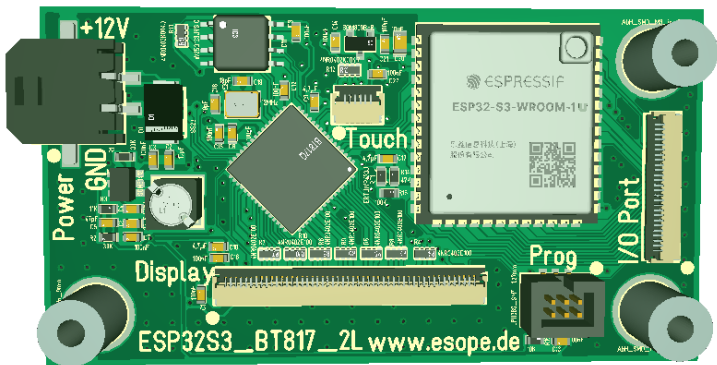# ESP32S3_BT817

Highlights

- ✓ **RGB-interface for family-display-concept**
- ✓ **Interfaces extensible by piggy-back-modules**
- ✓ **Industrial standard**
- ✓ **WLAN / Bluetooth**
- ✓ **extensive software-library**

Features

The ESP32S3_BT817 is an evaluation board from the ESoPe platform series, based on an Espressif ESP32S3 CPU. It is used to control RGB LC displays from the family-display concept. With optional piggy-back modules, the ESP32S3_BT817 can be expanded to include various interfaces.
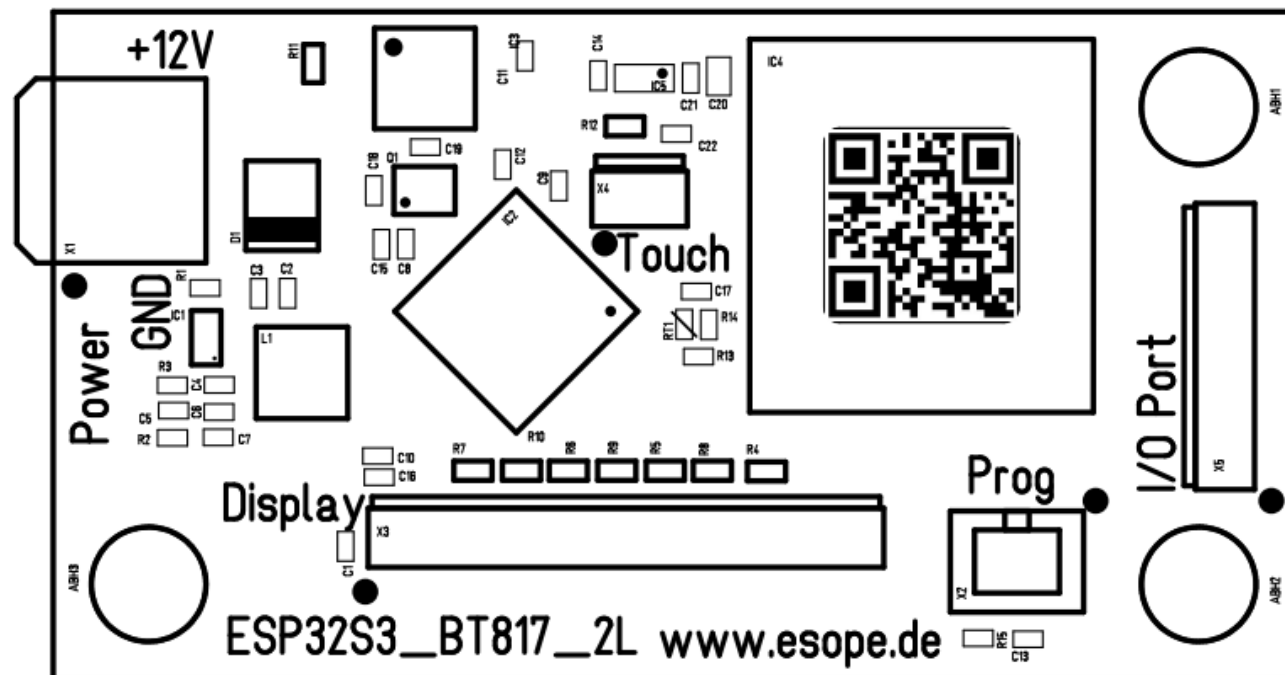
Technical Specification

