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SL-MIPI-LVDS-HDMI-CNV-11 Datasheet and Pinout

Rev. 20231030134549

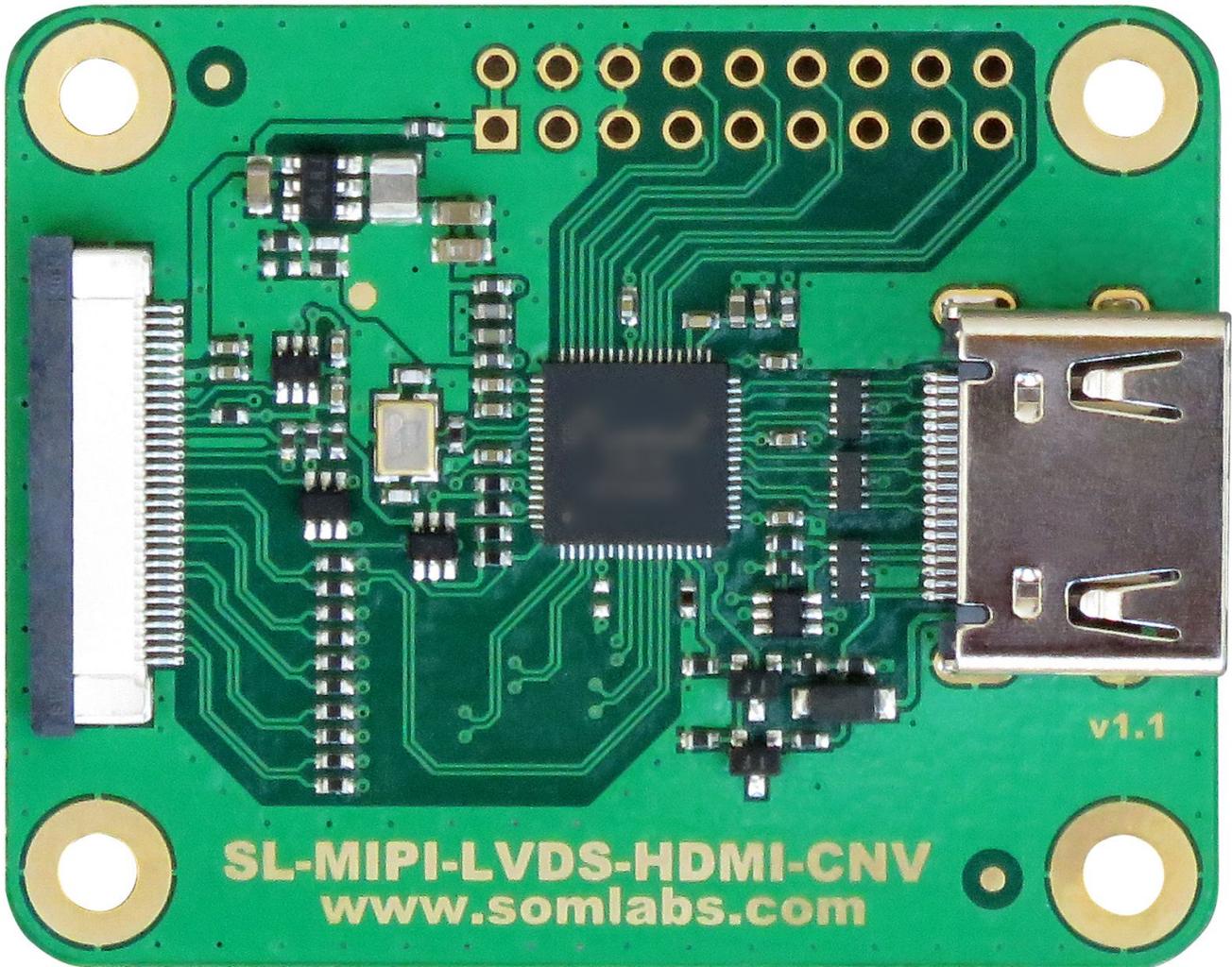
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SL-MIPI-LVDS-HDMI-CNV MIPI-DSI to LVDS and HDMI converter Datasheet and Pinout

