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SLH2-comm Datasheet and Pinout

Rev. 20221214095807

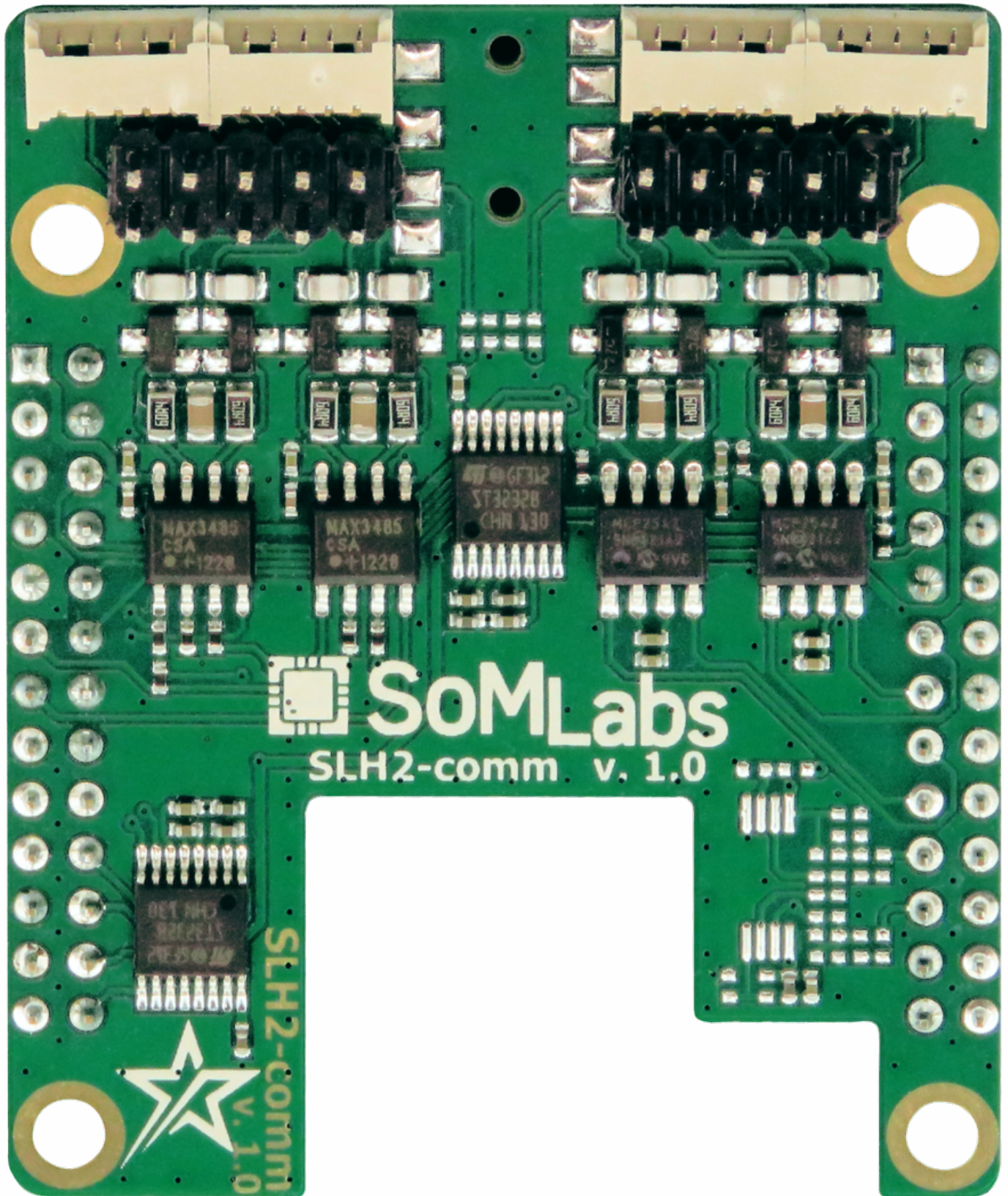
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SLH2-comm - multiprotocol communication interface for StarSBC-6ULL Datasheet and Pinout

General description



The SLH2-comm module ("hat") is dedicated solution for StarSBC-6ULL Single Board Computer. The SLH2-comm module comprises:

- 2xRS232 physical interfaces (with hardware dataflow control - CTS/RTS lines),

- 2xRS485 half-duplex physical interfaces,
- 2xCAN-FD physical interfaces.

