SL-TFT7-TP-600-1024-LVDS Datasheet and Pinout

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Display module SL-TFT7-TP-600-1024-LVDS Datasheet and Pinout

General description

The SL-TFT7-TP-600-1024-LVDS is complete display TFT-LCD (1024x600 pixels) module integrated with capactive touch-panel. Module is powered from +5V @800mA (max.), the data interface is LVDS + I2C (for touch-panel controller). SL-TFT7-TP-600-1024-LVDS module is equipped with 22-pin flat cable (A-B), compatible with selected SoMLabs carrier-boards and video converters.

Features

- Powered by Riverdi RVT70HSLNWC00 TFT module covered with protective glass
- Intergated flexible signal cable
- Display size 7 inches
- Display LCD matrix 1024x600 px
- Capacitive touch-panel + TP controller
- LVDS interface
- Single supply +5V (all necessary DC/DC converters are built-in)
- Backlight LEDs built-in
- Compatible with SoMLabs carrier boards equipped with LVDS video interface

Ordering info

SL-TFT7-TP-600-1024-LVDS - FPC 22-pin flat cable (A-B) is included.

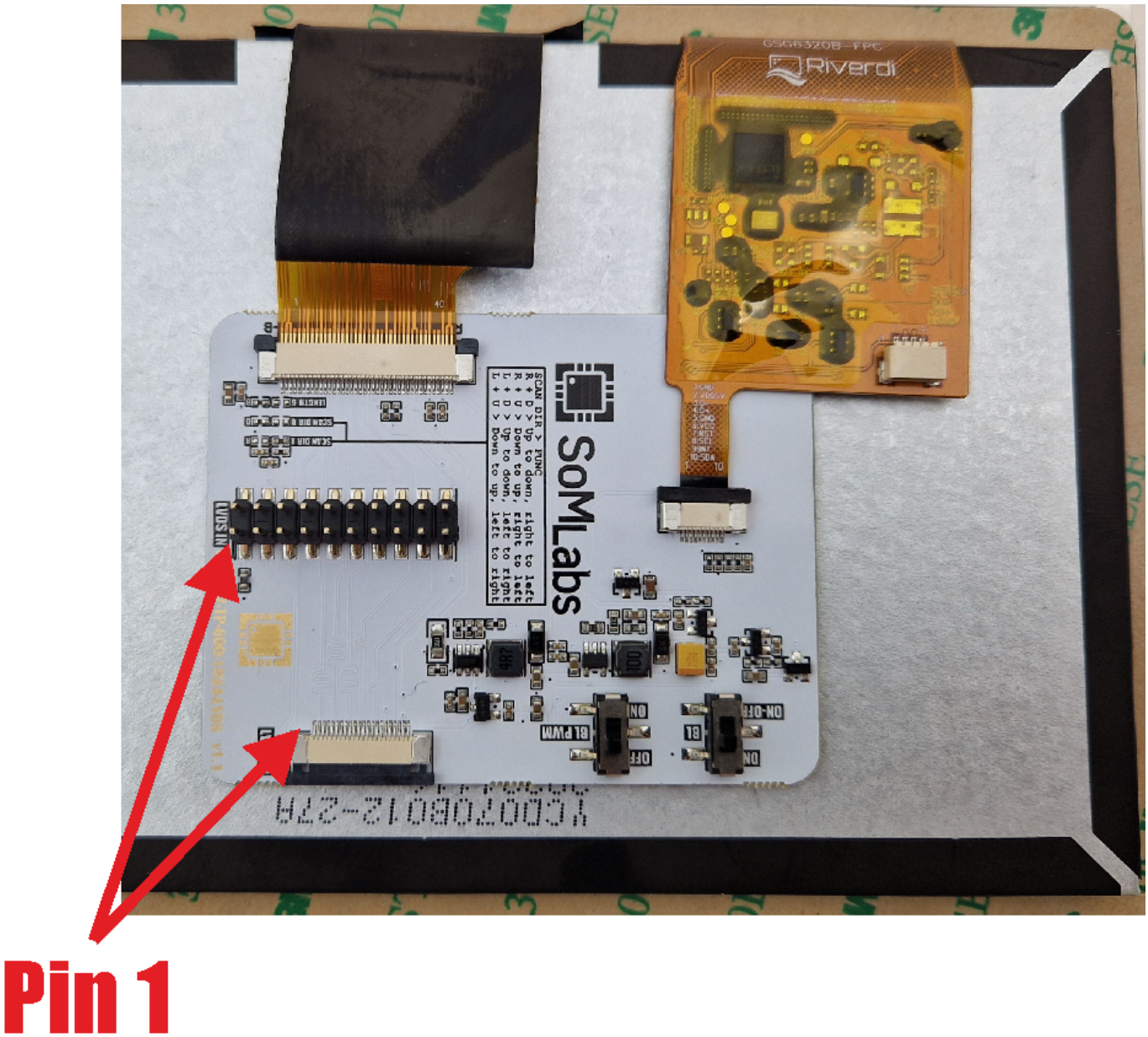
Operating ranges

Parameter	Value	Unit	Comment
Power Supply	5	V	-
Current	0.8	A	Maximum value, depends on displayed picture and backlight intensity
Video input voltage	LVDS levels	V	
Touch panel controller IO voltage	3.3	V	I2C interface, 2.2kΩ pull-up resistor on SDA and SCL lines
Environment temperature	-20...+70	°C	-

