Two vertical bars on the left side of the page: a yellow one on top and a green one below it.

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

Rev. 20230324121015

Source URL: http://wiki.somlabs.com/index.php/SL-TFT7-TP-600-1024-MIPI_Datasheet_and_Pinout

Table of Contents

General description	1
Features	3
Ordering info	4
Operating ranges	5
Electrical parameters	6
Pinout	7
Switches	9
Hardware configuration options	10

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

General description



The SL-TFT7-TP-600-1024-MIPI is complete display TFT-LCD (1024x600 pixels) module integrated with capacitive touch-panel.

Module is powered from +5V @800mA (max.), the data interface is MIPI-DSI + I2C (for touch-panel controller). SL-TFT7-TP-600-1024-MIPI module is equipped with 30-pin flat cable (A-A) and is compatible with selected SoMLabs carrier-boards and video converters.

Features

- Powered by Riverdi RVT70HSMNWC00 TFT module covered with protective glass
- Intergated flexible signal cable
- Display size 7 inches
- Display LCD matrix 1024x600 px
- Capacitive touch-panel + TP controller
- MIPI-DSI interface
- Dual supply +3.3V and +5V (all necessary DC/DC converters are built-in)
- Backlight LEDs built-in
- Compatible with SoMLabs carrier boards equipped with MIPI-DSI video interface

Ordering info

SL-TFT7-TP-600-1024-MIPI v1.1 - FPC 30-pin flat cable (A-A) is included.

Operating ranges

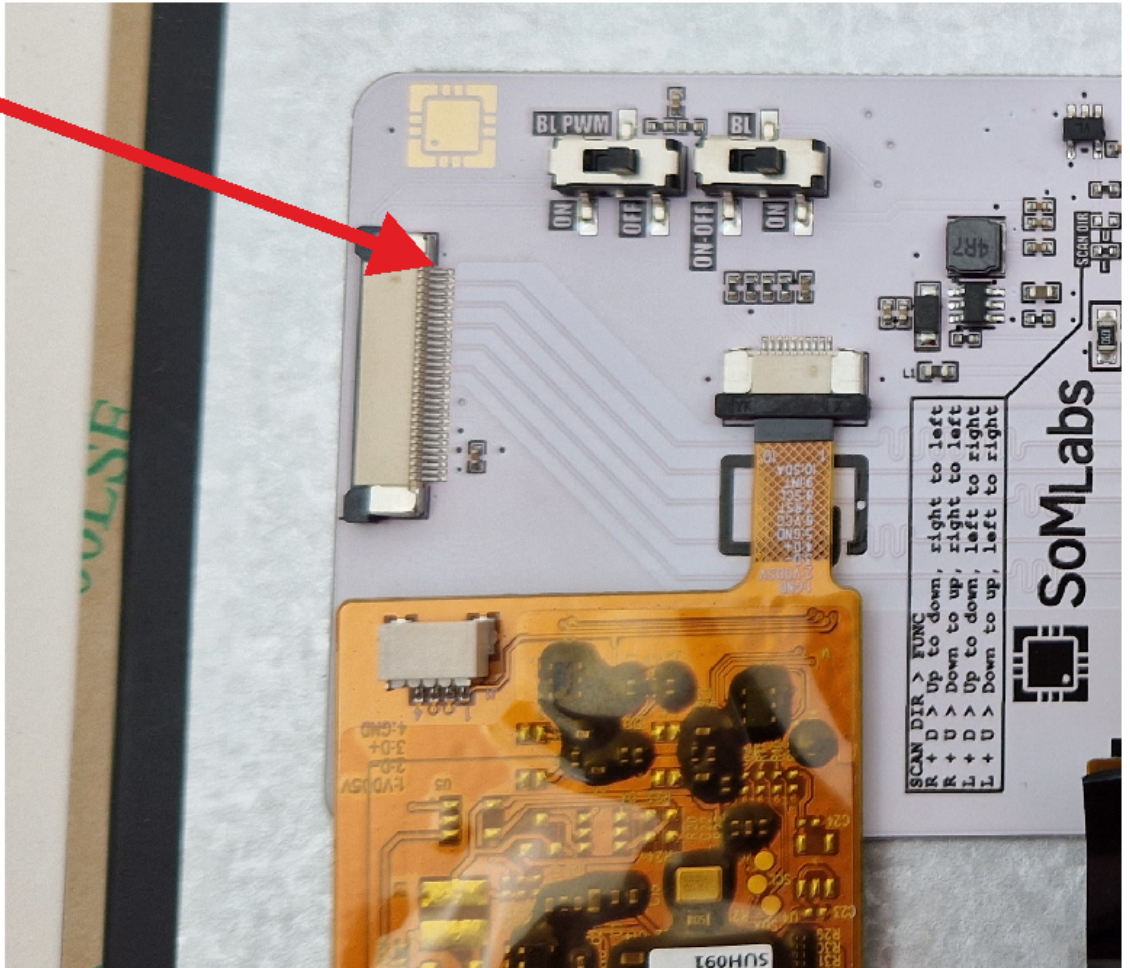
Parameter	Value	Unit	Comment
Power Supply	5	V	-
Current	0.8	A	Maximum value, depends on displayed picture and backlight intensity
Video input voltage	MIPI-DSI levels	V	
Touch panel controller IO voltage	3.3	V	I2C interface, 2.2k Ω pull-up resistor on SDA and SCL lines
Environment temperature	-20...+70	$^{\circ}$ C	-

