

Short Form Specification

EPD Driver Board



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Preliminary

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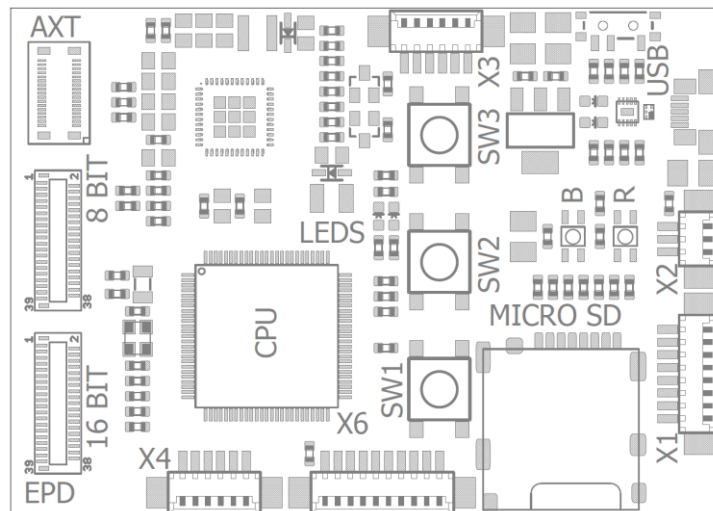
This specification is subject to change without notification.

1. General features

Item	Description	Unit
EPD Diagonal	up to 13.3	inch
Resolution – controller	tbd	pixel
Display grey scale	tbd	colors
Display mode	tbd	
Operational system	tbd	
Interface	8- / 16-bit	
Power input voltage	5 (from USB)	V DC
	3.3 (from battery)	V DC
Power consumption	tbd	W
Dimension	70 x 50 x 7	mm
Weight	10	gram
Operational temperature	0 ... +50°C	°C

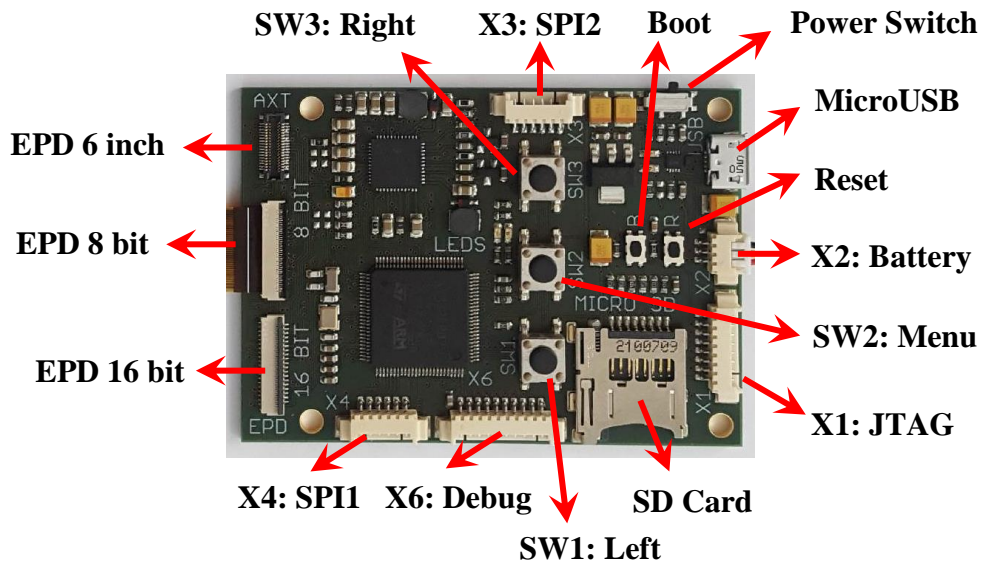
Figure 1: Outline dimensions

Dimensions: 70mm (L) x 50mm (W) x 7mm (H)



2. Board connectors und buttons

Figure 2: Functional parts



JTAG Connector X1

Type: 53261-08 (Molex)

Mating Type: 51021-0800 (Molex)

Pin No.	Symbol	Description	Note
1	VCC	3.3V DC	
2	TRST		
3	TDI		
4	STM/SWDIO		
5	TCK/SWCLK		
6	JTDO		
7	MCU_RST		
8	GND	GND	

Battery Connector X2

Type: 53261-0371 (Molex)

Mating Type: 51021-0300 (Molex)

Pin No.	Symbol	Description	Note
1	Vin	3.3V DC	
2	TS		
3	GND	GND	

SPI2 Connector X3

Type: 53261-06 (Molex)

Mating Type: 51021-0600 (Molex)

Pin No.	Symbol	Description	Note
1	VCC	3.3V DC	
2	SPI2_CS		
3	SPI2_SCK		
4	SPI2_MISO		
5	SPI2_MOSI		
6	GND	GND	

SPI1 Connector X4

Type: 53261-06 (Molex)

Mating Type: 51021-0600 (Molex)

Pin No.	Symbol	Description	Note
1	VCC	3.3V DC	
2	SPI1_CS		
3	SPI1_SCK		
4	SPI1_MISO		
5	SPI1_MOSI		
6	GND	GND	

MicroUSB Connector

Type: 47346-0001 (Molex)

Mating Type: MicroUSB

Pin No.	Symbol	Description	Note
1	VBUS	5V DC	
2	USB_DM		
3	USB_DP		
4	USB_ID		
5	GND	GND	

Communication Connector X6

Type: 53261-10 (Molex)

Mating Type: 51021-1000 (Molex)

Pin No.	Symbol	Description	Note
1	VCC	3.3V DC	
2	GPIO_1		
3	GPIO_2		
4	GPIO_3		
5	USART3_TX		
6	USART3_RX		

