Cell Section 2 monitor IC

Q1 Q_NPN_BCE
U9 LTC6812-1
D2 LED
C13 100nf
R95 R_US

R2 1k
C11 1uf
R1 1k R5 1k
R7 1M
R3 20k SCL2
R4 20k SDA2
C9 10nF
C10 10nF

DRIVE, VREG, ISOMD, DTEN, VREF1, VREF2, ICMP, IBIAS, WDT, IMB, IPB, CSB(IMA), SCK(IPA), SDI(NC), SDO(NC), GPIO1–GPIO9

C15, S15, C14, S14, C13, S13, C12, S12, C11, S11, C10, S10, C9, S9, C8, S8, C7, S7, C6, S6, C5, S5, C4, S4, C3, S3, C2, S2, C1, S1, C0

BatteryBus1.C15 ... BatteryBus1.C0

BatteryBus1{C[0..15] S[1..15]}

Section2
File: Section2.kicad_sch

Isolation
J3 Conn_01x02
J2 Conn_01x02

Cell Section 1 monitor IC

Q2 Q_NPN_BCE
U10 LTC6812-1
D1 LED
C14 100nf
R94 R_US

R10 1k
C12 1uf
R6 1k R11 1k
R12 1M
R8 20k SCL1
R9 20k SDA1
T1 ESMIT-4180_C
IMA IPA
J1 Conn_01x02

BatteryBus.C15 ... BatteryBus.C0
BatteryBus{C[0..15] S[1..15]}

Section1

Temp sensor MUX Stack 2

Mux set 4
U1 ADG728 SCL2 SDA2
C+201 ... C+206, S1–S8
C1 100nF
U5 ADG728 SCL2 SDA2
CT201 ... CT206
C5 100nF D21

Mux set 3
U2 ADG728
C+207 ... C+212
C3 100nF
U6 ADG728
CT207 ... CT212
C7 100nF D22

Temp sensor MUX Stack 1

Mux set 2
U4 ADG728 SCL1 SDA1
C+101 ... C+107
C2 100nF
U7 ADG728 SCL1 SDA1
CT101 ... CT107
C8 100nF D11

Mux set 1
U3 ADG728 SCL1 SDA1
C+108 ... C+113
C4 100nF
U8 ADG728 SCL1 SDA1
CT108 ... CT113
C6 100nF D12

Description:
This will be the in accumulator part of the BMS.
This board will be mounted directly to the cells

Title: BMS Voltage and Thermals   Designer: Colin Grund
Sheet:
File: BMS1.kicad_sch
Size: B   Date: 2023-10-02   Rev: 1
AERO   KiCad E.D.A. kicad 7.0.8   Id: 1/3

VCC

R80
100

R54
100
BatteryBus.S15
BatteryBus.C15
BatteryBus.S14
BatteryBus.C14

CT113
C+113
R81
680
3
T+
4
T−
B13
VTC6+T
+
−
1
2
R79
21
R58
10
BatteryBus.S13
BatteryBus.C13
100nF
C27

CT112
GND1
C+112
R82
680
3
T+
4
T−
B14
VTC6+T
+
−
1
2
R72
21
R59
10
BatteryBus.S12
BatteryBus.C12
100nF
C28

CT111
GND1
C+111
R83
680
3
T+
4
T−
B15
VTC6+T
+
−
1
2
R67
21
R55
10
BatteryBus.S11
BatteryBus.C11
100nF
C29

CT110
GND1
C+110
R84
680
3
T+
4
T−
B16
VTC6+T
+
−
1
2
R70
21
R56
10
BatteryBus.S10
BatteryBus.C10
100nF
C30

CT109
GND1
C+109
R85
680
3
T+
4
T−
B17
VTC6+T
+
−
1
2
R73
21
R62
10
BatteryBus.S9
BatteryBus.C9
100nF
C31

CT108
GND1
C+108
R86
680
3
T+
4
T−
B18
VTC6+T
+
−
1
2
R74
21
R63
10
BatteryBus.S8
BatteryBus.C8
100nF
C32

CT107
GND1
C+107
R87
680
3
T+
4
T−
B19
VTC6+T
+
−
1
2
R76
21
R64
10
BatteryBus.S7
BatteryBus.C7
100nF
C33

