U1
ESP32-S3-WROOM-1

ESP32-S3-WROOM-1

GPIO0/BOOT — 27 — BOOT
EN — 3 — EN
GPIO1/TOUCH1/ADC1_CH0 — 39
GPIO2/TOUCH2/ADC1_CH1 — 38
GPIO3/TOUCH3/ADC1_CH2 — 15
GPIO4/TOUCH4/ADC1_CH3 — 4 — DISP_RST
GPIO5/TOUCH5/ADC1_CH4 — 5 — DISP_DATA
GPIO6/TOUCH6/ADC1_CH5 — 6 — DISP_SCLK
GPIO7/TOUCH7/ADC1_CH6 — 7 — DISP_CS
GPIO8/TOUCH8/ADC1_CH7/SUBSPICS1 — 12
GPIO9/TOUCH9/ADC1_CH8/FSPIHD/SUBSPIHD — 17 — ALERT
GPIO10/TOUCH10/ADC1_CH9/FSPICS0/FSPIIO4/SUBSPICS0 — 18 — SDA
GPIO11/TOUCH11/ADC2_CH0/FSPICS0/FSPIIO4/SUBSPICS0 — 19 — SCL
GPIO12/TOUCH11/ADC2_CH0/FSPICS0/FSPIIO4/SUBSPICS0 — 20
GPIO13/TOUCH13/ADC2_CH2/FSPIQ/FSPIIO7/SUBSPIQ — 21
GPIO14/TOUCH14/ADC2_CH3/FSPIWP/FSPIDQS/SUBSPIWP — 22
GPIO15/U0RTS/ADC2_CH4/XTAL_32K_P — 8 — DISP_DC
GPIO16/U0CTS/ADC2_CH5/XTAL_32K_NH5 — 9 — DISP_BL
GPIO17/U1TXD/ADC2_CH6 — 10
GPIO18/U1RXD/ADC2_CH7/CLK_OUT3 — 11

+3V3 — 2 — 3V3

GPIO20/U1CTS/ADC2_CH9/CLK_OUT1/USB_D+ — 14 — USB_DP
GPIO19/U1RTS/ADC2_CH8/CLK_OUT2/USB_D- — 13 — USB_DM

U0TXD/GPIO43/CLK_OUT1 — 37 — DBG_RXD
U0RXD/GPIO44/CLK_OUT2 — 36 — DBG_TXD

GPIO21 — 23
GPIO45 — 26
GPIO46 — 16
GPIO48/SPICLK_N/SUBSPICLK_N_DIFF — 25 — STAT_LED
GPIO47/SPICLK_P/SUBSPICLK_P_DIFF — 24

SPIIO6/GPIO35/FSPID/SUBSPID — 28
SPIIO7/GPIO36/FSPICLK/SUBSPICLK — 29
SPIDQS/GPIO37/FSPIQ/SUBSPIQ — 30
GPIO38/FSPIWP/SUBSPIWP — 31

MTCK/GPIO39/CLK_OUT3/SUBSPICS1 — 32
MTDO/GPIO40/CLK_OUT2 — 33
MTDI/GPIO41/CLK_OUT1 — 34
MTMS/GPIO42 — 35

GND — 1
GND — 40
GND — 41

GND

J1
ADC
1
2
3
4
5 — ALERT
6 — SDA
7 — SCL
8
GND

+5V +3V3

Reset circuit
+3V3
C5 10uF
C6 0.1uF
R5 10k
C7 1uF — EN
GND

+5V
D1 WS2812B
STAT_LED — 4 — DIN   DOUT — 2
VDD 1
VSS 3
RGB
Status LED
GND

LCD Pull resistors & Backlight ctrl
+3V3
R6 10R — LEDK
R4 10k
DISP_BL — R3 1k
Q1 S8050
GND

USB Port
J2
USB_CDC
VBUS — A4 — +5V
CC1 — A5
CC2 — B5
D- — A7 — USB_DM
D- — B7
D+ — A6 — USB_DP
D+ — B6
SBU1 — A8
SBU2 — B8
SHIELD
GND
S1 A1
R1 5.11k R2 5.11k
GND

5v to 3.3v LDO
+5V
U2
AMS1117/WL9005P3
VI 3 VO 2
GND 1
C1 10uF
C2 0.1uF
C3 0.1uF
C4 10uF
+3V3
GND

+3V3
DBG_TXD — 1
DBG_RXD — 2
— 3
EN — 4
BOOT — 5
— 6
J3
HOST_PROG
GND

LCD Connector
LCD1
IPS_LCD
GND 12
RST 11
SDA 10
SCL 9
CS 8
DC 7
GND 6
VDD 5
VDD 4
LEDA 3
LEDK 2
GND 1
+3V3
DISP_RST
DISP_DATA
DISP_SCLK
DISP_CS
DISP_DC
LEDK
GND

+3V3
C8 0.1uF
GND

Sheet: /
File: meter_main.kicad_sch
Title:
Size: A3   Date: Rev:
KiCad E.D.A. kicad 6.0.11-2627ca5db0-126-ubuntu22.04.1   Id: 1/1