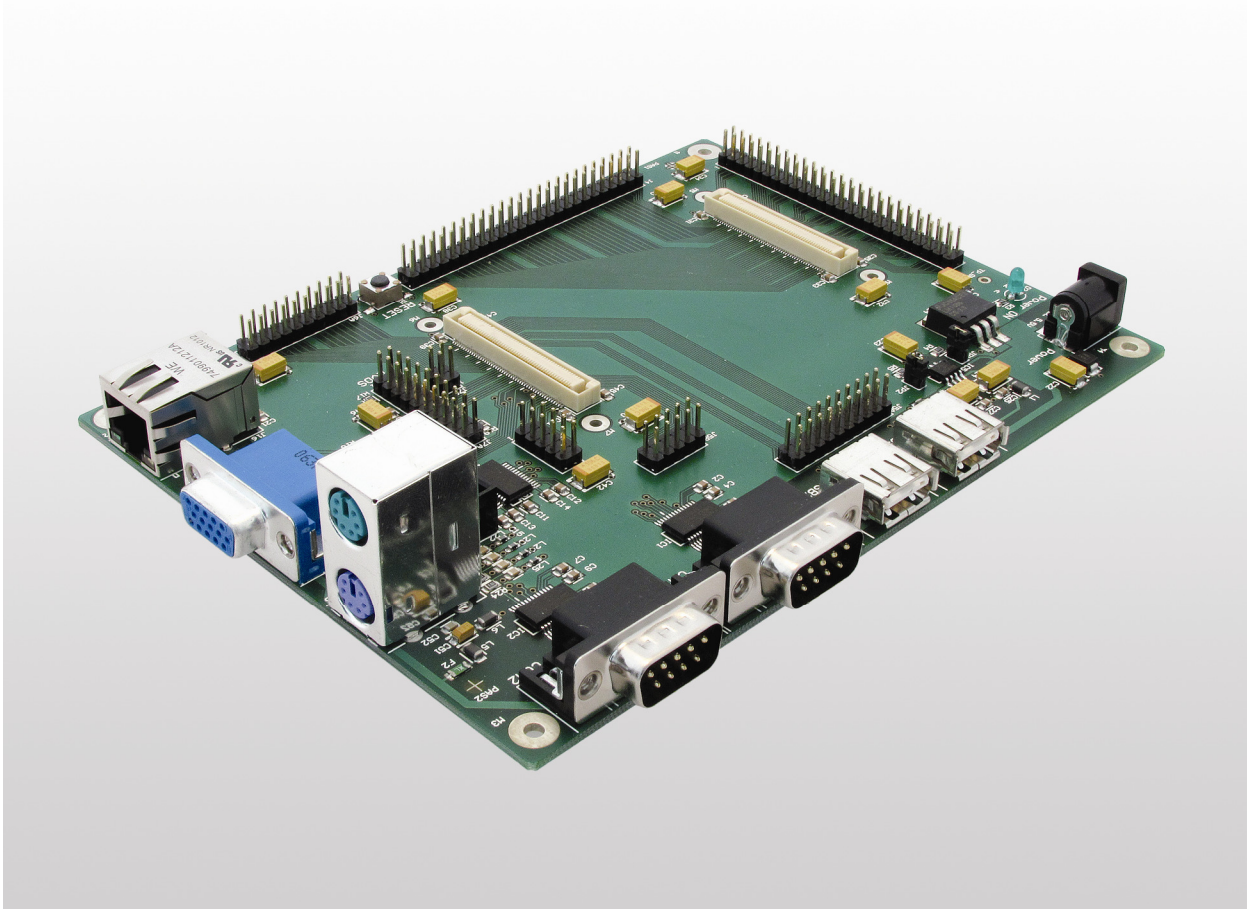
Base Board eSOM/EVA2-M

Board Revision 1.0

Hardware Reference



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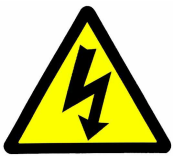
CONTENT

1 INTRODUCTION

This document describes the hardware components of the Base Board eSOM/EVA2-M. For further information about the individual components of this product you may follow the links from our website at `http://www.ssv-embedded.de`. Our website contains a lot of technical information, which will be updated in regular periods.

1.1 Safety Guidelines

Please read the following safety guidelines carefully! In case of property or personal damage by not paying attention to this document and/or by incorrect handling, we do not assume liability. In such cases any warranty claim expires.



ATTENTION: Observe precautions for handling – electrostatic sensitive device!

- Discharge yourself before you work with the device, e.g. by touching a heater of metal, to avoid damages.
- Stay grounded while working with the device to avoid damage through electrostatic discharge.

1.2 Conventions

Convention	Usage
bold	Important terms
italic	Filenames, user inputs and command lines
`monospace`	Pathnames, internet addresses and program code