Electrical parameters

Signal name	Parameter	Value			Units
		Min.	Typ.	Max.	
V_{PWR5V}	Power Enable Input Voltage	4.8	5.0	5.2	V
V_{PWR3V3}	Power Enable Input Voltage	3.2	3.3	3.5	V
I_{PWR5V}	Total Supply Current	500	520	600	mA
I_{PWR3V3}	Total Supply Current	100	135	200	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	-	k Ω
R_{PWREN}	Power Enable Pull-up Resistance	-	10	-	k Ω
R_{TPI2C}	Touch Panel Controller I2C IOs Pull-up Resistance	-	2.2	-	k Ω
f_{PWM}	Recommended PWM signal frequency	2	2.5	4	kHz

Pinout

Pin 1



FPC30 connector

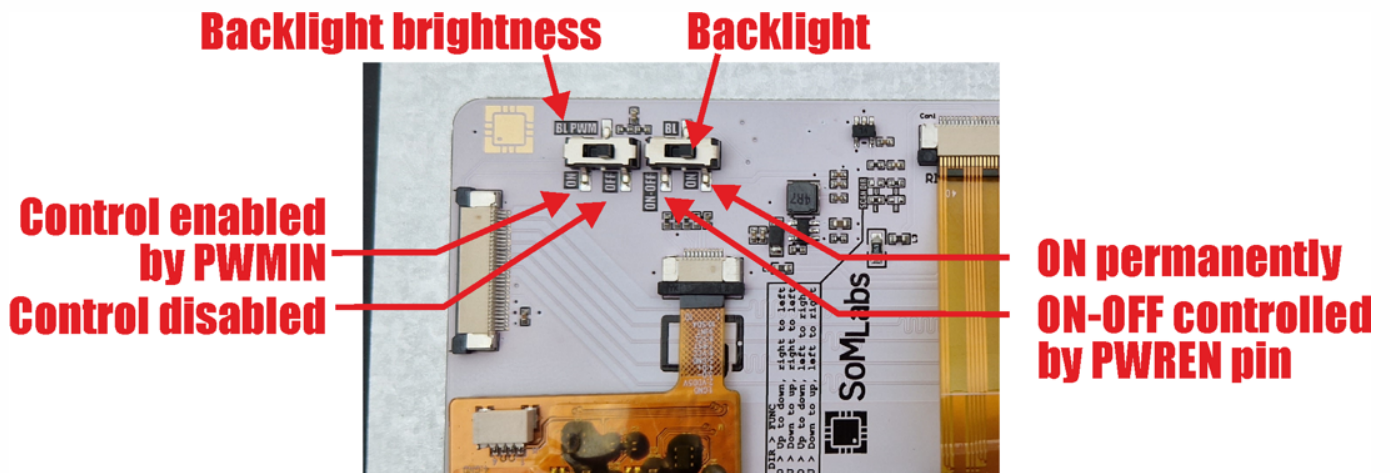
Connector pin	Function name	Description
1	GND	-
2	MIPI_CLK_p	Data clock positive
3	MIPI_CLK_n	Data clock negative
4	GND	-
5	MIPI_D0_p	Data lane 0 positive
6	MIPI_D0_n	Data lane 0 negative
7	GND	-
8	MIPI_D1_p	Data lane 1 positive
9	MIPI_D1_n	Data lane 1 negative
10	GND	-
11	MIPI_D2_p	Data lane 2 positive
12	MIPI_D2_n	Data lane 2 negative
13	GND	-
14	MIPI_D3_p	Data lane 3 positive