General description

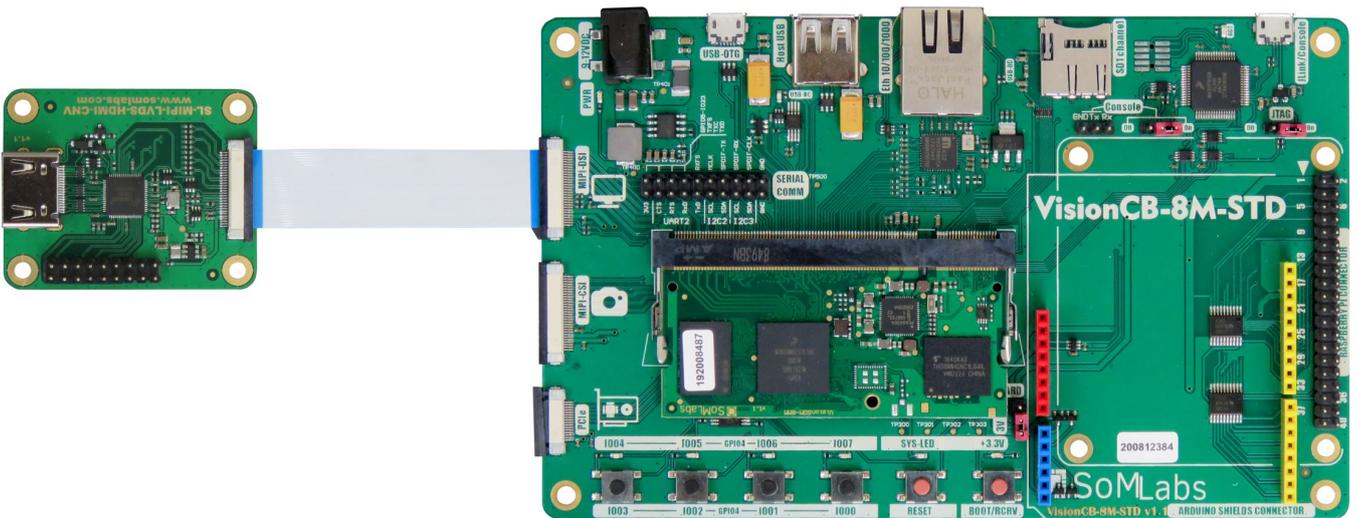
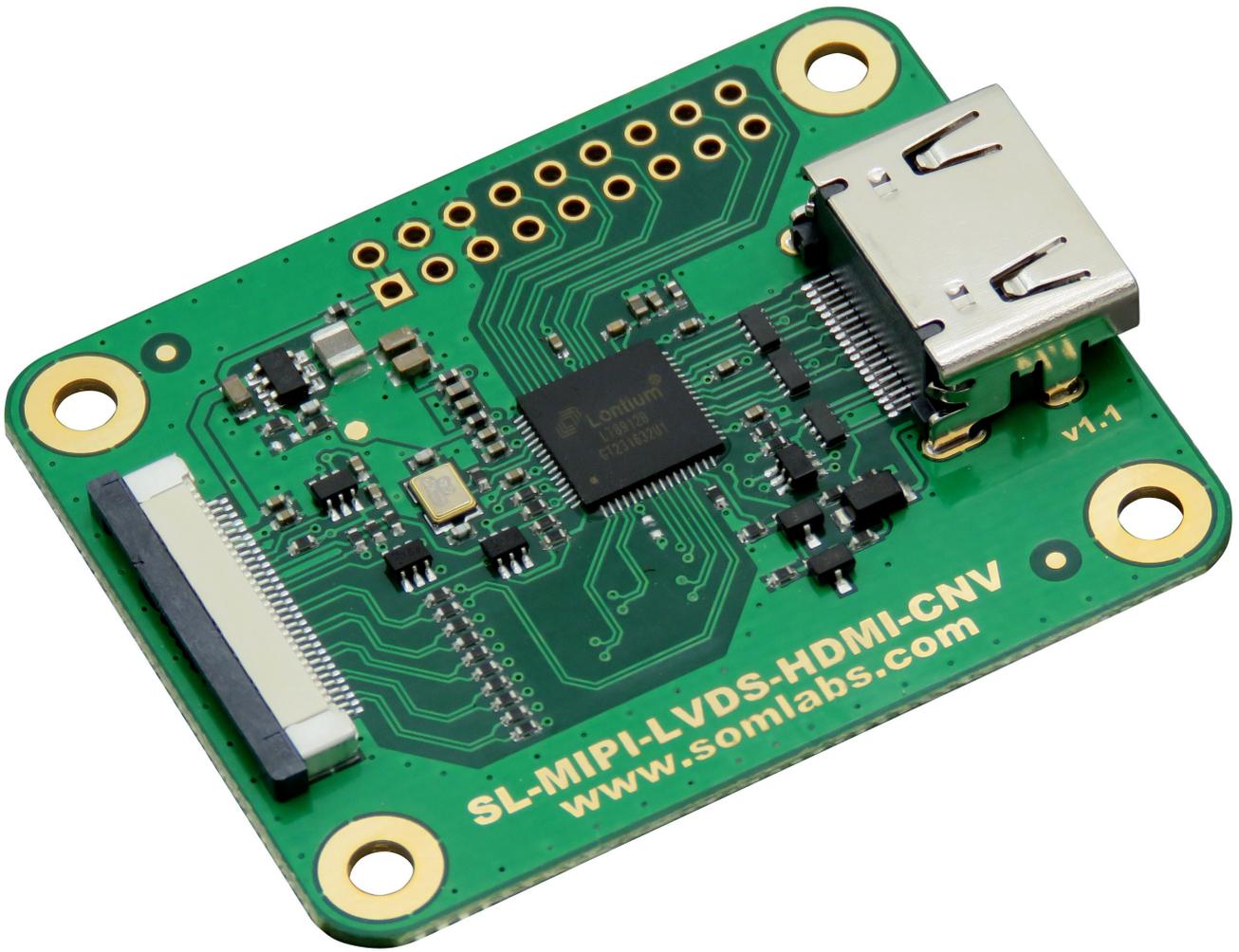