Table 1: Conventions used in this Document

1.3 Block Diagram

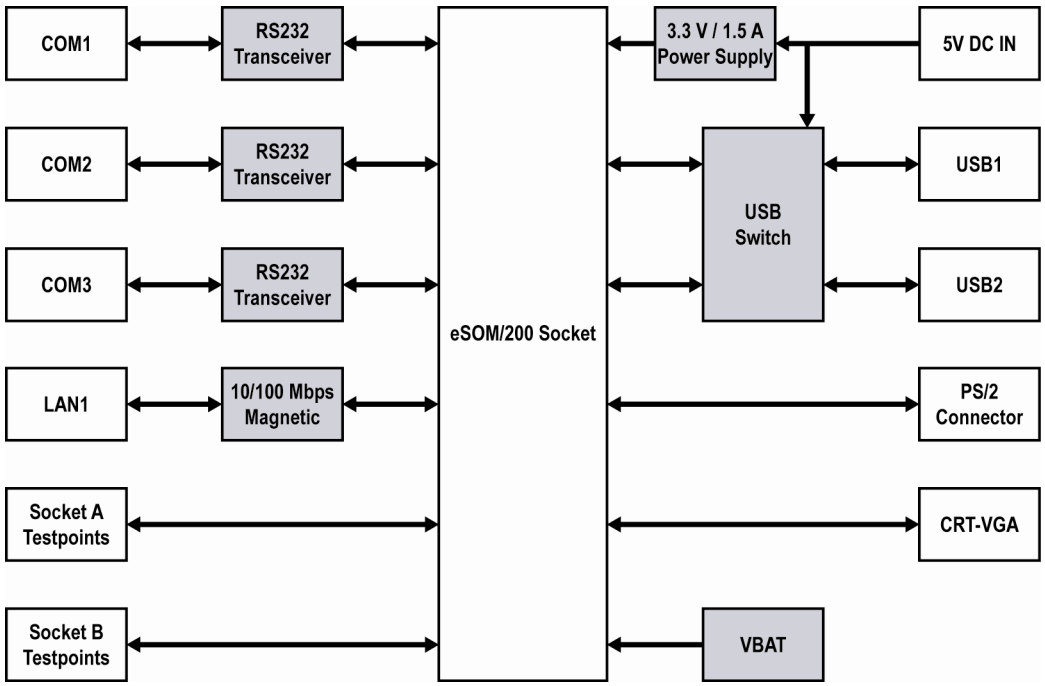
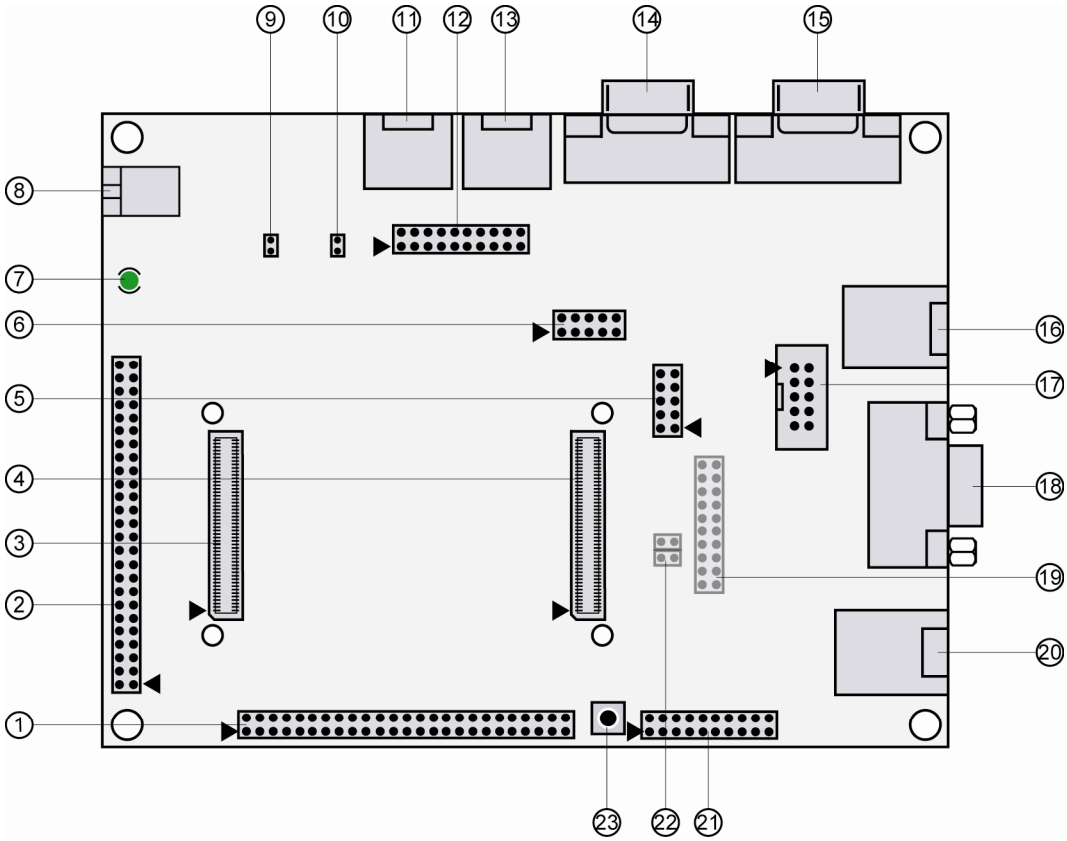


Figure 1: Block diagram of Base Board eSOM/EVA2-M

1.4 Features and Technical Data

- eSOM-200 System-on-Module socket with two 100-pin FX8C connectors
- 1x VGA CRT interface
- 1x PS/2 connector for keyboard and mouse
- 1x 10/100 Mbps LAN interface with IEEE802.3 compliant magnetic
- 3x UART interface (RS232)
- 2x USB 2.0 host interface with 5 VDC output for external USB devices
- 2x 50-pin connector as testpoint for module signals
- 1x Connector for external backup battery
- 1x Reset switch
- 1x Power LED
- Supply voltage 5 VDC (±5%)
- 0 – 70 °C operating temperature
- Size 120 mm x 140 mm
- RoHS complaint

2 BOARD LAYOUT



① J4 - Testpoints for module socket A
② J3 - Testpoints for module socket A
③ J1 - eSOM-200 module socket A
④ J2 - eSOM-200 module socket B
⑤ J6B - Testpoints for module socket B
⑥ J5B - Testpoints for module socket B
⑦ D2 - Power LED
⑧ J17 - Power connector
⑨ JP1 - USB1 power generation jumper
⑩ JP2 - USB2 power generation jumper
⑪ J13 - USB1 host port
⑫ J5A - Testpoints for module socket B
⑬ J14 - USB2 host port
⑭ J10 - COM1 connector
⑮ J11 - COM2 connector
⑯ J15 - PS/2 connector
⑰ J12 - COM3 connector
⑱ J8 - VGA connector
⑲ J7A - Reserved
⑳ J16 - 10/100 Mbps Ethernet connector
㉑ J6A - Testpoints for module socket B
㉒ J7B / J7C - Reserved
㉓ S1 - Reset switch