Parameter	Value
Power Supply	12 V(DC)
Power Consumption	approx. 130mA
Operating Ambient Temperature	-10…+70°C
Dimensions	80mm x 50mm
Weight	16g
Conformity	RoHS

Schematic

Details in document ESP32S3_BT817_2A_SCH.pdf

Board

Connection Plan

Power Supply

X1: MPC3 1x2 connector
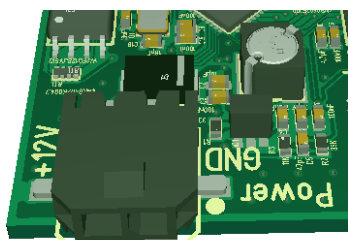
pin	function
1	GND
2	+12V

ESP32 Programming - Interface

X2: pin header, 6-pole, grid 1.27
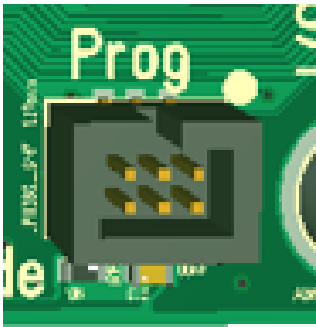
pin	function
1	/RESET
2	+3V3
3	TXD
4	GND
5	RXD
6	MD4

Interface Display

X3: connection ZIF horizontal back locking, 50-pole, grid 0.5

pin	function
1	GND
2	+3V3
3	+3V3
4	+12V
5	+12V
6	BACKLIGHT
7	GND
8	Blue 7
9	Blue 6
10	Blue 5
11	Blue 4
12	GND
13	Blue 3

14	Blue 2
15	Blue 1
16	Blue 0
17	GND
18	Green 7
19	Green 6
20	Green 5
21	Green 4
22	GND
23	Green 3
24	Green 2
25	Green 1
26	Green 0
27	GND
28	Red 7
29	Red 6
30	Red 5
31	Red 4
32	GND
33	Red 3
34	Red 2
35	Red 1
36	Red 0
37	GND
38	HSYNC
39	VSYNC
40	GND
41	DE
42	GND
43	PCLK
44	GND
45	NC
46	NC
47	NC
48	DISP
49	/RESET
50	GND

Touch

X4: ZIF-connector, 6-pole, grid 0.5
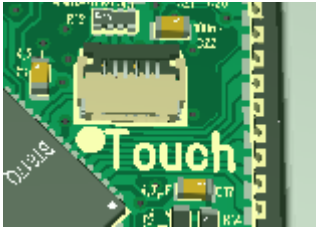
pin	function
1	PMOD I^{2}C INT
2	PMOD I^{2}C /RESET
3	PMOD I^{2}C SCL
4	PMOD I^{2}C SDA
5	GND
6	+3V3

I/O – port / communication with ESP32S3_BT817 piggy-back boards

X5: ZIF-connector 26-pole, grid 0.5
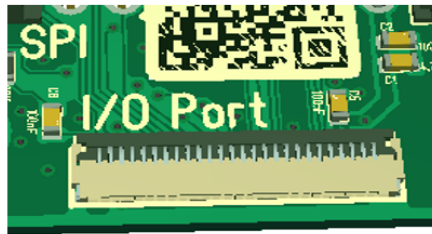
pin	function
1	Audio_L
2	PMOD SPI2 /CS
3	PMOD SPI2 /CS2
4	PMOD SPI2 /INT
5	PMOD SPI2 /RESET
6	PMOD SPI MISO
7	PMOD SPI MOSI
8	PMOD SPI Clock
9	PMOD SPI /CS
10	PMOD SPI /CS2
11	/SD SGM2820 (Audio)
12	PMOD SPI /INT
13	PMOD SPI /RESET
14	GND
15	I^2C SDA
16	I^2C SCL
17	I^2C /RESET
18	I^2C INT
19	GND
20	RS485 /RE_DE
21	RS485 RXD
22	RS485 TXD
23	+3V3 DC
24	+3V3 DC
25	+12V DC
26	+12V DC

Copyrights and Trademarks

All trade names, trademarks and registered trademarks mentioned herein are the property of their respective owners and are hereby acknowledged.

Change History

File: ESP32S3_BT817_2A_DS_en

Revision	Date	State	Author
1.0	2024-03-25	Initial Release	Stefan Peters

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