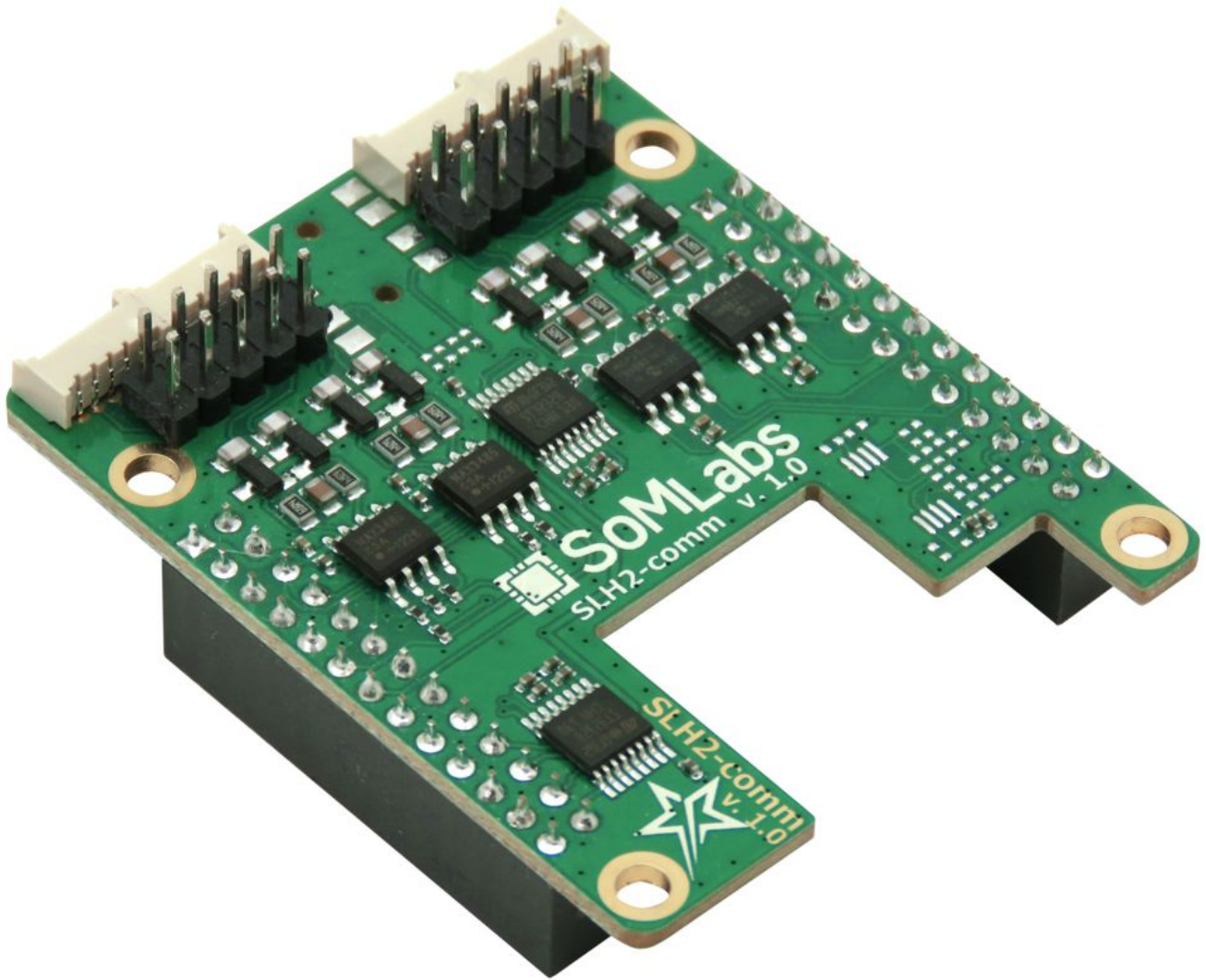
The SLH2-comm module can be conveniently mounted using 2,54 mm connectors on the StarSBC-6LL board (as on picture below).