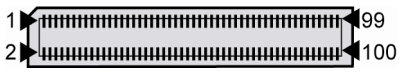
Figure 2: Board layout of Base Board eSOM/EVA2-M

3 PINOUTS

3.1 eSOM-200 Module Socket A – J1 (1. Part)

Pin	Name	Group	Function
1	VCC	PWR	3.3 Volt Power Input
2	VCC	PWR	3.3 Volt Power Input
3	PA0	GPIO	GPIO - Parallel Port A, Bit 0
4	PA4	GPIO	GPIO - Parallel Port A, Bit 4
5	PA1	GPIO	GPIO - Parallel Port A, Bit 1
6	PA5	GPIO	GPIO - Parallel Port A, Bit 5
7	PA2	GPIO	GPIO - Parallel Port A, Bit 2
8	PA6	GPIO	GPIO - Parallel Port A, Bit 6
9	PA3	GPIO	GPIO - Parallel Port A, Bit 3
10	PA7	GPIO	GPIO - Parallel Port A, Bit 7
11	GND	PWR	Ground
12	GND	PWR	Ground
13	---	---	Reserved. Do not use.
14	---	---	Reserved. Do not use.
15	---	---	Reserved. Do not use.
16	---	---	Reserved. Do not use.
17	---	---	Reserved. Do not use.
18	SPICS0	SIO	Serial I/O, SPI Interface Chip Select 0
19	---	---	Reserved. Do not use.
20	SPICLK	SIO	Serial I/O, SPI Interface Clock
21	---	---	Reserved. Do not use.
22	MOSI	SIO	Serial I/O, SPI Interface Master Out Slave In
23	---	---	Reserved. Do not use.
24	MISO	SIO	Serial I/O, SPI Interface Master In Slave Out
25	VCC	PWR	3.3 Volt Power Input
26	VCC	PWR	3.3 Volt Power Input
27	INT4	EXPBUS	Expansion Bus, Interrupt Input 4
28	CLKOUT	EXPBUS	Expansion Bus, Clock Output
29	INT3	EXPBUS	Expansion Bus, Interrupt Input 3
30	RDY	EXPBUS	Expansion Bus, External Ready Input
31	INT2	EXPBUS	Expansion Bus, Interrupt Input 2
32	WR	EXPBUS	Expansion Bus, Write Signal
33	INT1	EXPBUS	Expansion Bus, Interrupt Input 1
34	RD	EXPBUS	Expansion Bus, Read Signal
35	GND	PWR	Ground
36	GND	PWR	Ground
37	D0	EXPBUS	Expansion Bus, Data Bit 0
38	D8	EXPBUS	Expansion Bus, Data Bit 8
39	D1	EXPBUS	Expansion Bus, Data Bit 1
40	D9	EXPBUS	Expansion Bus, Data Bit 9

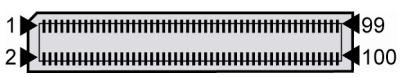
Table 2: Pinout eSOM-200 module socket A – pin 1 to 40



3.2 eSOM-200 Module Socket A – J1 (2. Part)

Pin	Name	Group	Function
41	D2	EXPBUS	Expansion Bus, Data Bit 2
42	D10	EXPBUS	Expansion Bus, Data Bit 10
43	D3	EXPBUS	Expansion Bus, Data Bit 3
44	D11	EXPBUS	Expansion Bus, Data Bit 11
45	VCC	PWR	3.3 Volt Power Input
46	VCC	PWR	3.3 Volt Power Input
47	D4	EXPBUS	Expansion Bus, Data Bit 4
48	D12	EXPBUS	Expansion Bus, Data Bit 12
49	D5	EXPBUS	Expansion Bus, Data Bit 5
50	D13	EXPBUS	Expansion Bus, Data Bit 13
51	D6	EXPBUS	Expansion Bus, Data Bit 6
52	D14	EXPBUS	Expansion Bus, Data Bit 14
53	D7	EXPBUS	Expansion Bus, Data Bit 7
54	D15	EXPBUS	Expansion Bus, Data Bit 15
55	GND	PWR	Ground
56	GND	PWR	Ground
57	A0	EXPBUS	Expansion Bus, Address Bit 0
58	A1	EXPBUS	Expansion Bus, Address Bit 1
59	A2	EXPBUS	Expansion Bus, Address Bit 2
60	A3	EXPBUS	Expansion Bus, Address Bit 3
61	A4	EXPBUS	Expansion Bus, Address Bit 4
62	A5	EXPBUS	Expansion Bus, Address Bit 5
63	A6	EXPBUS	Expansion Bus, Address Bit 6
64	A7	EXPBUS	Expansion Bus, Address Bit 7
65	VCC	PWR	3.3 Volt Power Input
66	VCC	PWR	3.3 Volt Power Input
67	A8	EXPBUS	Expansion Bus, Address Bit 8
68	A9	EXPBUS	Expansion Bus, Address Bit 9
69	A10	EXPBUS	Expansion Bus, Address Bit 10
70	A11	EXPBUS	Expansion Bus, Address Bit 11
71	A12	EXPBUS	Expansion Bus, Address Bit 12
72	A13	EXPBUS	Expansion Bus, Address Bit 13
73	A14	EXPBUS	Expansion Bus, Address Bit 14
74	A15	EXPBUS	Expansion Bus, Address Bit 15
75	GND	PWR	Ground
76	GND	PWR	Ground
77	A16	EXPBUS	Expansion Bus, Address Bit 16
78	A17	EXPBUS	Expansion Bus, Address Bit 17
79	A18	EXPBUS	Expansion Bus, Address Bit 18
80	A19	EXPBUS	Expansion Bus, Address Bit 19