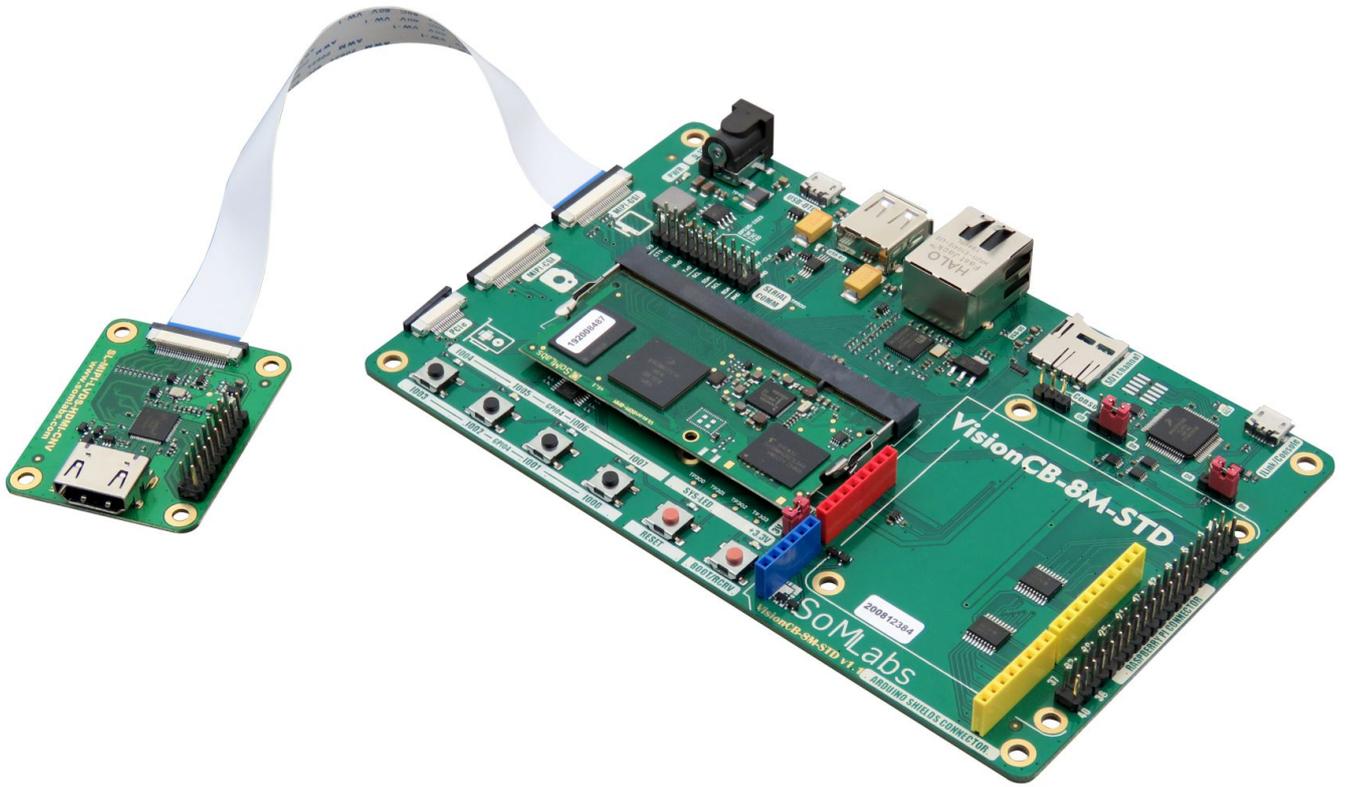
SL-MIPI-LVDS-HDMI-CNV (MIPI-DSI to LVDS HDMI converter) is flexible MIPI-DSI to LVDS and/or HDMI converter. The solution we dedicate to SoMLabs carrier boards equipped with MIPI-DSI interface (with FPC30 connector). Converter is fully compliant with DSI1.02 and HDMI1.4 and converts video stream up to 1080p @60Hz/8b. SL-MIPI-LVDS-HDMI-CNV is fully compatible with SoMLabs carrier boards equipped with MIPI-DSI FPC30 connector.