CT106
GND1
C+106
R88
680
3
T+
4
T−
B20
VTC6+T
+
−
1
2
R78
21
R65
10
BatteryBus.S6
BatteryBus.C6
100nF
C34

CT105
GND1
C+105
R89
680
3
T+
4
T−
B21
VTC6+T
+
−
1
2
R71
21
R60
10
BatteryBus.S5
BatteryBus.C5
100nF
C35

CT104
GND1
C+104
R90
680
3
T+
4
T−
B22
VTC6+T
+
−
1
2
R68
21
R52
10
BatteryBus.S4
BatteryBus.C4
100nF
C36
GND1

CT103
GND1
C+103
R91
680
3
T+
4
T−
B23
VTC6+T
+
−
1
2
R77
21
R61
10
BatteryBus.S3
BatteryBus.C3
100nF
C37

CT102
GND1
C+102
R92
680
3
T+
4
T−
B24
VTC6+T
+
−
1
2
R75
21
R57
10
BatteryBus.S2
BatteryBus.C2
100nF
C38

CT101
GND1
C+101
R93
680
3
T+
4
T−
B25
VTC6+T
+
−
1
2
R69
21
R53
10
BatteryBus.S1
BatteryBus.C1
100nF
C39

R66
10
BatteryBus.C0

GND1

GND1

BatteryBus{C[0..15] S[1..15]}

VDC

R39
100

CT212
R40
680
C+212
3

B1
VTC6+T
T+
T−
+
−
1
2

GND2

R32
21
R20
10

BatteryBus1.S12
BatteryBus1.C12

100nF
C15

BatteryBus1.S15
BatteryBus1.C15

BatteryBus1.S14
BatteryBus1.C14

R13
100

CT211
C+211
R41
680
3

B2
VTC6+T
T+
T−
+
−
1
2

GND2

R27
21
R17
10

BatteryBus1.S11
BatteryBus1.C11

100nF
C16

BatteryBus1.S13
BatteryBus1.C13

CT210
C+210
R42
680
3

B3
VTC6+T
T+
T−
+
−
1
2

GND2

R30
21
R18
10

BatteryBus1.S10
BatteryBus1.C10

100nF
C17

CT209
C+209
R43
680
3

B4
VTC6+T
T+
T−
+
−
1
2

GND2

R33
21
R23
10

BatteryBus1.S9
BatteryBus1.C9

100nF
C18

CT208
C+208
R44
680
3

B5
VTC6+T
T+
T−
+
−
1
2

GND2

R34
21
R24
10

BatteryBus1.S8
BatteryBus1.C8

100nF
C19

CT207
C+207
R45
680
3

B6
VTC6+T
T+
T−
+
−
1
2

GND2

R36
21
R25
10

BatteryBus1.S7
BatteryBus1.C7

100nF
C20

CT206
C+206
R46
680
3

B7
VTC6+T
T+
T−
+
−
1
2

GND2

R38
21
R26
10

BatteryBus1.S6
BatteryBus1.C6

100nF
C21

BatteryBus1{C[0..15] S[1..15]}

CT205
C+205
R47
680
3

B8
VTC6+T
T+
T−
+
−
1
2

GND2

R31
21
R21
10

BatteryBus1.S5
BatteryBus1.C5

100nF
C22

CT204
C+204
R48
680
3

B9
VTC6+T
T+
T−
+
−
1
2

GND2

R28
21
R15
10

BatteryBus1.S4
BatteryBus1.C4

100nF
C23

CT203
C+203
R49
680
3

B10
VTC6+T
T+
T−
+
−
1
2

GND2

R37
21
R22
10

BatteryBus1.S3
BatteryBus1.C3

100nF
C24

CT202
C+202
R50
680
3

B11
VTC6+T
T+
T−
+
−
1
2

GND2

R35
21
R19
10

BatteryBus1.S2
BatteryBus1.C2

100nF
C25

CT201
C+201
R51
680
3

B12
VTC6+T
T+
T−
+
−
1
2

GND2

R29
21
R16
10

BatteryBus1.S1
BatteryBus1.C1

100nF
C26

R14
10

BatteryBus1.C0

GND2

GND1 GND2

AERO