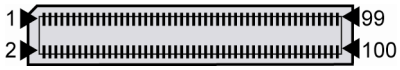
Table 3: Pinout eSOM-200 module socket A – pin 41 to 80



3.3 eSOM-200 Module Socket A – J1 (3. Part)

Pin	Name	Group	Function
81	A20	EXPBUS	Expansion Bus, Address Bit 20
82	A21	EXPBUS	Expansion Bus, Address Bit 21
83	A22	EXPBUS	Expansion Bus, Address Bit 22
84	A23	EXPBUS	Expansion Bus, Address Bit 23
85	---	---	Reserved. Do not use.
86	---	---	Reserved. Do not use.
87	VCC	PWR	3.3 Volt Power Input
88	VCC	PWR	3.3 Volt Power Input
89	CS1	EXPBUS	Chip Select Output 1
90	CS3	EXPBUS	Chip Select Output 3
91	CS2	EXPBUS	Chip Select Output 2
92	CS4	EXPBUS	Chip Select Output 4
93	VBATP	PWR	3 Volt Real Time Clock Battery Plus Input
94	---	---	Reserved. Do not use.
95	---	---	Reserved. Do not use.
96	RESOUT	RESET	Reset Output Signal
97	---	---	Reserved. Do not use.
98	RESIN	RESET	Reset Input Signal
99	GND	PWR	Ground
100	GND	PWR	Ground

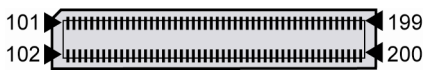
Table 4: Pinout eSOM-200 module socket A – pin 81 to 100



3.4 eSOM-200 Module Socket B – J2 (1. Part)

Pin	Name	Group	Function
101	VCC	PWR	3.3 Volt Power Input
102	VCC	PWR	3.3 Volt Power Input
103	CTS1	SIO	Serial I/O, UART COM1 CTS Pin
104	---	---	Reserved. Do not use.
105	TXD1	SIO	Serial I/O, UART COM1 TXD Pin
106	---	---	Reserved. Do not use.
107	RXD1	SIO	Serial I/O, UART COM1 RXD Pin
108	---	---	Reserved. Do not use.
109	RTS1	SIO	Serial I/O, UART COM1 RTS Pin
110	---	---	Reserved. Do not use.
111	GND	PWR	Ground
112	GND	PWR	Ground
113	RI1	SIO	Serial I/O, UART COM1 RI Pin
114	---	---	Reserved. Do not use.
115	DTR1	SIO	Serial I/O, UART COM1 DTR Pin
116	LANLED1	LAN	10/100 Mbps Ethernet LAN Interface LAN1 LED Output
117	DSR1	SIO	Serial I/O, UART COM1 DSR Pin
118	---	---	Reserved. Do not use.
119	DCD1	SIO	Serial I/O, UART COM1 DCD Pin
120	---	---	Reserved. Do not use.
121	VCC	PWR	3.3 Volt Power Input
122	VCC	PWR	3.3 Volt Power Input
123	CTS2	SIO	Serial I/O, UART COM2 CTS Pin
124	---	---	Reserved. Do not use.
125	TXD2	SIO	Serial I/O, UART COM2 TXD Pin
126	---	---	Reserved. Do not use.
127	RXD2	SIO	Serial I/O, UART COM2 RXD Pin
128	---	---	Reserved. Do not use.
129	RTS2	SIO	Serial I/O, UART COM2 RTS Pin
130	---	---	Reserved. Do not use.
131	GND	PWR	Ground
132	GND	PWR	Ground
133	HDN1	SIO	Serial I/O, USB Host1 Port- Pin
134	LRXN1	LAN	10/100 Mbps Ethernet LAN Interface LAN1, RX- Pin
135	HDP1	SIO	Serial I/O, USB Host1 Port+ Pin
136	LRXP1	LAN	10/100 Mbps Ethernet LAN Interface LAN1, RX+ Pin
137	HDN2	SIO	Serial I/O, USB Host2 Port- Pin
138	LTXN1	LAN	10/100 Mbps Ethernet LAN Interface LAN1, TX- Pin
139	HDP2	SIO	Serial I/O, USB Host2 Port+ Pin
140	LTXP1	LAN	10/100 Mbps Ethernet LAN Interface LAN1, TX+ Pin

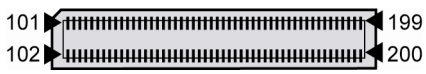
Table 5: Pinout eSOM-200 module socket B – pin 101 to 140



3.5 eSOM-200 Module Socket B – J2 (2. Part)

Pin	Name	Group	Function
141	GND	PWR	Ground
142	GND	PWR	Ground
143	---	---	Reserved. Do not use.
144	---	---	Reserved. Do not use.
145	---	---	Reserved. Do not use.
146	---	---	Reserved. Do not use.
147	---	---	Reserved. Do not use.
148	---	---	Reserved. Do not use.
149	---	---	Reserved. Do not use.
150	---	---	Reserved. Do not use.
151	VCC	PWR	3.3 Volt Power Input
152	VCC	PWR	3.3 Volt Power Input
153	---	---	Reserved. Do not use.
154	---	---	Reserved. Do not use.
155	---	---	Reserved. Do not use.
156	---	---	Reserved. Do not use.
157	---	---	Reserved. Do not use.
158	---	---	Reserved. Do not use.
159	---	---	Reserved. Do not use.
160	---	---	Reserved. Do not use.
161	GND	PWR	Ground
162	GND	PWR	Ground
163	GND_B	PWR	Ground Blue Signal
164	CRT_B	PSP	CRT Blue Signal
165	GND_G	PWR	Ground Green Signal
166	CRT_G	PSP	CRT Green Signal
167	GND_R	PWR	Ground Red Signal
168	CRT_R	PSP	CRT Red Signal
169	GND	PWR	Ground
170	GND	PWR	Ground
171	VCC	PWR	3.3 Volt Power Input
172	VCC	PWR	3.3 Volt Power Input
173	CRT_HS	PSP	CRT Interface, HSYNC Signal (Horizontal Sync Output)
174	CRT_VS	PSP	CRT Interface, VSYNC Signal (Vertical Sync Output)
175	GND	PWR	Ground
176	GND	PWR	Ground
177	CRT_SCL	PSP	CRT Interface Clock
178	CRT_SDA	PSP	CRT Interface Data
179	GND	PWR	Ground
180	GND	PWR	Ground