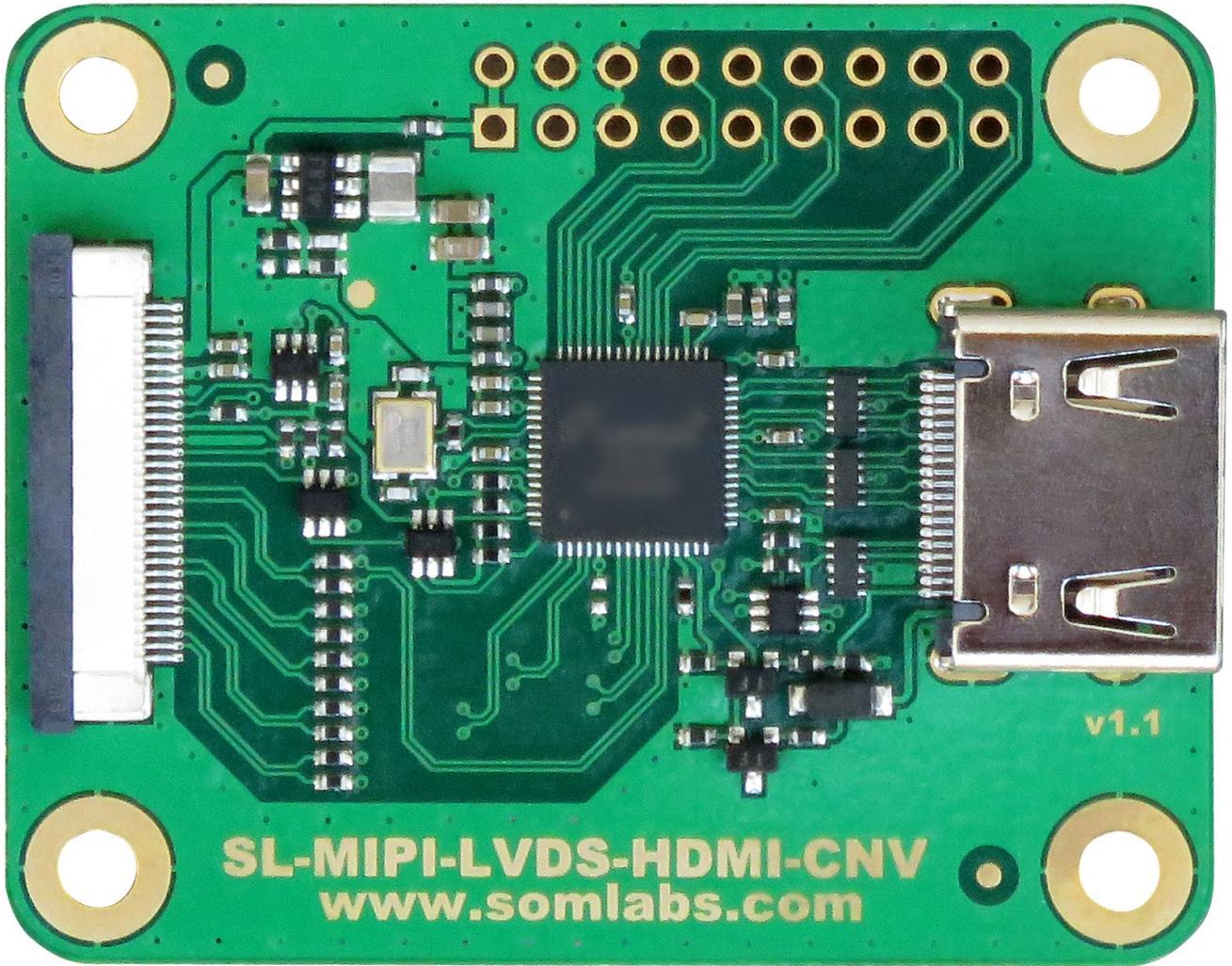
Features

- MIPI-DSI to LVDS and/or HDMI display converter
- Integrated D-PHY1.1 (DSI1.02)
- From 1 up to 4 MIPI input data lanes
- Compatible with MIPI-DSI data packets: 18bpp, RGB666 and 24bpp RGB888
- Input bandwidth up to 6Gb/s (4 lanes)
- LVDS output clocking up to 154 MHz
- Fully compatible with SoMLabs carrier board:
 - VisionCB-8M-STD (dedicated to i.MX8M mini multicore MPU)
 - VisionCB-STM32MP1-STD (dedicated to STM32MP1 multicore MPU)
- Plug & Play solution for SoMLabs customers
- Integrated stereo audio channel
- Connection with carrier board using FPC30 cable A-A type

Pictures







Ordering info

SL-MIPI-LVDS-HDMI-CNV - FPC 30-pin flat cable (A-A) is included.