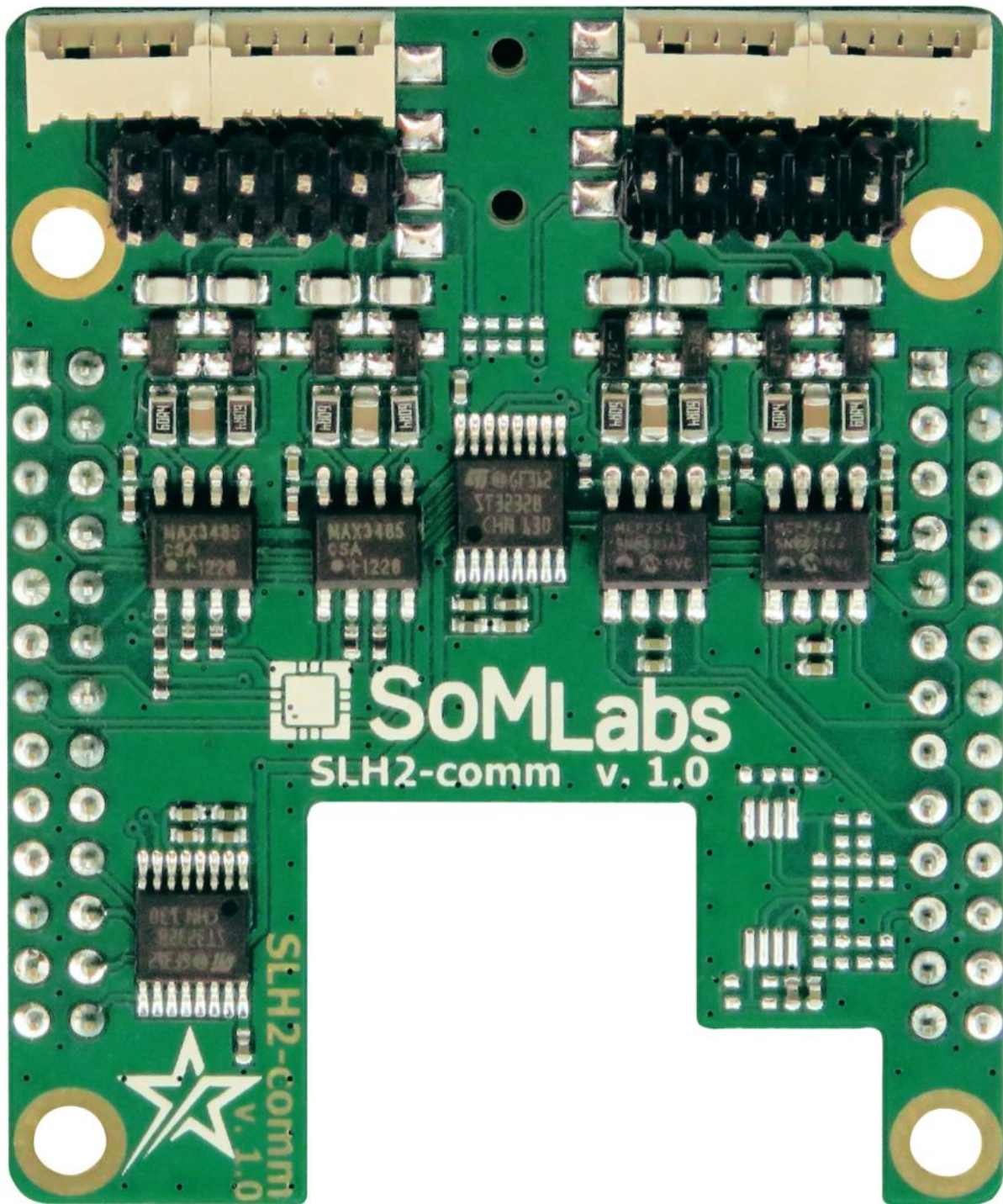
Features

- dedicated communication interface for StarSBC-6ULL
- 2 x CAN-FD
- 2 x half-duplex RS485
- 2 x RS232
- Molex 53048-0510 and dual-row 2,54 mm connectors