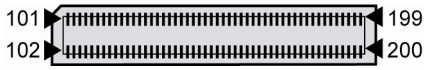
Table 6: Pinout eSOM-200 module socket B – pin 141 to 180



3.6 eSOM-200 Module Socket B – J2 (3. Part)

Pin	Name	Group	Function
181	PB4	GPIO	GPIO - Parallel Port B, Bit 4
182	PB0	GPIO	GPIO - Parallel Port B, Bit 0
183	PB5	GPIO	GPIO - Parallel Port B, Bit 5
184	PB1	GPIO	GPIO - Parallel Port B, Bit 1
185	PB6	GPIO	GPIO - Parallel Port B, Bit 6
186	PB2	GPIO	GPIO - Parallel Port B, Bit 2
187	PB7	GPIO	GPIO - Parallel Port B, Bit 7
188	PB3	GPIO	GPIO - Parallel Port B, Bit 3
189	VCC	PWR	3.3 Volt Power Input
190	VCC	PWR	3.3 Volt Power Input
191	MS_CLK	PSP	Mouse Clock
192	CTS3	SIO	Serial I/O, UART COM3 CTS Pin
193	MS_DAT	PSP	Mouse Data
194	TXD3	SIO	Serial I/O, UART COM3 TXD Pin
195	KB_CLK	PSP	Keyboard Clock
196	RXD3	SIO	Serial I/O, UART COM3 RXD Pin
197	KB_DAT	PSP	Keyboard Data
198	RTS3	SIO	Serial I/O, UART COM3 RTS Pin
199	GND	PWR	Ground
200	GND	PWR	Ground

Table 7: Pinout eSOM-200 module socket B – pin 181 to 200



3.7 Testpoints for Module Socket A – J3 (1. Part)

Pin	Name	Group	Function
1	VCC	PWR	3.3 Volt Power Input
2	PA0	GPIO	GPIO - Parallel Port A, Bit 0
3	PA1	GPIO	GPIO - Parallel Port A, Bit 1
4	PA2	GPIO	GPIO - Parallel Port A, Bit 2
5	PA3	GPIO	GPIO - Parallel Port A, Bit 3
6	GND	PWR	Ground
7	---	---	Reserved. Do not use.
8	---	---	Reserved. Do not use.
9	---	---	Reserved. Do not use.
10	---	---	Reserved. Do not use.
11	---	---	Reserved. Do not use.
12	---	---	Reserved. Do not use.
13	VCC	PWR	3.3 Volt Power Input
14	INT4	EXPBUS	Expansion Bus, Interrupt Input 4
15	INT3	EXPBUS	Expansion Bus, Interrupt Input 3
16	INT2	EXPBUS	Expansion Bus, Interrupt Input 2
17	INT1	EXPBUS	Expansion Bus, Interrupt Input 1
18	GND	PWR	Ground
19	D0	EXPBUS	Expansion Bus, Data Bit 0
20	D1	EXPBUS	Expansion Bus, Data Bit 1
21	D2	EXPBUS	Expansion Bus, Data Bit 2
22	D3	EXPBUS	Expansion Bus, Data Bit 3
23	VCC	PWR	3.3 Volt Power Input
24	D4	EXPBUS	Expansion Bus, Data Bit 4
25	D5	EXPBUS	Expansion Bus, Data Bit 5

Table 8: Pinout testpoints for module socket A – pin 1 to 25

3.8 Testpoints for Module Socket A – J3 (2. Part)

Pin	Name	Group	Function
26	D6	EXPBUS	Expansion Bus, Data Bit 6
27	D7	EXPBUS	Expansion Bus, Data Bit 7
28	GND	PWR	Ground
29	A0	EXPBUS	Expansion Bus, Address Bit 0
30	A2	EXPBUS	Expansion Bus, Address Bit 2
31	A4	EXPBUS	Expansion Bus, Address Bit 4
32	A6	EXPBUS	Expansion Bus, Address Bit 6
33	VCC	PWR	3.3 Volt Power Input
34	A8	EXPBUS	Expansion Bus, Address Bit 8
35	A10	EXPBUS	Expansion Bus, Address Bit 10
36	A12	EXPBUS	Expansion Bus, Address Bit 12
37	A14	EXPBUS	Expansion Bus, Address Bit 14
38	GND	PWR	Ground
39	A16	EXPBUS	Expansion Bus, Address Bit 16
40	A18	EXPBUS	Expansion Bus, Address Bit 18
41	A20	EXPBUS	Expansion Bus, Address Bit 20
42	A22	EXPBUS	Expansion Bus, Address Bit 22
43	A24	EXPBUS	Expansion Bus, Address Bit 24
44	VCC	PWR	3.3 Volt Power Input
45	CS1	EXPBUS	Chip Select Output 1
46	CS2	EXPBUS	Chip Select Output 2
47	VBATP	PWR	3 Volt Real Time Clock Battery Plus Input
48	---	---	Reserved. Do not use.
49	---	---	Reserved. Do not use.
50	GND	PWR	Ground