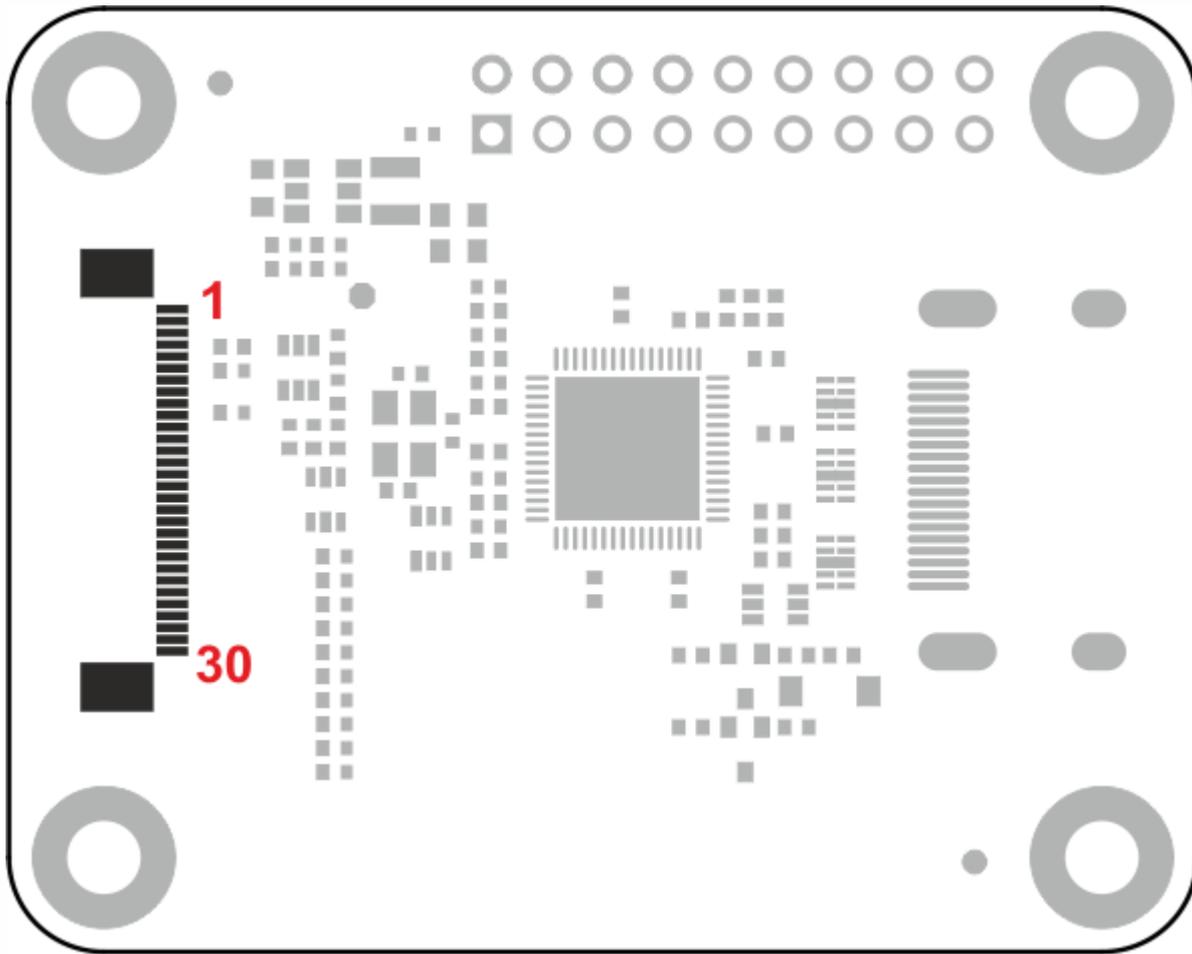
Operating ranges

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	-

Electrical parameters

Signal name	Parameter	Value			Units
		Min.	Typ.	Max.	
+5V	Supply Voltage	4.75	5.0	5.25	V
+3.3V	Supply Voltage	3.2	3.3	3.35	V
I _{5V}	Supply Current (5V)	40	80	100	mA
I _{3.3V}	Supply Current (3.3V)	1	2.2	8	mA
VIO _{I2C}	I2C Input Voltage	0	3.3	3.6	V
VIO _{RES/SPDIF}	RES/SPDIF Input Voltage	0	3.3	3.6	V
f _{I2C}	I2C Controller Speed	-	-	400	kHz
R _{INT}	Interrupt Output Pull-up Resistance	-	4.7	-	kΩ
R _{I2C}	I2C IOs Pull-up Resistance	-	4.7	-	kΩ

