Pin Expander

U1 — MCP23017_SO
+3.3V — C2 C — GND

SDA 13	SDA	GPB0	1 B00
SCL 12	SCK	GPB1	2 B01
		GPB2	3 B02
		GPB3	4 B03
		GPB4	5 B04
		GPB5	6 B05
		GPB6	7 B06
		GPB7	8 B07
	INTB 19		
	INTA 20		
MCP_RESET 18	RESET	GPA0	21 A00
		GPA1	22 A01
		GPA2	23 A02
		GPA3	24 A03
		GPA4	25 A04
		GPA5	26 A05
17	A2	GPA6	27 A06
16	A1	GPA7	28 A07
15	A0	VSS 10	

VDD 9 — GND

U2 — MCP23017_SO
+3.3V — C3 C — GND

SDA 13	SDA	GPB0	1 B10
SCL 12	SCK	GPB1	2 B11
		GPB2	3 B12
		GPB3	4 B13
		GPB4	5 B14
		GPB5	6 B15
		GPB6	7 B16
		GPB7	8 B17
	INTB 19		
	INTA 20		
MCP_RESET 18	RESET	GPA0	21 A10
		GPA1	22 A11
		GPA2	23 A12
		GPA3	24 A13
		GPA4	25 A14
		GPA5	26 A15
17	A2	GPA6	27 A16
16	A1	GPA7	28 A17
15	A0	VSS 10	

VDD 9 — GND

EXTRAS

+3.3V — R2 R_US — R3 R_US — SDA — SCL
+3.3V — R4 R_US — D1 LED — GND

ESP32

+3.3V — L1 L — C C4 — GND

U4 — ESP32-WROOM-32

EN 3	EN	I00	25 GPIO0
		TXD0/I01	35 UART_TX
GPIO36 4	SENSOR_VP	I02	24 GPIO2
GPIO39 5	SENSOR_VN	RXD0/I03	34 UART_RX
		I04	26 MCP_RESET
		I05	29 SDA
		I012	14 GPIO12
		I013	16 TFT_SDA
		I014	13 TFT_CLK
		I015	23 TFT_CS
		I016	27 GPIO16
		I017	28 NINT
SD0 21	SD0/SD0	I018	30 MDIO
SD1 22	SDI/SD1	I019	31 TX0
SD2 17	SHD/SD2	I021	33 TX_EN
SD3 18	SWP/SD3	I022	36 TX1
SCK 20	SCK/CLK	I023	37 MDC
SCS 19	SCS/CMD	I025	10 RX0
		I026	11 RX1
		I027	12 CRS
		I032	8 SCL
		I033	9 TFT_A0
		I034	6 GPIO34
		I035	7 SW

VDD 2 — GND 1 — GND

EXPANSOR

J1 — Conn_01x20_Male (EXPANSOR1)

1	A00
2	A01
3	A02
4	A03
5	A04
6	A05
7	A06
8	A07
9	B00
10	B01
11	B02
12	B03
13	B04
14	B05
15	B06
16	B07
17	3.3v
18	GND
19	GND
20	GND

J2 — Conn_01x20_Male (EXPANSOR2)

1	A10
2	A11
3	A12
4	A13
5	A14
6	A15
7	A16
8	A17
9	B10
10	B11
11	B12
12	B13
13	B14
14	B15
15	B16
16	B17
17	3.3v
18	GND
19	GND
20	GND

J3 — Conn_01x20_Male (ETHERNET / TFT / FREE)

1	GND
2	MDIO
3	NINT
4	RX0
5	TX_EN
6	TX1
7	MDC
8	CRS
9	RX1
10	TX0
11	TFT_CLK
12	TFT_SDA
13	TFT_A0
14	TFT_CS
15	GPIO0
16	GPIO2
17	GPIO12
18	GPIO34
19	GPIO36
20	GPIO39

J4 — Conn_01x20_Male (UART / I2C / DEBUG)

1	3.3v
2	EN
3	GND
4	UART_TX
5	UART_RX
6	GPIO0
7	SCL
8	SDA
9	SW
10	SD0
11	SD1
12	SD2
13	SD3
14	SCK
15	SCS
16	3.3v
17	GND
18	GND
19	GND
20	GND

CLOCK DS3231

+3.3V — C1 C — GND

U3 — DS3231M

SCL 16	SCL	VCC	2	+3.3V
SDA 15	SDA	VBAT	14	BT1 Battery
		32KHZ	1	
+3.3V — R1 R_US — 4	RST	INT/SQW	3	
		GND	13	GND

GND