Table 9: Pinout testpoints for module socket A – pin 26 to 50

3.9 Testpoints for Module Socket A – J4 (1. Part)

Pin	Name	Group	Function
1	VCC	PWR	3.3 Volt Power Input
2	PA4	GPIO	GPIO - Parallel Port A, Bit 4
3	PA5	GPIO	GPIO - Parallel Port A, Bit 5
4	PA6	GPIO	GPIO - Parallel Port A, Bit 6
5	PA7	GPIO	GPIO - Parallel Port A, Bit 7
6	GND	PWR	Ground
7	---	---	Reserved. Do not use.
8	---	---	Reserved. Do not use.
9	SPICS0	SIO	Serial I/O, SPI Interface Chip Select 0
10	SPICLK	SIO	Serial I/O, SPI Interface Clock
11	MOSI	SIO	Serial I/O, SPI Interface Master Out Slave In
12	MISO	SIO	Serial I/O, SPI Interface Master In Slave Out
13	VCC	PWR	3.3 Volt Power Input
14	CLKOUT	EXPBUS	Expansion Bus, Clock Output
15	RDY	EXPBUS	Expansion Bus, External Ready Input
16	WR	EXPBUS	Expansion Bus, Write Signal
17	RD	EXPBUS	Expansion Bus, Read Signal
18	GND	PWR	Ground
19	D8	EXPBUS	Expansion Bus, Data Bit 8
20	D9	EXPBUS	Expansion Bus, Data Bit 9
21	D10	EXPBUS	Expansion Bus, Data Bit 10
22	D11	EXPBUS	Expansion Bus, Data Bit 11
23	VCC	PWR	3.3 Volt Power Input
24	D12	EXPBUS	Expansion Bus, Data Bit 12
25	D13	EXPBUS	Expansion Bus, Data Bit 13

Table 10: Pinout testpoints for module socket A – pin 1 to 25

3.10 Testpoints for Module Socket A – J4 (2. Part)

Pin	Name	Group	Function
26	D14	EXPBUS	Expansion Bus, Data Bit 14
27	D15	EXPBUS	Expansion Bus, Data Bit 15
28	GND	PWR	Ground
29	A1	EXPBUS	Expansion Bus, Address Bit 1
30	A3	EXPBUS	Expansion Bus, Address Bit 3
31	A5	EXPBUS	Expansion Bus, Address Bit 5
32	A7	EXPBUS	Expansion Bus, Address Bit 7
33	VCC	PWR	3.3 Volt Power Input
34	A9	EXPBUS	Expansion Bus, Address Bit 9
35	A11	EXPBUS	Expansion Bus, Address Bit 11
36	A13	EXPBUS	Expansion Bus, Address Bit 13
37	A15	EXPBUS	Expansion Bus, Address Bit 15
38	GND	PWR	Ground
39	A17	EXPBUS	Expansion Bus, Address Bit 17
40	A19	EXPBUS	Expansion Bus, Address Bit 19
41	A21	EXPBUS	Expansion Bus, Address Bit 21
42	A23	EXPBUS	Expansion Bus, Address Bit 23
43	A25	EXPBUS	Expansion Bus, Address Bit 25
44	VCC	PWR	3.3 Volt Power Input
45	CS3	EXPBUS	Chip Select Output 3
46	CS4	EXPBUS	Chip Select Output 4
47	CLKOUT	EXPBUS	Expansion Bus, Clock Output
48	RESOUT	RESET	Reset Output Signal
49	RESIN	RESET	Reset Input Signal
50	GND	PWR	Ground

Table 11: Pinout testpoints for module socket A – pin 26 to 50

3.11 Testpoints for Module Socket B – J5A

Pin	Name	Group	Function
1	VCC	PWR	3.3 Volt Power Input
2	CTS1	SIO	Serial I/O, UART COM1 CTS Pin
3	TXD1	SIO	Serial I/O, UART COM1 TXD Pin
4	RXD1	SIO	Serial I/O, UART COM1 RXD Pin
5	RTS1	SIO	Serial I/O, UART COM1 RTS Pin
6	GND	PWR	Ground
7	RI1	SIO	Serial I/O, UART COM1 RI Pin
8	DTR1	SIO	Serial I/O, UART COM1 DTR Pin
9	DSR1	SIO	Serial I/O, UART COM1 DSR Pin
10	DCD1	SIO	Serial I/O, UART COM1 DCD Pin
11	VCC	PWR	3.3 Volt Power Input
12	CTS2	SIO	Serial I/O, UART COM2 CTS Pin
13	TXD2	SIO	Serial I/O, UART COM2 TXD Pin
14	RXD2	SIO	Serial I/O, UART COM2 RXD Pin
15	RTS2	SIO	Serial I/O, UART COM2 RTS Pin
16	GND	PWR	Ground
17	HDN1	SIO	Serial I/O, USB1 Host Port- Pin
18	HDP1	SIO	Serial I/O, USB1 Host Port+ Pin
19	HDN2	SIO	Serial I/O, USB2 Host Port- Pin
20	HDP2	SIO	Serial I/O, USB2 Host Port+ Pin

Table 12: Pinout testpoints for module socket B

3.12 Testpoints for Module Socket B – J5B

Pin	Name	Group	Function
1	PB4	GPIO	GPIO - Parallel Port B, Bit 4
2	PB5	GPIO	GPIO - Parallel Port B, Bit 5
3	PB6	GPIO	GPIO - Parallel Port B, Bit 6
4	PB7	GPIO	GPIO - Parallel Port B, Bit 7
5	VCC	PWR	3.3 Volt Power Input
6	MS_CLK	PSP	Mouse Clock
7	MS_DAT	PSP	Mouse Data
8	KB_CLK	PSP	Keyboard Clock
9	KB_DAT	PSP	Keyboard Data
10	GND	PWR	Ground