15	MIPI_D3_n	Data lane 3 negative
16	GND	-
17	TP_SCL	Touch panel controller SCL (2.2kOhm pull-up, TTL-LV)
18	TP_SDA	Touch panel controller SDA (2.2kOhm pull-up, TTL-LV)
19	GND	-
20	DISP_CTRL_RES	Optional display controller reset input (10kOhm pull-up, TTL-LV, active low)
21	TP_INT	Touch panel interrupt (10kOhm pull-up, TTL-LV)
22	TP_RES	Optional touch-panel controller reset input (10kOhm pull-up, TTL-LV, active low)
23	GND	-
24	+3.3V	Power supply for logic (display and touch-panel controllers)
25	+3.3V	Power supply for logic (display and touch-panel controllers)
26	+5V	Power supply for backlight
27	+5V	Power supply for backlight
28	PWMIN ₁	Backlight brightness input (PWM)
29	PWREN ₂	Backlight power enable input (10kOhm pull-down)
30	GND	-

Note:

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

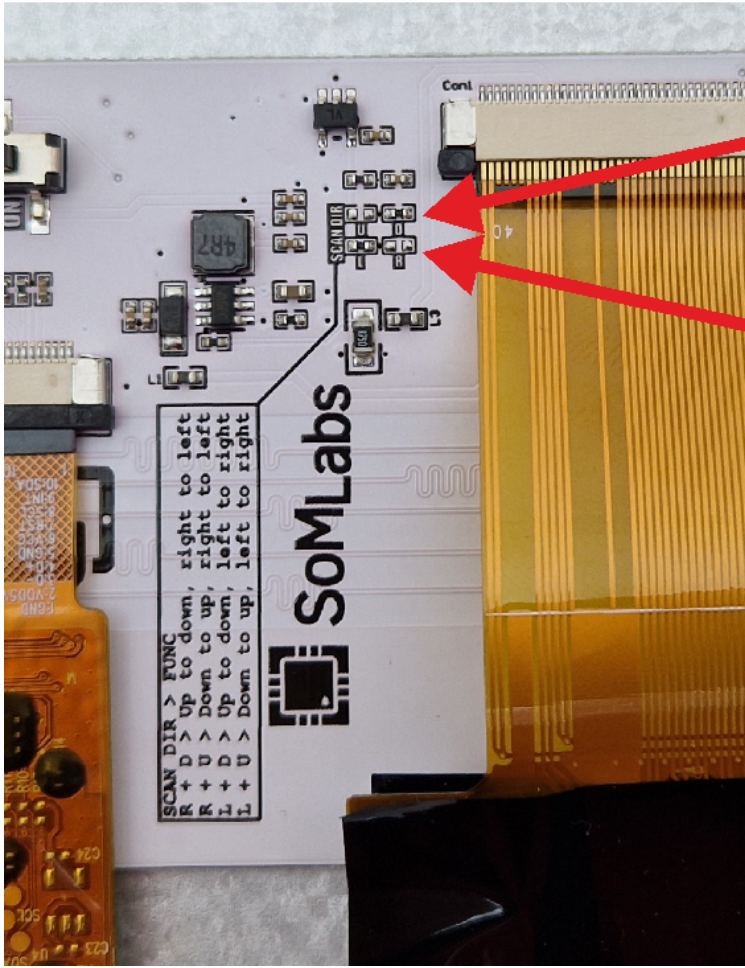
Switches



Note:

1. Switch marked BL allows to control on-board backlight DC/DC converter: LEDs can be on permanently (position ON) or controlled 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 $\geq 2\text{kHz}$.

Hardware configuration options



Scan DIR **U** - **D**

Scan DIR **L** - **R**

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 RVT70HSMNWC00 module datasheet[\[1\]](#).



SoMLabs

Lwowska 5
05-120 Legionowo
Poland
Tel. +48 22 767 36 20
Email: contact@somlabs.com
<http://somlabs.com>

Disclaimer: The information in this document is provided in connection with SoMLabs products. No license, express or implied, to any intellectual property right is granted by this document or in connection with the sale of SoMLabs products. SoMLabs makes no representations or warranties with respect to the accuracy or completeness of the contents of this document and reserves the right to make changes to specifications and products descriptions at any time without notice. SoMLabs does not make any commitment to update the information contained herein.