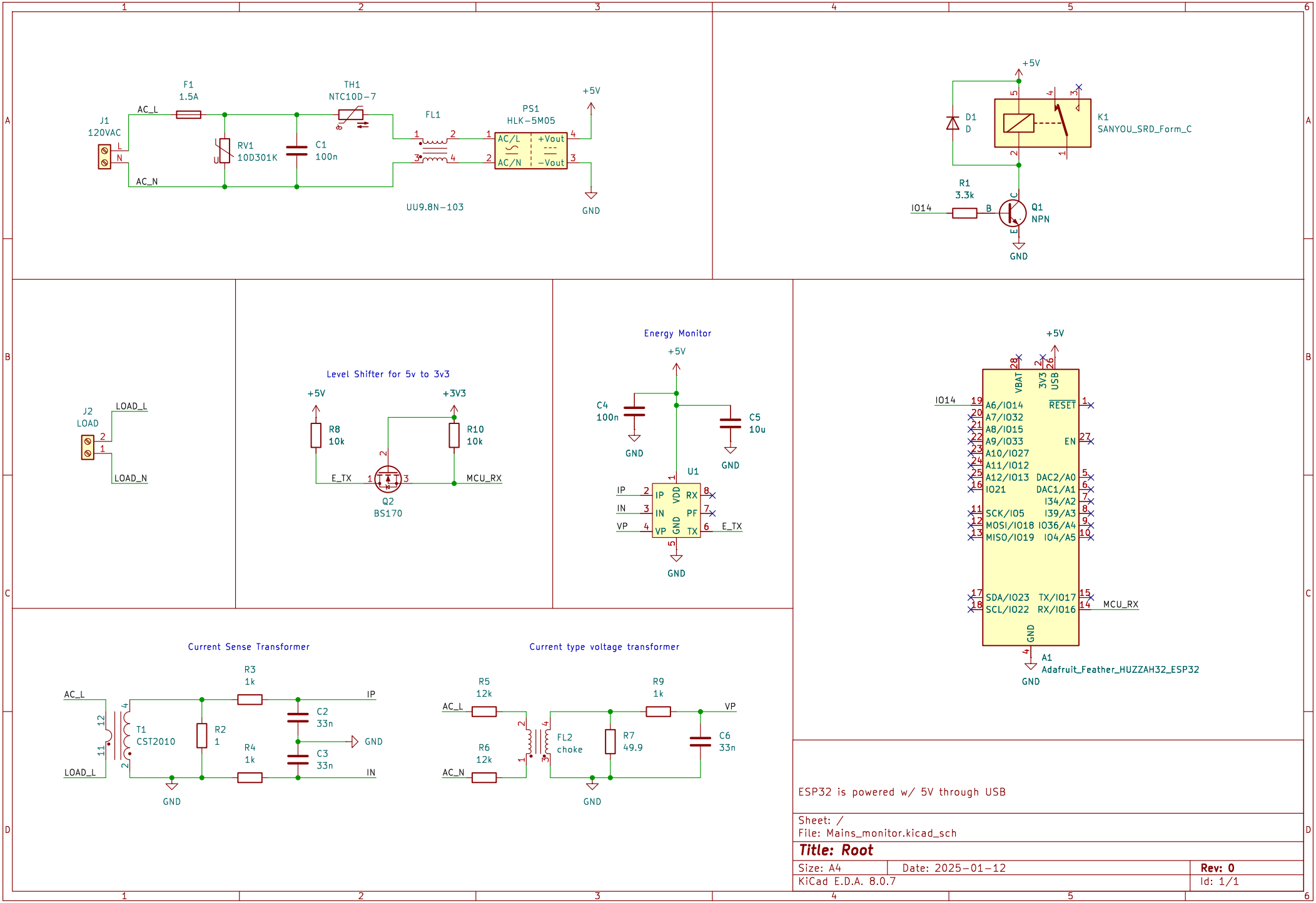
J1
120VAC
AC_L
AC_N
F1
1.5A
RV1
10D301K
C1
100n
TH1
NTC10D-7
FL1
UU9.8N-103
PS1
HLK-5M05
AC/L
AC/N
+Vout
-Vout
+5V
GND
D1
D
K1
SANYOU_SRD_Form_C
R1
3.3k
IO14
Q1
NPN
J2
LOAD
LOAD_L
LOAD_N
Level Shifter for 5v to 3v3
+5V
+3V3
R8
10k
R10
10k
E_TX
MCU_RX
Q2
BS170
Energy Monitor
C4
100n
C5
10u
U1
IP
IN
VP
VDD
GND
RX
PF
TX
E_TX
VBAT
3V3
USB
A6/IO14
A7/IO32
A8/IO15
A9/IO33
A10/IO27
A11/IO12
A12/IO13
IO21
SCK/IO5
MOSI/IO18
MISO/IO19
SDA/IO23
SCL/IO22
RESET
EN
DAC2/A0
DAC1/A1
IO34/A2
IO39/A3
IO36/A4
IO4/A5
TX/IO17
RX/IO16
MCU_RX
A1
Adafruit_Feather_HUZZAH32_ESP32
Current Sense Transformer
R3
1k
R2
1
R4
1k
C2
33n
C3
33n
T1
CST2010
Current type voltage transformer
R5
12k
R6
12k
FL2
choke
R7
49.9
R9
1k
C6
33n
ESP32 is powered w/ 5V through USB
Sheet: /
File: Mains_monitor.kicad_sch
Title: Root
Size: A4
Date: 2025-01-12
Rev: 0
KiCad E.D.A. 8.0.7
Id: 1/1