Table 13: Pinout testpoints for module socket B

3.13 Testpoints for Module Socket B – J6A

Pin	Name	Group	Function
1	VCC	PWR	3.3 Volt Power Input
2	---	---	Reserved. Do not use.
3	---	---	Reserved. Do not use.
4	---	---	Reserved. Do not use.
5	---	---	Reserved. Do not use.
6	GND	PWR	Ground
7	---	---	Reserved. Do not use.
8	LANLED1	LAN	10/100 Mbps Ethernet LAN Interface LAN1 LED Output
9	---	---	Reserved. Do not use.
10	---	---	Reserved. Do not use.
11	VCC	PWR	3.3 Volt Power Input
12	---	---	Reserved. Do not use.
13	---	---	Reserved. Do not use.
14	---	---	Reserved. Do not use.
15	---	---	Reserved. Do not use.
16	GND	PWR	Ground
17	LRXN1	LAN	10/100 Mbps Ethernet LAN Interface LAN1, RX- Pin
18	LRXP1	LAN	10/100 Mbps Ethernet LAN Interface LAN1, RX+ Pin
19	LTXN1	LAN	10/100 Mbps Ethernet LAN Interface LAN1, TX- Pin
20	LTXP1	LAN	10/100 Mbps Ethernet LAN Interface LAN1, TX+ Pin

Table 14: Pinout testpoints for module socket B

3.14 Testpoints for Module Socket B – J6B

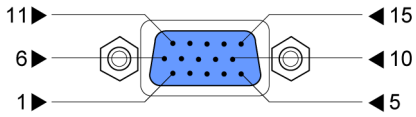
Pin	Name	Group	Function
1	PB0	GPIO	GPIO - Parallel Port B, Bit 0
2	PB1	GPIO	GPIO - Parallel Port B, Bit 1
3	PB2	GPIO	GPIO - Parallel Port B, Bit 2
4	PB3	GPIO	GPIO - Parallel Port B, Bit 3
5	VCC	PWR	3.3 Volt Power Input
6	CTS3	SIO	Serial I/O, UART COM3 CTS Pin
7	TXD3	SIO	Serial I/O, UART COM3 TXD Pin
8	RXD3	SIO	Serial I/O, UART COM3 RXD Pin
9	RTS3	SIO	Serial I/O, UART COM3 RTS Pin
10	GND	PWR	Ground

Table 15: Pinout testpoints for module socket B

3.15 VGA Connector – J8

Pin	Name	Function
1	CRT_R	Red Video Signal
2	CRT_G	Green Video Signal
3	CRT_B	Blue Video Signal
4	ID2	Monitor ID Bit 2
5	GND	Ground
6	GND_R	Red Ground
7	GND_G	Green Ground
8	GND_B	Blue Ground
9	Key	Key (No Pin)
10	GND_S	Sync Ground
11	ID0	Monitor ID Bit 0
12	ID1/CRT_SDA	Monitor ID Bit 1 or DDC Serial Data Line
13	CRT_HS	Horizontal Sync
14	CRT_VS	Vertical Sync
15	ID3/CRT_SCL	Monitor ID Bit 3 or DDC Serial Clock Line

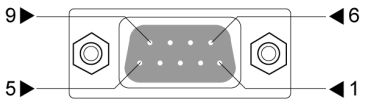
Table 16: Pinout VGA connector



3.16 COM1 Connector – J10

Pin	Name	Function
1	DCD1	COM1 Serial Port, DCD pin
2	RXD1	COM1 Serial Port, RXD pin
3	TXD1	COM1 Serial Port, TXD pin
4	DTR1	COM1 Serial Port, DTR pin
5	GND	Ground
6	DSR1	COM1 Serial Port, DSR pin
7	RTS1	COM1 Serial Port, RTS pin
8	CTS1	COM1 Serial Port, CTS pin
9	RI1	COM1 Serial Port, RI pin

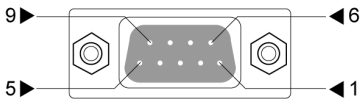
Table 17: Pinout COM1 connector



3.17 COM2 Connector – J11

Pin	Name	Function
1	---	---
2	RXD2	COM2 Serial Port, RXD pin
3	TXD2	COM2 Serial Port, TXD pin
4	---	---
5	GND	Ground
6	---	---
7	RTS2	COM2 Serial Port, RTS pin
8	CTS2	COM2 Serial Port, CTS pin
9	---	---
10	DCD2	COM2 Serial Port, DCD pin

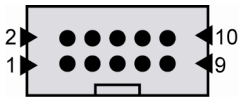
Table 18: Pinout COM2 connector



3.18 COM3 Connector – J12

Pin	Name	Function
1	---	---
2	---	---
3	RXD3	COM3 Serial Port, RXD pin
4	RTS3	COM3 Serial Port, RTS pin
5	TXD3	COM3 Serial Port, TXD pin
6	CTS3	COM3 Serial Port, CTS pin
7	---	---
8	---	---
9	GND	Ground
10	---	---

Table 19: Pinout COM3 connector



3.19 USB1 Host Port – J13

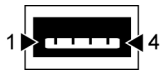
Pin	Name	Function
1	VCC5	5 VDC Power Output
2	DATA1-	USB1 Host -
3	DATA1+	USB1 Host +
4	GND	Ground

Table 20: Pinout USB1 host port

3.20 USB2 Host Port – J14

Pin	Name	Function
1	VCC5	5 VDC Power Output
2	DATA2-	USB2 Host -
3	DATA2+	USB2 Host +
4	GND	Ground