Pictures







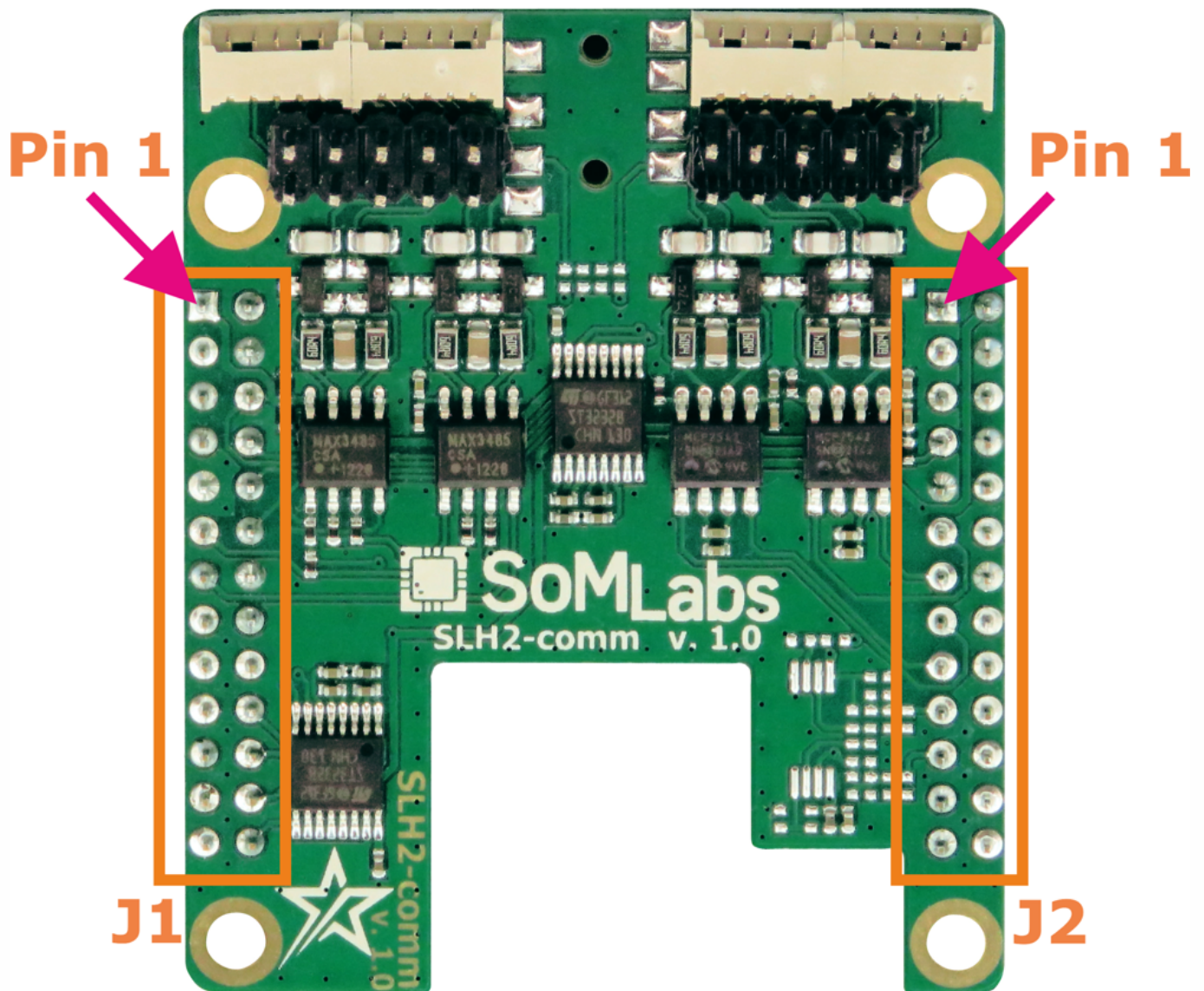
Ordering info

SLH2-comm v1.0

Operating ranges

Parameter	Value	Unit	Comment
Power Supply	3.3 & 5.0	V	Powered from carrier board
Current	0.1	A	Maximum peak value
Environment temperature	-40...+85	°C	-

