3.3V Reg

+BATT — VIN
SHDN — EN
3V3 — +3V3
File: TSP54331.kicad_sch

Power LED +3V3
R1 330
D2 LED_R
GND

Status LED +3V3
R2 47
D1 LED_W
TX

USB Dongle

J2 FTDI
6 EN
5 TX
4 RX
3 +3V3
2 BOOT
1 +3V3
R3 10K
EN
C1 1uF
GND

Battery Voltage Measurement

ESC+
R12 10K
BAT_ADC
R13 1K
GND

+3V3 +3V3
C11 47uF
C10 100nF
GND GND

U1 ESP32-WROOM

+3V3
2 3V3
3 EN
4 SVP SENSOR_VP
5 SVN SENSOR_VN
6 IO34
7 BAT_ADC IO35
8 IO32 IO32
9 IO33 IO33
10 IO25 IO25
11 IO26 IO26
12 NSLEEP IO27
13 IPUSHER IO14
14 PUSHER1_IN IO12
1 GND
15 PUSHER2_IN GND
16 IO13

37 IO23 IO23
36 SCL IO22
35 TX TXD0
34 RX RXD0
33 SDA IO21
32 NC
31 ESC1 IO19
30 ESC2 IO18
29 ESC3 IO5
28 ESC4 IO17
27 RX2 IO16
26 IO4 IO4
25 BOOT IO0
39 GND-PAD
38 GND

23 IO15
24 IO2

SW1 SW_Push
GND

R15 4K7
R17 4K7
+3V3
+3V3
GND
J4
4 TX
3 RX
2 SDA
1 SCL
I2C
GND

Flywheel Power

J7 Conn_01x01 +BATT
Conn_01x01
R8 1K
GND
Q2 MMBT3904
IO2 R16 1K
R9 22
Q1 HSBA100P03
ESC+ Conn_01x01
C12 47uF
D4 1.5SMBJ22A J3
R5 5mR
GND
NT3 NetTie
NT2 NetTie_2
SVN SVP
Conn_01x01 J12

ESC Connector

GND
SolderJumper_Open JP1
+BATT
+3V3
R18 1K
IO34
JP2 Current_Sense_Jumper
J1 4in1_ESC
1
ESC4 4
ESC3 4
ESC2 5
ESC1 6
RX2 7
8
GND

Inputs

IN +3V3
J10
3
2 IO32
1
IN +3V3
J8
3
2 IO23
1 GND

IN
J11
3 IO33
2
1 IO25

SW
J6
3 SHDN
2 GND
1 IO15

U3 DRV8243HQRXYRQ1

GND 8 DRVOFF
NSLEEP 3 SLEEP_N
PUSHER1_IN 9 EN_IN1
PUSHER2_IN 10 PH_IN2
TP1 TestPoint 1 FAULT_N
IPUSHER 2 IPROPI
C13 C_Small
R4 1K
GND

4 VM ESC+
7 OUT1
5 GND
6 GND

11 DIAG
12 SR
13 ITRIP
14 MODE
GND

LED_G D7
LED_G D8
R19 1500
PUSHER1
PUSHER2
J5 Conn_01x02_Male

ESC+ C14 1uF GND
ESC+ C17 47uF GND
ESC+ C8 47uF GND
+BATT C6 47uF GND
+BATT C15 47uF GND
+BATT C16 47uF GND

H1 MountingHole
H2 MountingHole
H3 MountingHole
H4 MountingHole

VIND

D5
B5819W

REG_IN

C5
10uF

C7
10nF

GND

END

U2
LV2862X

5 VIN
4 SHDN
GND
2
GND

CB 1 REG_BOOT
SW 6 REG_SW
FB 3

C2
100nF

L1 22uH

B5819W D3

C9
47uF

C3
47uF

C4
47uF

GND

REG_FB

3V3

R10
10K

R11
3K01

GND