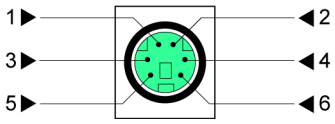
Table 21: Pinout USB2 host port



3.21 PS/2 Mouse Connector (top) – J15

Pin	Name	Function
1	MSDAT	Mouse Data
2	---	Not connected
3	MSGND	Mouse Ground
4	MSVCC	Mouse Power
5	MSCLK	Mouse Clock
6	---	Not connected

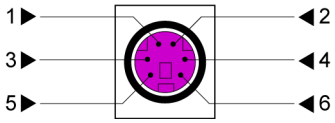
Table 22: Pinout PS/2 connector



3.22 PS/2 Keyboard Connector (bottom) – J15

Pin	Name	Function
1	MSDAT	Mouse Data
2	---	Not connected
3	MSGND	Mouse Ground
4	MSVCC	Mouse Power
5	MSCLK	Mouse Clock
6	---	Not connected

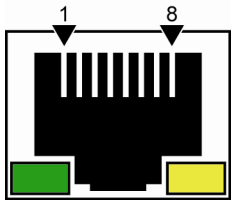
Table 23: Pinout PS/2 connector



3.23 10/100 Mbps Ethernet Connector (LAN1) – J16

Pin	Name	Function
1	LAN1TX+	10/100 Mbps LAN1, TX+ Pin
2	LAN1TX-	10/100 Mbps LAN1, TX- Pin
3	LAN1RX+	10/100 Mbps LAN1, RX+ Pin
4	GND	Ground
5	GND	Ground
6	LAN1RX-	10/100 Mbps LAN1, RX- Pin
7	---	---
8	GND	Ground

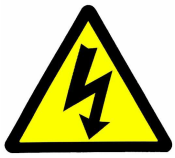
Table 24: Pinout Ethernet connector LAN1



3.24 Power Connector – J17

Pin	Name	Function
1	VCC	5 VDC Power Input
2	GND	Ground

Table 25: Pinout power connector



CAUTION: Providing the Board with a voltage higher than the regular 5 VDC ±5% could resolve in damaged board components!

Please pay attention to the polarity of the power connector: the **+ pole is in the center!**

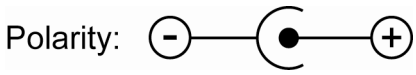


Figure 3: Polarity of the power connector

3.25 USB1 Power Generation Jumper – JP1

Setting this jumper enables the 5 VDC output for external USB devices on USB1 host port.

3.26 USB2 Power Generation Jumper – JP2

Setting this jumper enables the 5 VDC output for external USB devices on USB2 host port.

4 MECHANICAL DIMENSIONS

All length dimensions have a tolerance of 0.5 mm.

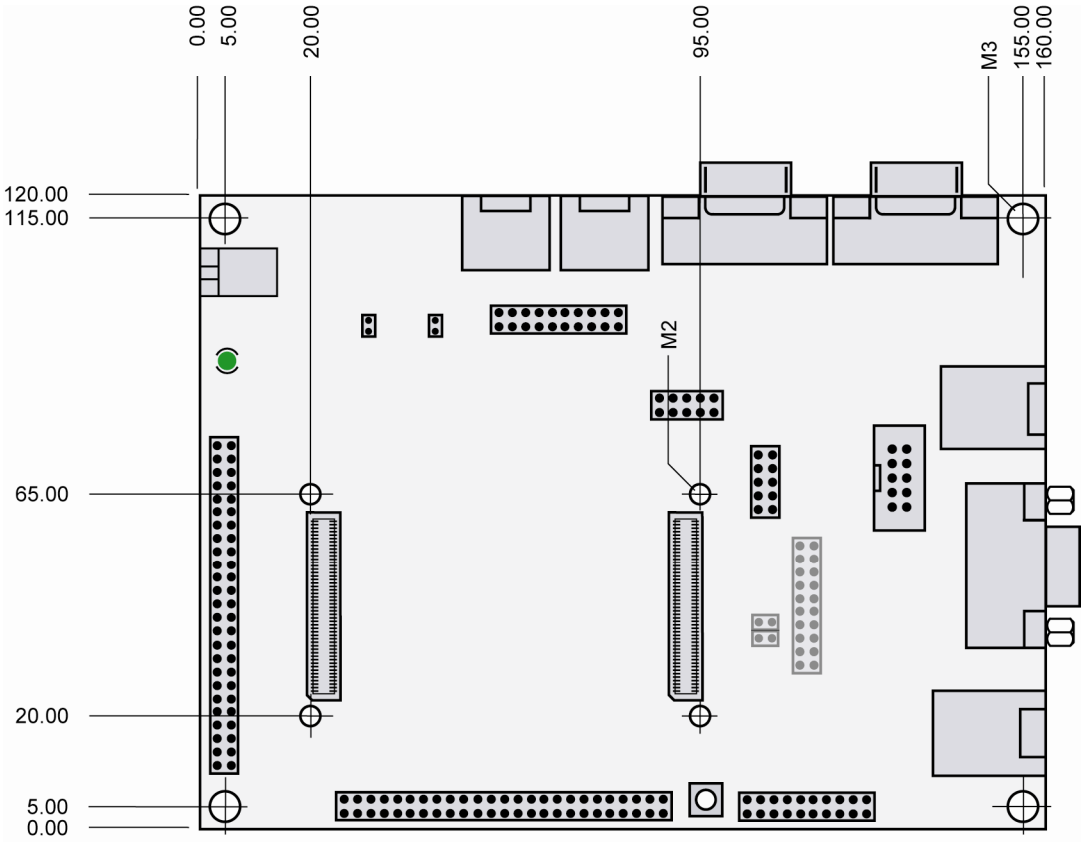


Figure 4: Mechanical dimensions of Base Board eSOM/EVA2-M

5 HELPFUL LITERATURE

- eSOM/2586-M hardware reference

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DOCUMENT HISTORY

Revision	Date	Remarks	Name
1.0	2010-08-25	First version	WBU