SBC (StarSBC-6ULL) connectors Pinout

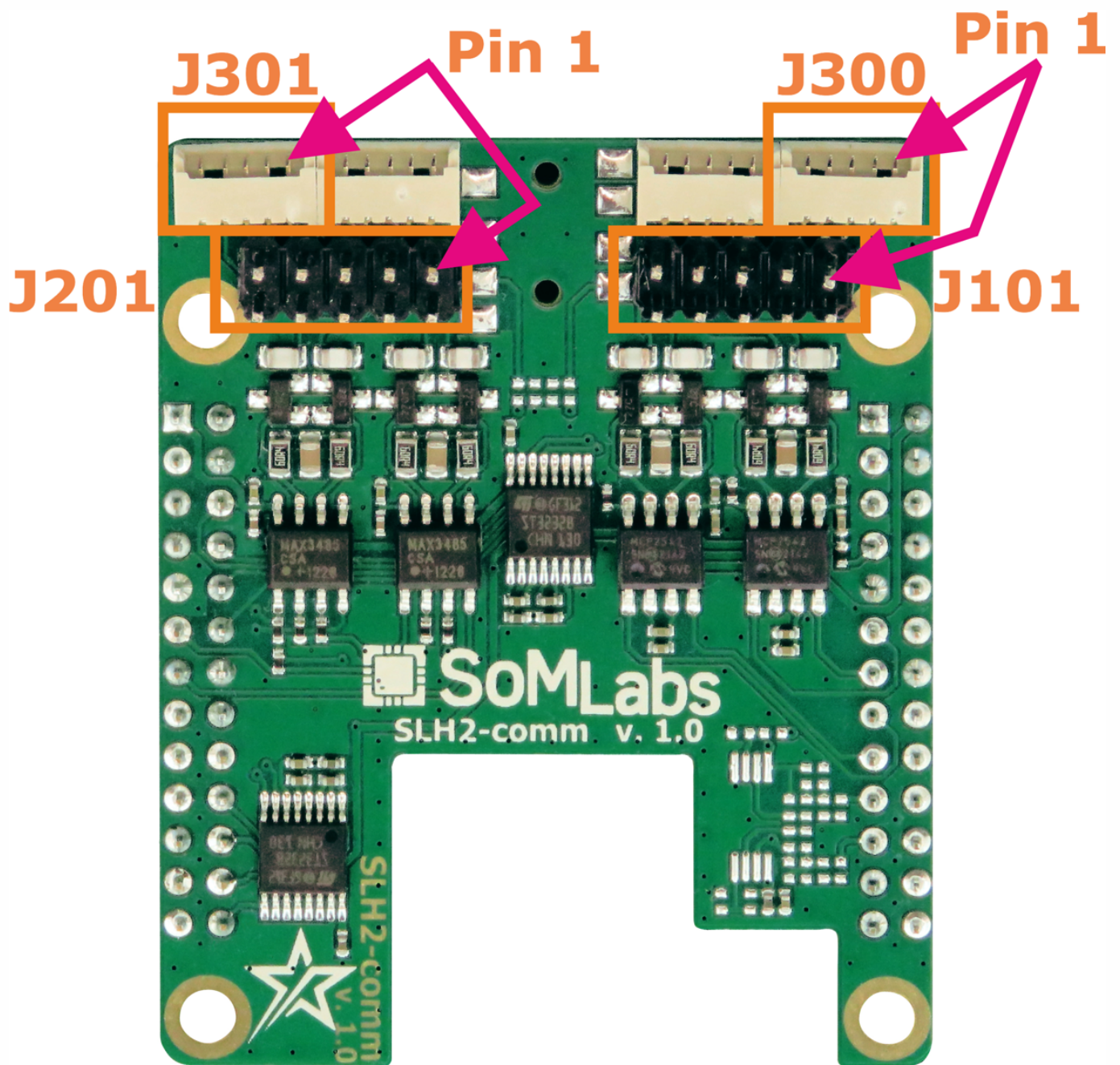


Connector pin number	Default function	MPU GPIO	MPU ball number BGA289	Notes
J1				
1	+3,3VO			+3,3V power supply delivered from StarSBC-6ULL, paralelly connected to pin 1 of J1
2	+5V			5V power supply delivered from StarSBC-6ULL, paralelly connected to pin 2 of J1

3	UART8-RXD	ENET2_TX_EN	B15	RXD line of UART8 with RS485 level converter (J200), half-duplex, direction line GPIO3.26
4	GND			
5	UART8-TXD	ENET2_TX_DATA1	A16	TXD line of UART8 with RS485 level converter (J200), half-duplex, direction line GPIO3.26
6	UART3-TXD	UART3_TX_DATA	H17	TXD line of UART3 with RS232 level converter (J300)
7	-	-	-	
8	UART3-RXD	UART3_RX_DATA	H16	RXD line of UART3 with RS232 level converter (J300)
9	GND			
10	UART3-CTS	UART3_CTS	H15	CTS line of UART3 with RS232 level converter (J300)
11	UART4-RXD	LCD_ENABLE	B8	RXD line of UART4 with RS485 level converter (J200), half-duplex, direction line GPIO3.25
12	UART3-RTS	UART3_RTS	G14	RTS line of UART3 with RS232 level converter (J300)
13	UART4-TXD	LCD_CLK	A8	TXD line of UART4 with RS485 level converter (J200), half-duplex, direction line GPIO3.25
14	GND			
15	-	-	-	
16	-	-	-	
17	-	-	-	
18	-	-	-	
19	-	-	-	
20	UART7-RXD	LCD_DATA16	C13	RXD line of UART3 with RS232 level converter (J301)
21	-	-	-	
22	UART7-TXD	LCD_DATA17	B13	TXD line of UART3 with RS232 level converter (J301)
23	-	-	-	
24	UART7-CTS	LCD_DATA07	D11	CTS line of UART3 with RS232 level converter (J301)
25	-	-	-	
26	UART7-RTS	LCD_DATA06	A10	CTS line of UART3 with RS232 level converter (J301)
J2				
1	+3,3VO			+3,3V power supply delivered from StarSBC-6ULL, paralelly connected to pin 1 of J1
2	+5V			5V power supply delivered from StarSBC-6ULL, paralelly connected to pin 2 of J1
3	-	-	-	
4	GND			
5	-	-	-	
6	-	-	-	
7	GPIO3.17	LCD_DATA12	C12	Pul-down 10k resistor optionally used for module ("hat") identification
8	-	-	-	
9	GND			
10	-	-	-	
11	CAN1-TX	LCD_DATA08	B11	TX line of CAN1 with CAN-FD level converter (J100 and J101)
12	-	-	-	
13	CAN1-RX	LCD_DATA09	A11	RX line of CAN1 with CAN-FD level converter (J100 and J101)
14	GND			

15	CAN2-TX	LCD_DATA10	E12	TX line of CAN2 with CAN-FD level converter (J100 and J101)
16	-	-	-	
17	CAN2-RX	LCD_DATA11	D12	RX line of CAN2 with CAN-FD level converter (J100 and J101)
18	-	-	-	
19	MQS-R	LCD_DATA22	A14	Not used by default
20	-	-	-	
21	MQS-L	LCD_DATA23	B16	Not used by default
22	-	-	-	
23	GPIO3.25	LCD_DATA20	C14	RS485 semiduplex direction line (UART4)
24	-	-	-	
25	GPIO3.26	LCD_DATA21	B14	RS485 semiduplex direction line (UART8)
26	-	-	-	