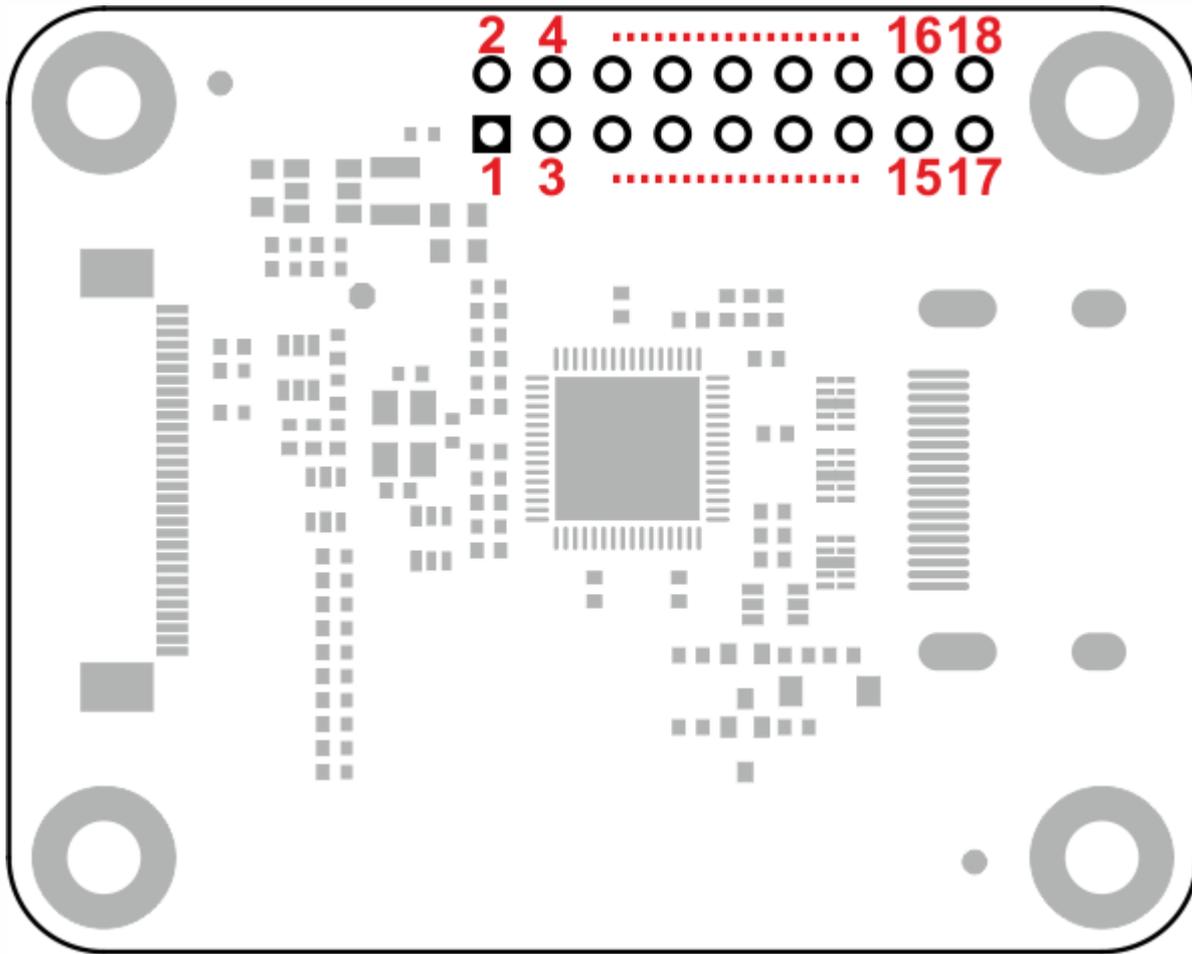
MIPI-DSI (input) Pinout



FPC30 connector pin	Function name	Description
1	GND	-
2	-	-
3	HPD	HPD line from HDMI (voltage translated to 3.3V)
4	+5V	Power supply (input)
5	+5V	Power supply (input)
6	+3.3V	Power supply (input)
7	+3.3V	Power supply (input)
8	GND	-
9	SPDIF-TX	SPDIF input from SBC
10	INT	Interrupt output (voltage translated to 3.3V)
11	RESET	Reset input (voltage translated to 3.3V)
12	GND	-
13	SDA	I2C SDA line (voltage translated to 3.3V)
14	SCL	I2C SCL line (voltage translated to 3.3V)
15	GND	-