Pin No.	Symbol	Description	Note
7	USART3_CK		
8	USART3_CTS		
9	USART3_RTS		
10	GND	GND	

MicroSD Slot

Type: 49225-0821 (Molex)

Pin No.	Symbol	Description	Note
1	SD_D2		
2	SD_D3		
3	SD_CMD		
4	VCC	3.3V DC	
5	SD_CLK		
6	GND	GND	
7	SD_D0		
8	SD_D1		
9	GND	GND	
10	SD_CD		

EPD Connector 8 bit

Type: 39FXL-RSM1-S-H-TB

Pin No.	Symbol	Description	Note
1	VNEG	Negative power supply source driver	
2	VPOS	Positive power supply source driver	
3	VSS	VSS Ground	
4	VDD	Digital power supply drivers	
5	XCL	Clock source driver	
6	XLE	Latch enable source driver	
7	XOE	Output enable source driver	
8	VSS	VSS Ground	
9	VSS	VSS Ground	NC*
10	VDD	Digital power supply drivers	NC*
11	STL	Start pulse source driver	
12	D0	Data signal source driver	
13	D1	Data signal source driver	
14	D2	Data signal source driver	
15	D3	Data signal source driver	
16	D4	Data signal source driver	
17	D5	Data signal source driver	
18	D6	Data signal source driver	

Pin No.	Symbol	Description	Note
19	D7	Data signal source driver	
20	NC	No connection	
21	NC	No connection	
22	VCOM	Common connection	
23	VGG	Positive power supply gate driver	
24	VEE	Negative power supply gate driver	
25	NC	No connection	
26	NC	No connection	
27	NC	No connection	MODE1*
28	MODE1	Output mode selection gate driver	
29	VSS	VSS Ground	RL*
30	VSS	VSS Ground	VDD*
31	VSS	VSS Ground	
32	STV	Start pulse gate driver	
33	CKV	Clock gate driver	
34	BORDER	Border connection	
35	VSS	VSS Ground	VDD*
36	VSS	VSS Ground	VDD*
37	VSS	VSS Ground	
38	VSS	VSS Ground	
39	NC	No connection	

EPD Connector 16 bit

Type: FH26W-39S-0.3SHW

Pin No.	Symbol	Description	Note
1	VNEG	Negative power supply source driver	
2	VPOS	Positive power supply source driver	
3	VCOM	Common connection	
4	VSS	VSS Ground	
5	VSS	VSS Ground	
6	CKH	Clock source driver	
7	VSS	VSS Ground	
8	LEH	Latch enable source driver	
9	OEH	Output enable source driver	
10	STH	Start pulse source driver	
11	VSS	VSS Ground	
12	D0	Data signal source driver	
13	D1	Data signal source driver	
14	D2	Data signal source driver	
15	D3	Data signal source driver	
16	D4	Data signal source driver	

Pin No.	Symbol	Description	Note
17	D5	Data signal source driver	
18	D6	Data signal source driver	
19	D7	Data signal source driver	
20	VSS	VSS Ground	
21	D8	Data signal source driver	
22	D9	Data signal source driver	
23	D10	Data signal source driver	
24	D11	Data signal source driver	
25	D12	Data signal source driver	
26	D13	Data signal source driver	
27	D14	Data signal source driver	
28	D15	Data signal source driver	
29	VSS	VSS Ground	
30	MODE1	Output mode selection gate driver	
31	STV	Start pulse gate driver	
32	CKV	Clock gate driver	
33	BORDER	Border connection	
34	VSS	VSS Ground	
35	VDD	Digital power supply drivers	
36	VSS	VSS Ground	
37	VSS	VSS Ground	
38	VEE	Negative power supply gate driver	
39	VGG	Positive power supply gate driver	

EPD Connector for 6 inch

Type: AXT534124

Pin No.	Symbol	Description	Note
1	VNEG	Negative power supply source driver	
2	VPOS	Positive power supply source driver	
3	VNEG	Negative power supply source driver	
4	VPOS	Positive power supply source driver	
5	VDD	Digital power supply drivers	
6	VSS	VSS Ground	
7	VDD	Digital power supply drivers	
8	VSS	VSS Ground	
9	CKH	Clock source driver	
10	LEH	Latch enable source driver	
11	OEH	Output enable source driver	
12	STL	Start pulse source driver	
13	D0	Data signal source driver	
14	D1	Data signal source driver	

Pin No.	Symbol	Description	Note
15	D2	Data signal source driver	
16	D3	Data signal source driver	
17	D4	Data signal source driver	
18	D5	Data signal source driver	
19	D6	Data signal source driver	
20	D7	Data signal source driver	
21	VCOM	Common connection	
22	SPI_SCL		NC*
23	VCOM	Common connection	
24	SPI_SDI		NC*
25	VGG	Positive power supply gate driver	
26	MODE1	Output mode selection gate driver	
27	VEE	Negative power supply gate driver	
28	CKV	Clock gate driver	
29	VEE	Negative power supply gate driver	
30	SPV	Start pulse gate driver	
31	VSS	VSS Ground	NC*
32	BORDER	Border connection	
33	SPI_CS		NC*
34	SPI_SDO		NC*

Button SW1

Function “Left” or “Previous picture”.

Button SW2

Function “Menu” or “Select”.

Button SW3

Function “Right” or “Next picture”.

Button “Boot”

Function of the bootloader. The button has to be pushed during update over USB interface. For the next release of the PCB the button will be exchanged by switch.

Button “Reset”

Function of the manual reset for the microcontroller of the board.

Switch S1 “Power”

Power switch for the microcontroller and whole periphery of the board. Battery and USB VCC are not included in the circuit, managed by the switch, and work undependable.

Remark: the board is still under development. Some functions are not supported yet. The specification is for information goals only. Changes and updates are possible. Announced extension functions will be implemented later.