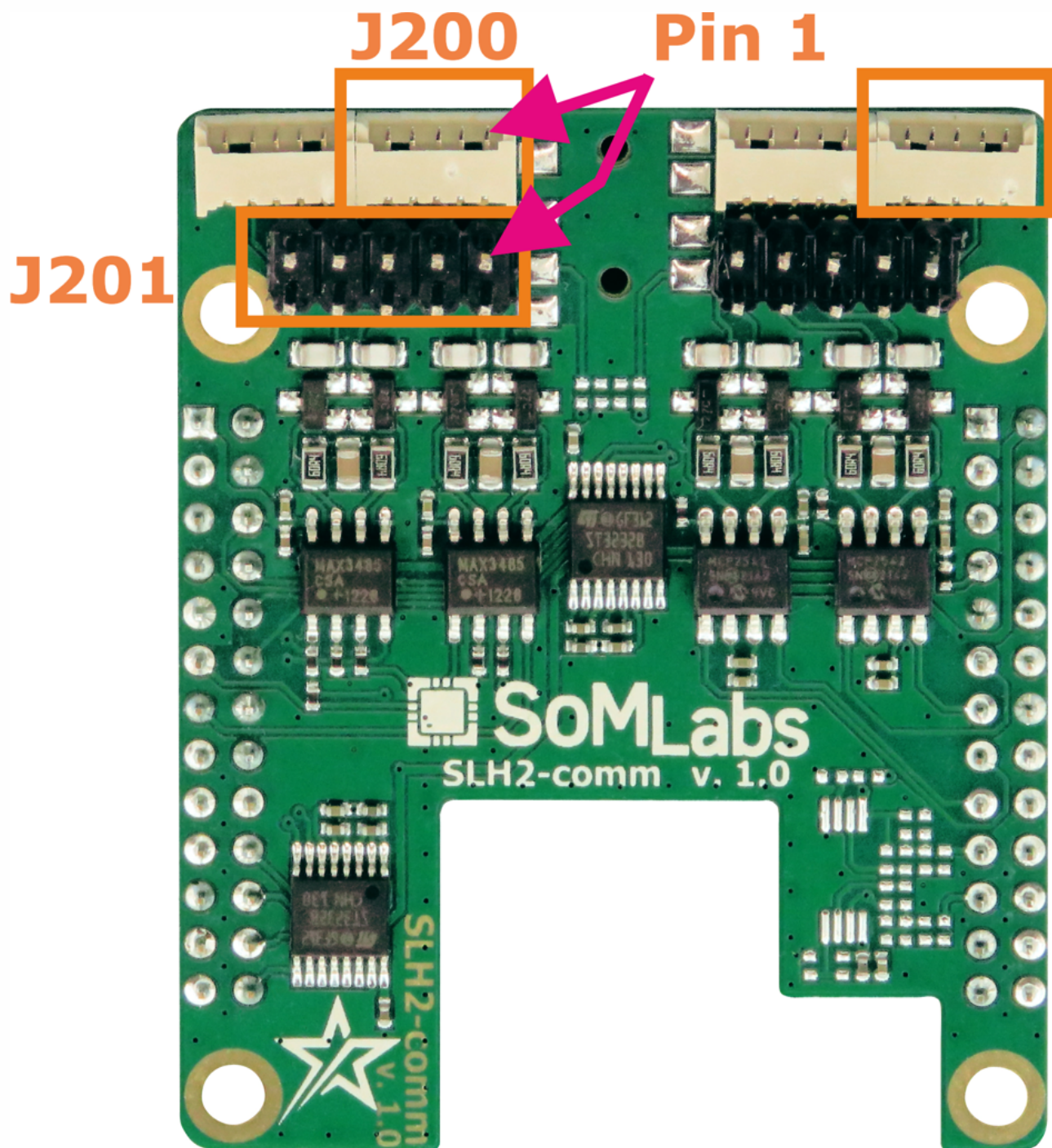
RS232 Pinout



Connector pin number	Default function	Notes
J300		
1	GND	
2	UART3-RTS	RS232 levels
3	UART3-CTS	RS232 levels

4	UART3-RXD	RS232 levels
5	UART3-TXD	RS232 levels
J301		
1	UART7-TXD	RS232 levels
2	UART7-RXD	RS232 levels
3	UART7-CTS	RS232 levels
4	UART7-RTS	RS232 levels
5	GND	
J101		
1	UART3-CTS	RS232 levels
2	UART3-RTS	RS232 levels
3	UART3-TXD	RS232 levels
4	UART3-RXD	RS232 levels
5	GND	
6	GND	
7	CAN1-H	CAN interface line
8	CAN1-L	CAN interface line
9	CAN2-H	CAN interface line
10	CAN1-L	CAN interface line
J201		
1	UART3-CTS	RS485 interface line
2	UART3-RTS	RS485 interface line
3	UART3-TXD	RS485 interface line
4	UART3-RXD	RS485 interface line
5	GND	
6	GND	
7	UART7-TXD	RS232 levels
8	UART7-RXD	RS232 levels
9	UART7-CTS	RS232 levels
10	UART7-RTS	RS232 levels