Electrical parameters

Signal name	Parameter	Value			Units
		Min.	Typ.	Max.	
V_{PWR}	Power Enable Input Voltage	4.8	5.0	5.2	V
I_{PWR}	Total Supply Current	570	650	800	mA
V_{TP}	TP Controller IO Voltage	0	3.3	3.6	V
V_{PWREN}	Power Enable Input Voltage	0	-	5.0	V
V_{PWMIN}	Power Enable Input Voltage	0	-	3.6	V
f_{TPI2C}	TP Controller I2C Speed	-	-	400	kHz
R_{INT}	Interrupt Output Pull-up Resistance	-	10	-	kΩ
R_{PWREN}	Power Enable Pull-up Resistance	-	10	-	kΩ
R_{TPI2C}	Touch Panel Controller I2C IOs Pull-up Resistance	-	2.2	-	kΩ
f_{PWM}	Recommended PWM signal frequency	2	2.5	4	kHz

Pinout



IDC20 connector

Connector pin	Function name	Description
1	+5V	Power supply
2	+5V	Power supply
3	PWREN[1]	Backlight power enable input (10kOhm pull-down)
4	PWMIN[2]	Backlight brightness input (PWM)
5	GND	-
6	GND	-
7	RXIN0-	Data lane 0 negative
8	RXIN0+	Data lane 0 positive

9	RXIN1-	Data lane 1 negative
10	RXIN1+	Data lane 1 positive
11	RXIN2-	Data lane 2 negative
12	RXIN2+	Data lane 2 positive
13	GND	-
14	GND	-
15	RXCLK-	Data clock negative
16	RXCLK+	Data clock positive
17	RXIN3-	Data lane 3 negative
18	RXIN3+	Data lane 3 positive
19	TP_SCL	Touch panel controller SCL (2.2kOhm pull-up, TTL-LV)
20	TP_SDA	Touch panel controller SDA (2.2kOhm pull-up, TTL-LV)

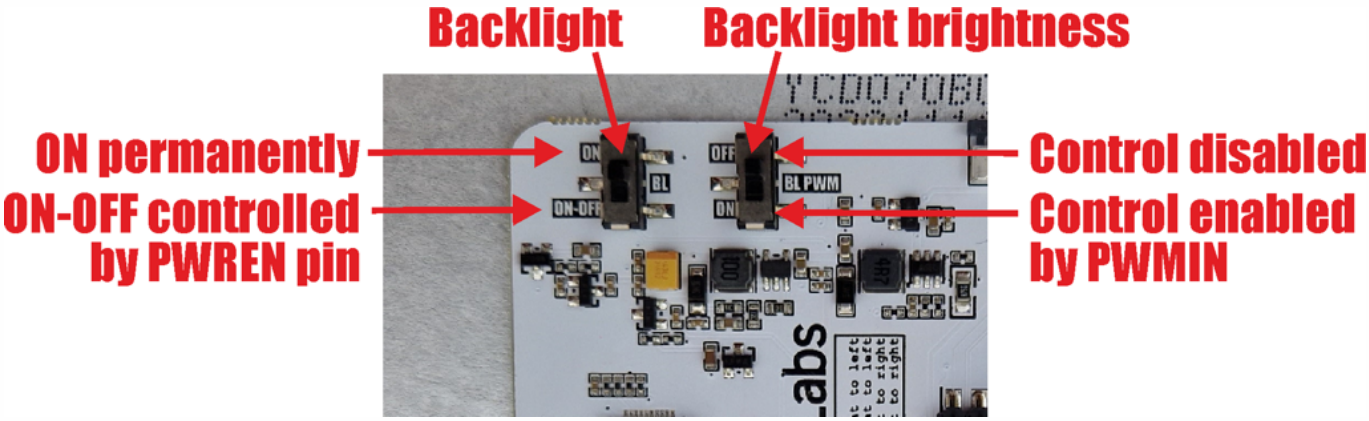
Note:
1. PWREN is external signal input that can be disconnected from DC/DC converter with on-board switch (vide section Switches)
2. PWMIN is external signal input that can be disconnected from DC/DC converter with on-board switch (vide section Switches)
3. **Signal TP_INT is not available in the connector IDC20**. In some cases touch-panel controller may not work properly.
4. Connector IDC20 is compatible with IDC18 connector of MIPI-DSI/LVDS converter (SL-MIPI-LVDS-HDMI-CNV), excluding pins 19 and 20 (touch-panel controller I2C interface).