16	D3n	MIPI-DSI lane 3 negative line
17	D3p	MIPI-DSI lane 3 positive line
18	GND	-
19	D2n	MIPI-DSI lane 2 negative line
20	D2p	MIPI-DSI lane 2 positive line
21	GND	-
22	D1n	MIPI-DSI lane 1 negative line
23	D1p	MIPI-DSI lane 1 positive line
24	GND	-
25	D0n	MIPI-DSI lane 0 negative line
26	D0p	MIPI-DSI lane 0 positive line
27	GND	-
28	CLKn	MIPI-DSI clock negative line
29	CLKp	MIPI-DSI clock positive line
30	GND	-

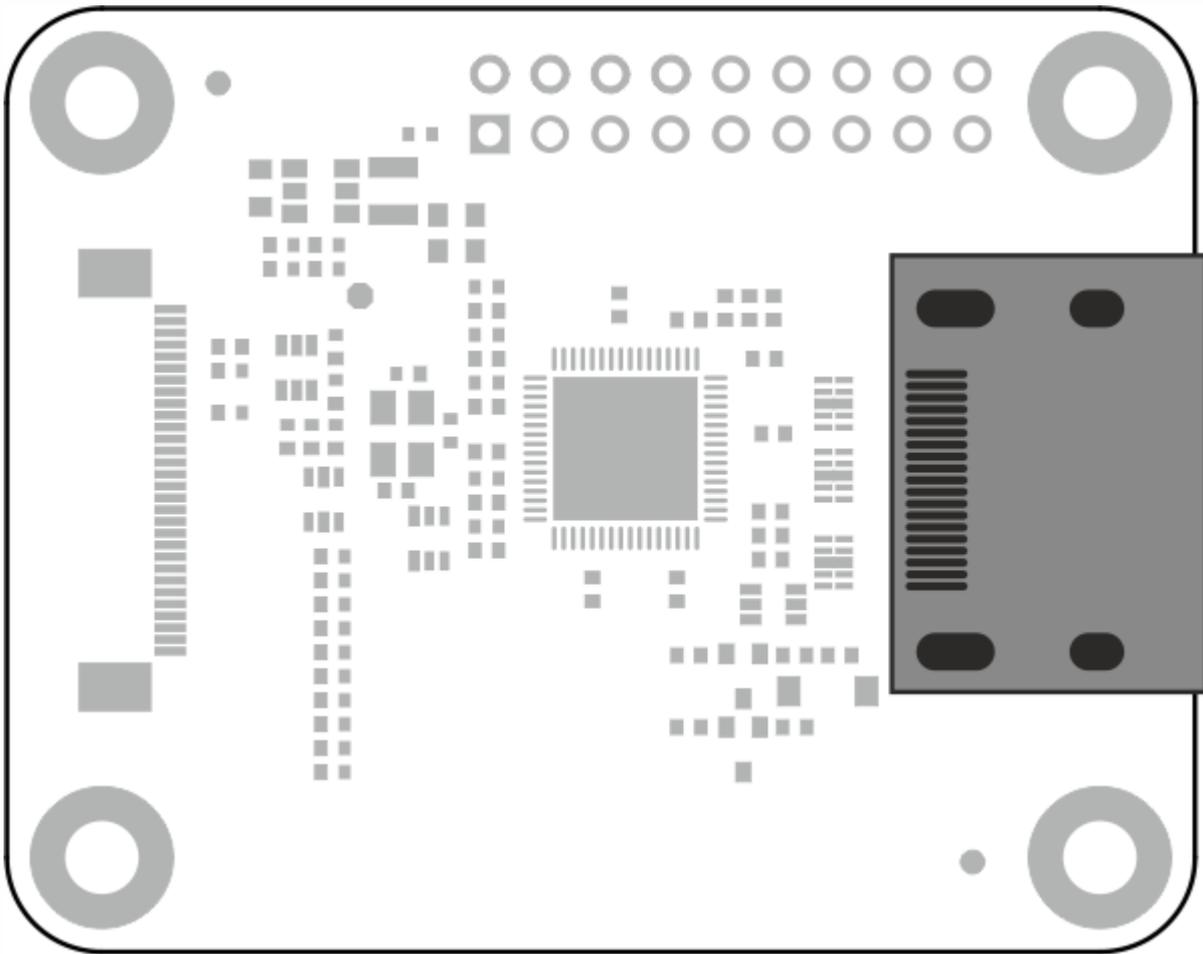
LVDS (output) Pinout



LVDS connector pin	Function name	Description
1	+5V	Power supply for external devices (max. 20 mA) Internally connected with pin 2
2	+5V	Power supply for external devices (max. 20 mA) Internally connected with pin 1
3	-	-
4	GND	-
5	GND	-
6	GND	-
7	D0n	LVDS D0n data line
8	D0p	LVDS D0p data line
9	D1n	LVDS D1n data line
10	D1p	LVDS D1p data line
11	D2n	LVDS D2n data line
12	D2p	LVDS D2p data line
13	GND	-