RS485 Pinout



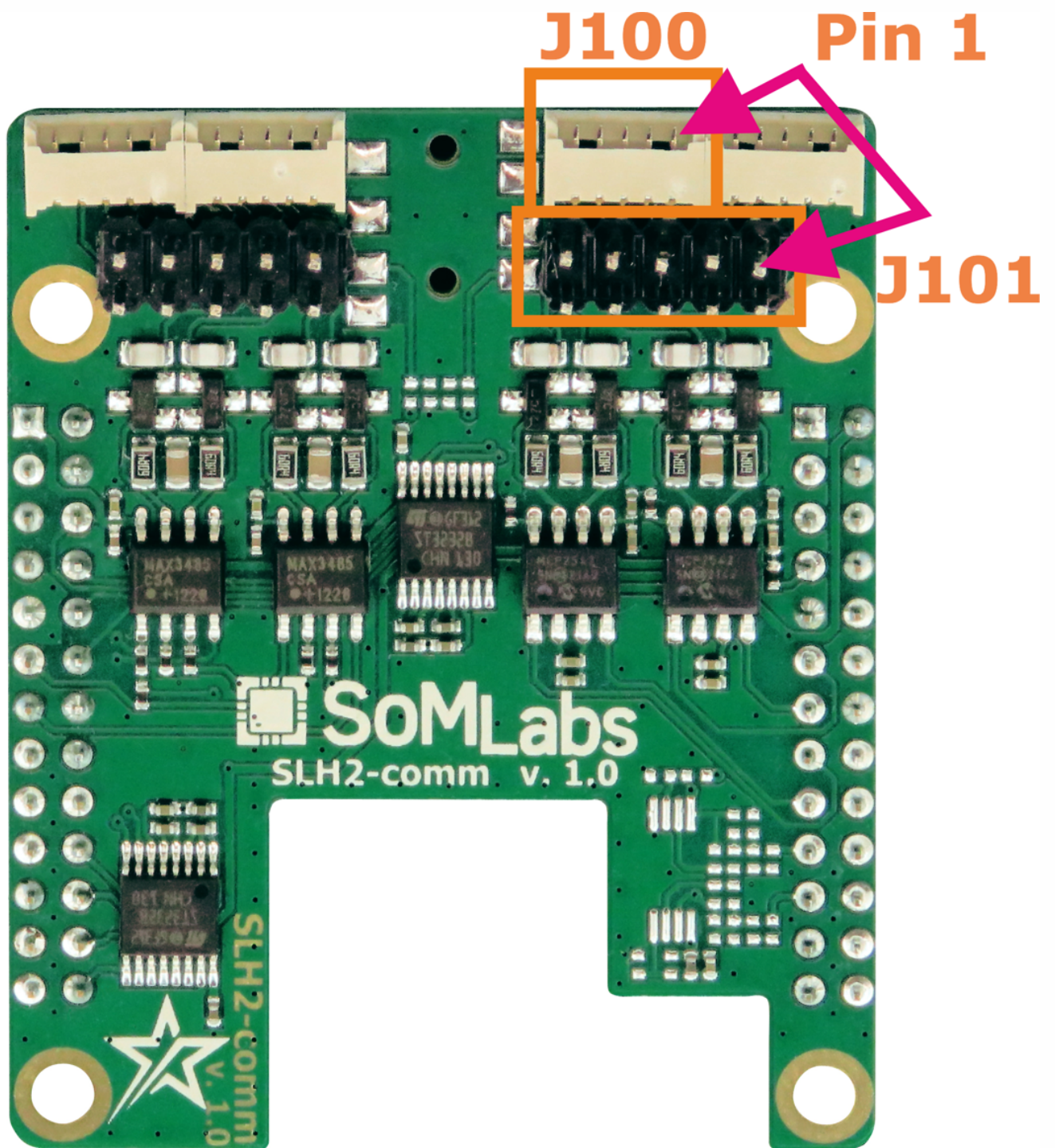
Connector pin number	Default function	Notes
J200		
1	GND	

2	UART4-RS485-A	RS485 levels, line A of UART4
3	UART4-RS485-B	RS485 levels, line B of UART4
4	UART8-RS485-A	RS485 levels, line A of UART8
5	UART8-RS485-B	RS485 levels, line B of UART8
J201		
1	UART4-RS485-A	RS485 levels, line A of UART4
2	UART4-RS485-B	RS485 levels, line B of UART4
3	UART8-RS485-A	RS485 levels, line A of UART8
4	UART8-RS485-B	RS485 levels, line B of UART8
5	GND	
6	GND	
7	UART7-TXD	RS232 interface line
8	UART7-RXD	RS232 interface line
9	UART7-CTS	RS232 interface line
10	UART7-RTS	RS232 interface line

