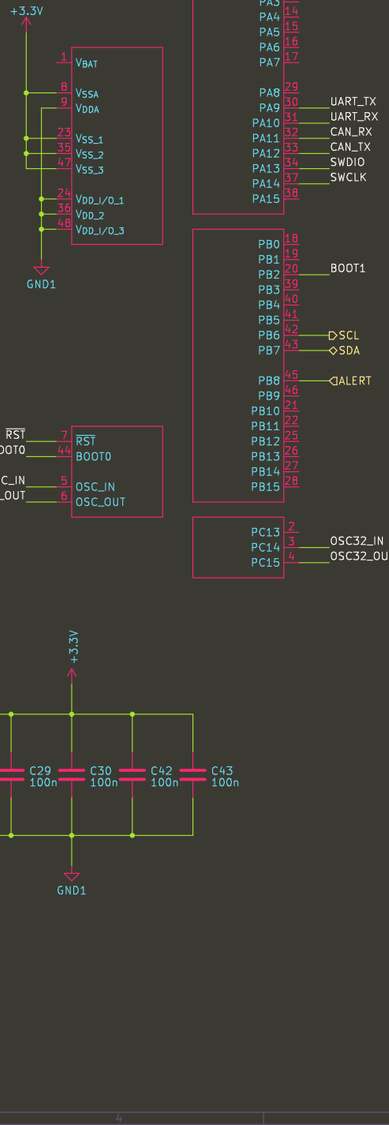
Size: B	Date: 2022-10-30	Rev: Rev 0
KiCad E.D.A. kicad 7.0.6		Id: 20/6

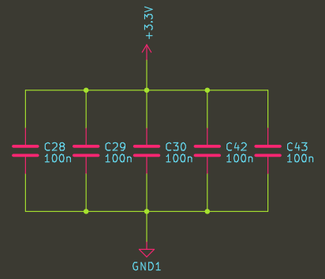




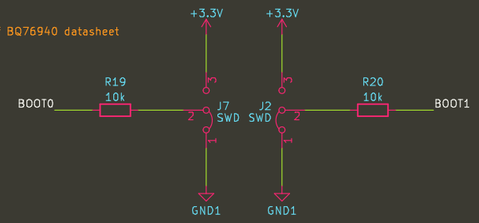


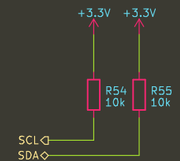


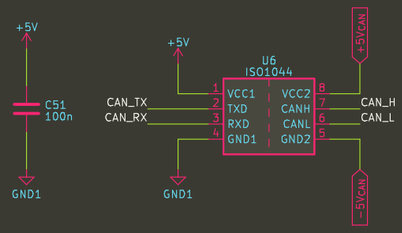


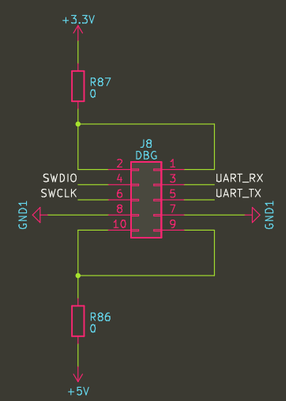


TODO: Consider page 19 of BQ76940 datasheet
Cal shit









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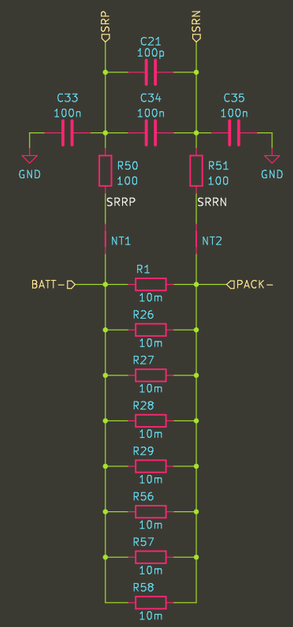
Size: B	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.6		Id: 22/6