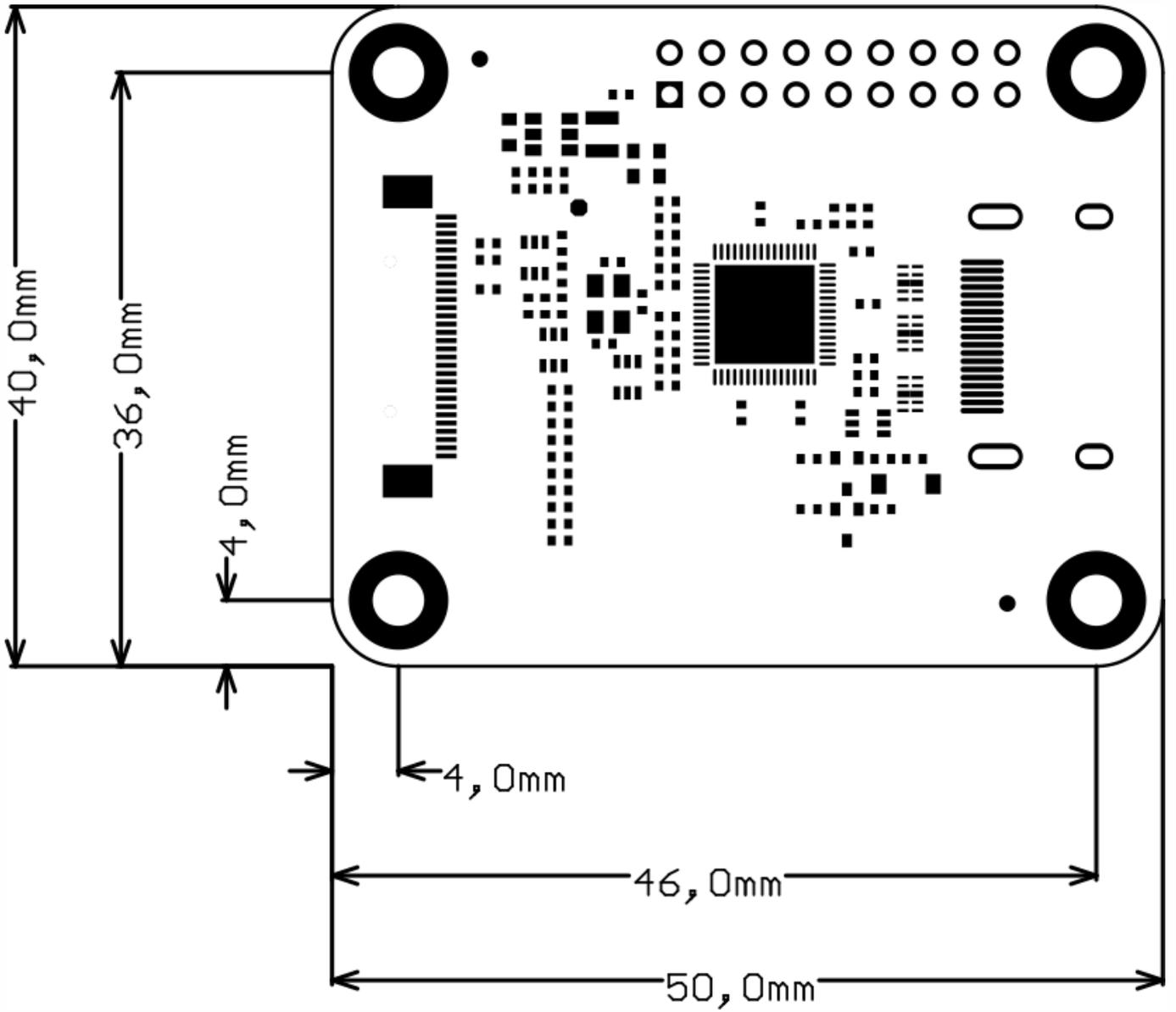
14	GND	-
15	CLKn	LVDS CLKn clock line
16	CLKp	LVDS CLKp clock line
17	D3n	LVDS D3n data line
18	D3p	LVDS D3p data line

HDMI (output) Pinout



HDMI connector built-in SL-MIPI-LVDS-HDMI-CNV converter has standard HDMI pinout.

Dimensions





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