Note:

1. Line GPIO3.25 is direction controller for RS485 channel connected to UART4
2. Line GPIO3.26 is direction controller for RS485 channel connected to UART8

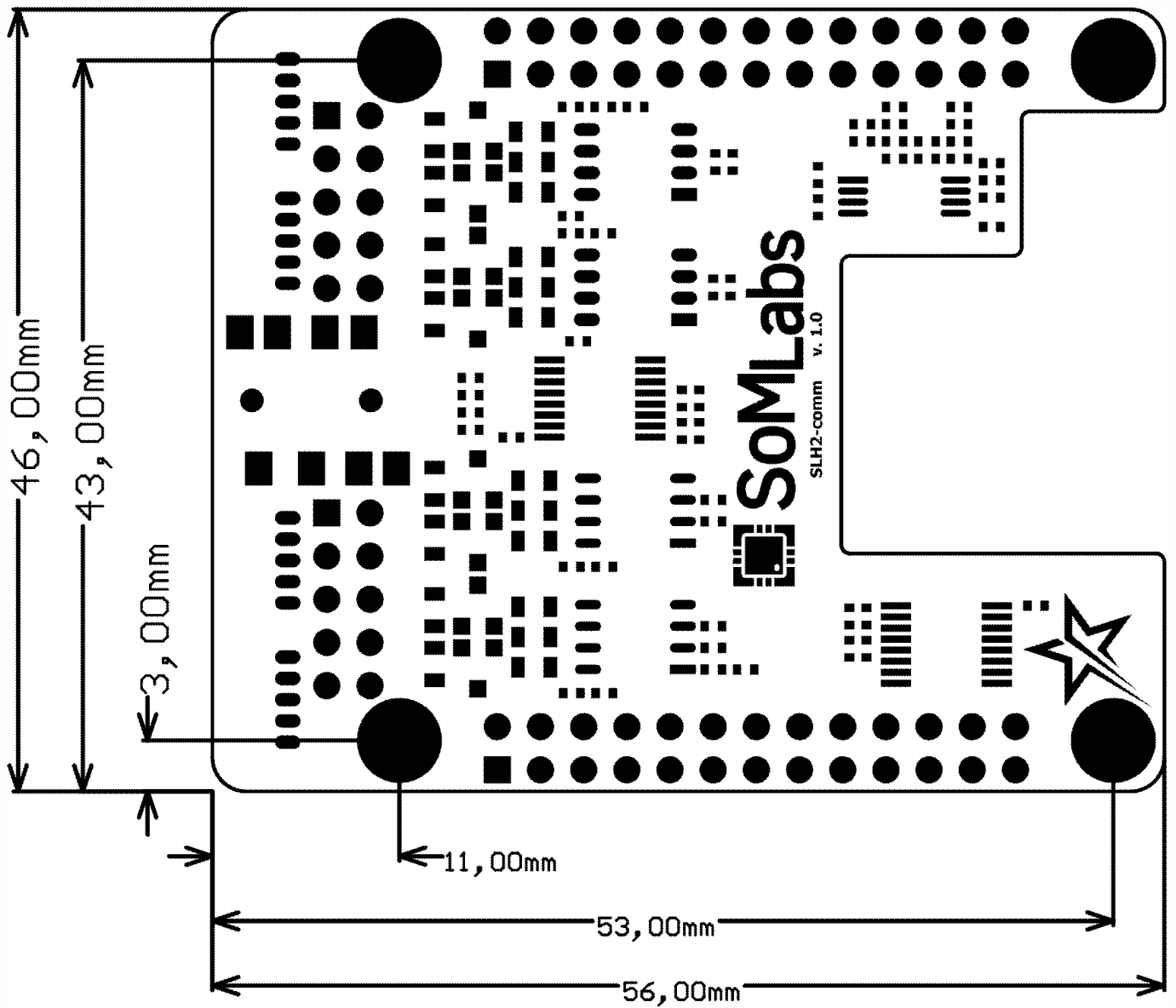
CAN Pinout



Connector pin number	Default function	Notes
J100		

1	GND	
2	CAN1-L	CAN levels
3	CAN1-H	CAN levels
4	CAN2-L	CAN levels
5	CAN2-H	CAN levels
J101		
1	UART3-CTS	RS232 interface lines
2	UART3-RTS	RS232 interface lines
3	UART3-TXD	RS232 interface lines
4	UART3-RXD	RS232 interface lines
5	GND	
6	GND	
7	CAN1-H	CAN levels
8	CAN1-L	CAN levels
9	CAN2-H	CAN levels
10	CAN1-L	CAN levels

Dimensions



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