Dgate
Cgate
ZD2
16V
R39
10M
ZD1
16V
R41
10M
C31
100n
C32
100n
BATT+
PACK+
R30
51
R42
51
Q8
SIR510DP
Q17
SIR510DP
R31
51
R43
51
Q9
SIR510DP
Q18
SIR510DP
R32
51
R44
51
Q10
SIR510DP
Q19
SIR510DP
R33
51
R45
51
Q11
SIR510DP
Q20
SIR510DP
R34
51
R46
51
Q12
SIR510DP
Q21
SIR510DP
R35
51
R47
51
Q13
SIR510DP
Q22
SIR510DP
R36
51
R48
51
Q14
SIR510DP
Q23
SIR510DP
R37
51
R49
51
Q16
SIR510DP
Q24
SIR510DP
-12A peak
-12A peak
SIR510DP
D11
D12
D4
D10
D13
D14
CDG
-22A peak
Rate fets for 80v, 160v peak
R74
1200
R83
1200
R84
1200
R85
1200
6.69W
Precharge
74.6mA @ 2.8->4.2
Q1
PXP400
CD
ZD4
16V
10M
R71
10M
R73
ZD5
16V
Q7
PXP400
R53
2700
R69
2700
R76
2700
R75
2700
8.65W
Predischarge
~250mA
PACK+
5.1k
R72
5.1k
R70
PCHGD
PDSGD
BATT+
R59
100
CHG turn off local current loop
Slams CHG fets off harder
R40
1k
CHGD
Q2
2N3906
D3
BAS516
Cgate
PACK+
R61
100
DSG turn off local current loop
Slams DSG fets off harder
Some kind of
protection
D5
BAT46
R60
1k
DSGD
Q3
2N3906
R63
5.1k
R62
5.1k
D9
BAS516
Dgate
D6
BAT46
GND
Reverse charge
prevention
PACK+
Q4
T2N7002BK
Dgate
R38
10M
16V
ZD3
R64
10k
D7
1N4148W
GND

QTech BMS Dept		
Sheet: /High Side Fets/		
File: high_side.kicad_sch		
Title: High Side Fets		
Size: B	Date: 2022-10-30	Rev: Rev 0
KiCad E.D.A. kicad 7.0.6		Id: 26/6



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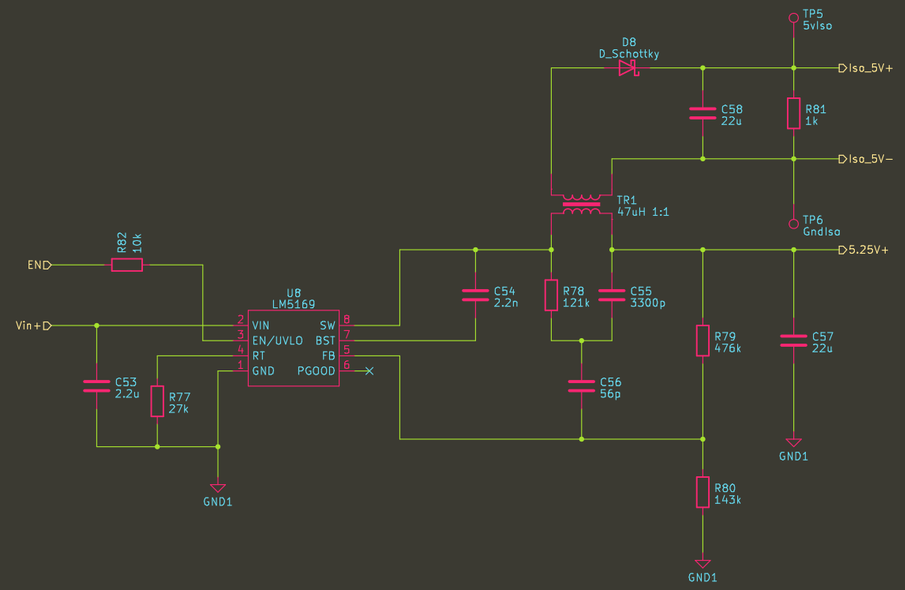
Size: B	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.6		Id: 27/6



Sheet: /5v Regulator/
File: mcu_power.kicad_sch

Title:

Size: B	Date:	**Rev:**
KiCad E.D.A. kicad 7.0.6		Id: 20/6