FPC22 connector

Connector pin	Function name	Description
1	GND	-
2	RXIN0-	Data lane 0 negative
3	RXIN0+	Data lane 0 positive
4	GND	-
5	RXIN1-	Data lane 1 negative
6	RXIN1+	Data lane 1 positive
7	GND	-
8	RXIN2-	Data lane 2 negative
9	RXIN2+	Data lane 2 positive
10	GND	-
11	RXCLK-	Data clock negative
12	RXCLK+	Data clock positive
13	GND	-
14	RXIN3-	Data lane 3 negative
15	RXIN3+	Data lane 3 positive
16	PWREN[1]	Backlight power enable input (10kOhm pull-down)
17	PWMIN[2]	Backlight brightness input (PWM)
18	TP_INT	Touch panel interrupt (10kOhm pull-up, TTL-LV)
19	TP_SCL	Touch panel controller SCL (2.2kOhm pull-up, TTL-LV)
20	TP_SDA	Touch panel controller SDA (2.2kOhm pull-up, TTL-LV)
21	+5V	Power supply
22	+5V	Power supply

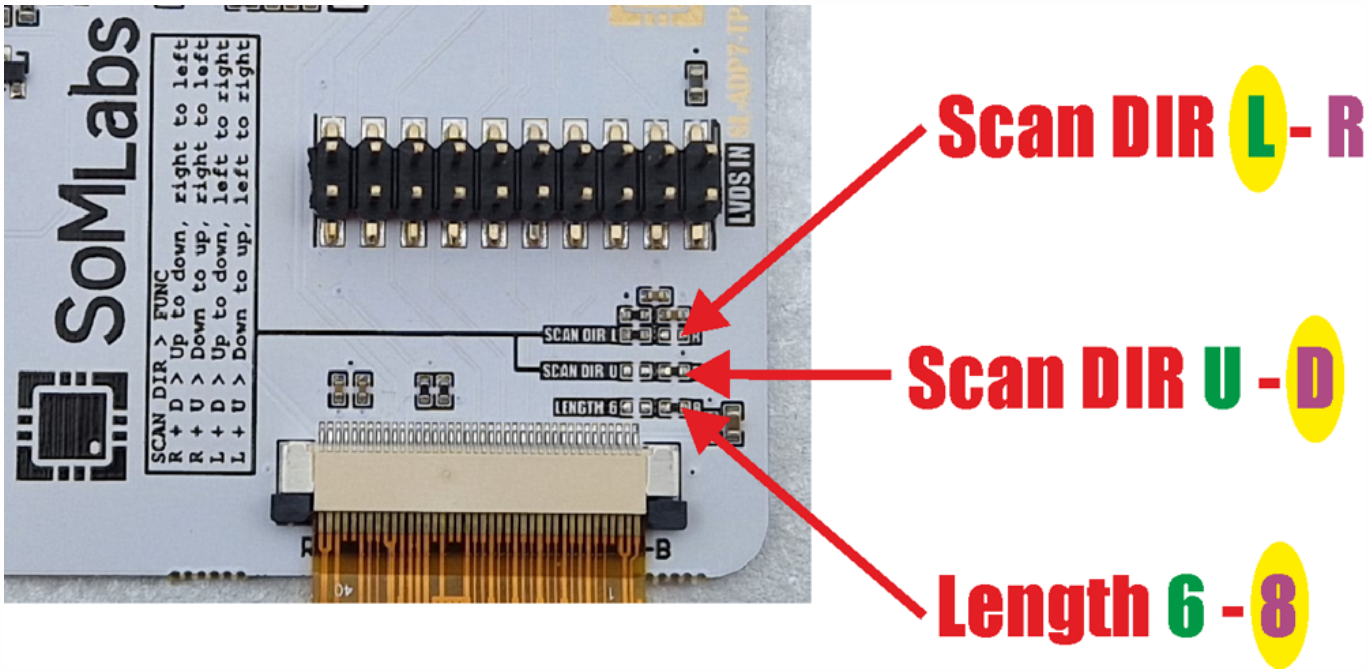
Note:
1. PWREN is external signal input that can be disconnected from DC/DC converter with on-board switch (vide section Switches)
2. PWMIN is external signal input that can be disconnected from DC/DC converter with on-board switch (vide section Switches)

Switches



Note:
1. Switch marked BL allows to control on-board backlight DC/DC converter: LEDs can be on permanently (position ON) or cotrolled by logic state of PWREN signal (position ON-OFF, ON if PWREN=1 and OFF if PWREN=0)
2. Switch marked BL PWM allows to change backlight brightness using external PWM signal connected to PWMIN signal. Recommended PWM frequency >=2kHz.

Hardware configuration options



Note:
1. In yellow are marked default settings.
2. Marked in green are options available in "left" position of jumpers.
3. Marked in purple are options available in "right" position of jumpers.
4. Details of configurations are available in RVT70HSLNWC00 module datasheet[1].

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