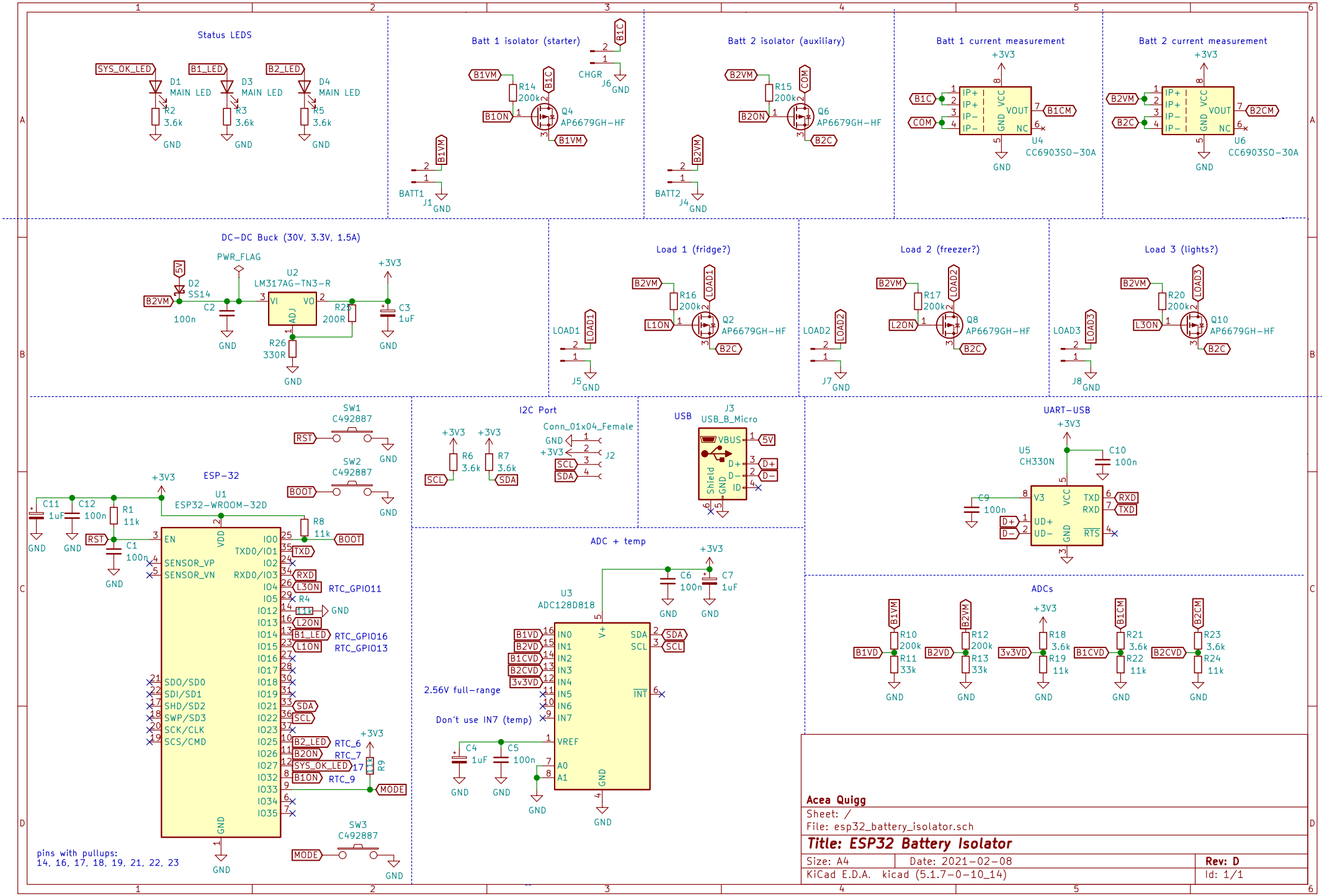
Status LEDS
SYS_OK_LED
B1_LED
B2_LED
D1 MAIN LED
D3 MAIN LED
D4 MAIN LED
R2 3.6k
R3 3.6k
R5 3.6k
GND
Batt 1 isolator (starter)
B1C
CHGR
J6
B1VM
R14 200k
B1ON
Q4 AP6679GH-HF
BATT1
J1
Batt 2 isolator (auxiliary)
B2VM
R15 200k
B2ON
Q6 AP6679GH-HF
B2C
BATT2
J4
Batt 1 current measurement
+3V3
IP+ IP+ IP− IP−
VCC VOUT GND NC
B1CM
U4 CC6903SO-30A
Batt 2 current measurement
B2CM
U6 CC6903SO-30A
DC-DC Buck (30V, 3.3V, 1.5A)
PWR_FLAG
5V
D2 SS14
C2 100n
U2 LM317AG-TN3-R
VI VO ADJ
R25 200R
R26 330R
C3 1uF
Load 1 (fridge?)
LOAD1
R16 200k
L1ON
Q2 AP6679GH-HF
J5
Load 2 (freezer?)
LOAD2
R17 200k
L2ON
Q8 AP6679GH-HF
J7
Load 3 (lights?)
LOAD3
R20 200k
L3ON
Q10 AP6679GH-HF
J8
SW1 C492887
RST
SW2 C492887
BOOT
ESP-32
U1 ESP32-WROOM-32D
C11 1uF
C12 100n
R1 11k
C1 100n
R8 11k
EN
SENSOR_VP
SENSOR_VN
VDD
SDO/SD0
SDI/SD1
SHD/SD2
SWP/SD3
SCK/CLK
SCS/CMD
IO0
TXD0/IO1
IO2
RXD0/IO3
IO4
IO5
IO12
IO13
IO14
IO15
IO16
IO17
IO18
IO19
IO21
IO22
IO23
IO25
IO26
IO27
IO32
IO33
IO34
IO35
TXD
RXD
L3ON
RTC_GPIO11
R4
L2ON
B1_LED
RTC_GPIO16
L1ON
RTC_GPIO13
SDA
SCL
B2_LED
RTC_6
B2ON
RTC_7
SYS_OK_LED
B1ON
RTC_9
R9
MODE
SW3 C492887
pins with pullups:
14, 16, 17, 18, 19, 21, 22, 23
I2C Port
R6 3.6k
R7 3.6k
Conn_01x04_Female
J2
USB
J3
USB_B_Micro
VBUS
D+
D−
ID
Shield
5V
UART-USB
U5 CH330N
C10 100n
C9 100n
V3 VCC TXD RXD UD+ UD− GND RTS
ADC + temp
U3 ADC128D818
C6 100n
C7 1uF
IN0 IN1 IN2 IN3 IN4 IN5 IN6 IN7
V+ SDA SCL INT VREF A0 A1 GND
B1VD
B2VD
B1CVD
B2CVD
3v3VD
2.56V full-range
Don't use IN7 (temp)
C4 1uF
C5 100n
ADCs
R10 200k
R11 33k
R12 200k
R13 33k
R18 3.6k
R19 11k
R21 3.6k
R22 11k
R23 3.6k
R24 11k
Acea Quigg
Sheet: /
File: esp32_battery_isolator.sch
Title: ESP32 Battery Isolator
Size: A4
Date: 2021-02-08
Rev: D
KiCad E.D.A. kicad (5.1.7-0-10_14)
Id: 1/1