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# SL-TFT7-TP-800-480 Datasheet and Pinout

Rev. 20190607120114

Source URL: [http://wiki.somlabs.com/index.php/SL-TFT7-TP-800-480\\_Datasheet\\_and\\_Pinout](http://wiki.somlabs.com/index.php/SL-TFT7-TP-800-480_Datasheet_and_Pinout)

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## Display module SL-TFT7-TP-800-480 Datasheet and Pinout

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### General description



 **POWERTIP**

SL-TFT7-TP-800-480 is complete display TFT-LCD (800x480 pixels) module integrated with capacitive touch-panel. Module is powered from +5V @400mA, data interface is 24-bit parallel RGB + I2C (for touch-panel controller). SL-TFT7-TP-800-480 module is equipped with FPC50 connector, 1:1 compatible with VisionCB-STD v.1.0 and VisionCB-STD v.1.4. SoMLabs also provides a complete hardware and software development board for the SoM in the form of a carrier board and optional TFT display and touch-panel.

## Features

- Powered by Powertip PH800480T013-IBC15 LCD-TFT
- Display size 7 inches
- Display LCD matrix 800x480 px
- Capacitive touch-panel + TP controller
- 24-b RGB parallel interface
- Single supply +5V (DC/DC converters built-in)
- Backlight LEDs built-in
- Compatible with SoMLabs carrier boards:
  - VisionCB-STD v.1.0
  - VisionCB-STD v.1.4

## Multimedia

## Pictures



 **POWER TIP**





 SoMLabs **SOM – System on Module • Ready to use solution** 



**VisionCB-STD**

- Low Cost Starter Kit for i.MX6ULL
- Arduino Connector
- Raspberry Pi Connector
- RGB Display Interface
- Connectivity USB and Ethernet



**TFT from  POWER TIP**

- PH800480T013-IBC15
- TFT with capacitive touch panel
- Resolution: 800 x 480 dots
- 24 bit RGB interface
- Screen size 7.0 inch
- Touch panel with I/C output interface

**VisionSOM-6ULL**

**eMMC**



- NXP i.MX6ULL Cortex A7 (up to 800MHz)
- 512MB eMMC
- RGB MIMAC
- GPU PXP v3.0 3D Graphics for LCD-TFT
- GPU PXP v3.0 3D Graphics for LCD-TFT
- I/Os & BLE
- Edge Connector SOCIM 200
- Industrial Temp. Range

**NAND**



- NXP i.MX6ULL Cortex A7 (up to 800MHz)
- 512MB eMMC
- 512MB NAND
- GPU PXP v3.0 3D Graphics for LCD-TFT
- GPU PXP v3.0 3D Graphics for LCD-TFT
- I/Os & BLE
- Edge Connector SOCIM 200
- Industrial Temp. Range

**microSD**



- NXP i.MX6ULL Cortex A7 (up to 800MHz)
- 512MB eMMC
- 512MB NAND
- GPU PXP v3.0 3D Graphics for LCD-TFT
- GPU PXP v3.0 3D Graphics for LCD-TFT
- I/Os & BLE
- Edge Connector SOCIM 200
- Industrial Temp. Range

[www.somlabs.com](http://www.somlabs.com) [www.nxp.com/imx6ull](http://www.nxp.com/imx6ull)

## Ordering info

**SL-TFT7-TP-800-480** - FPC 50-pin 15-cm flat cable (A-A) is included.



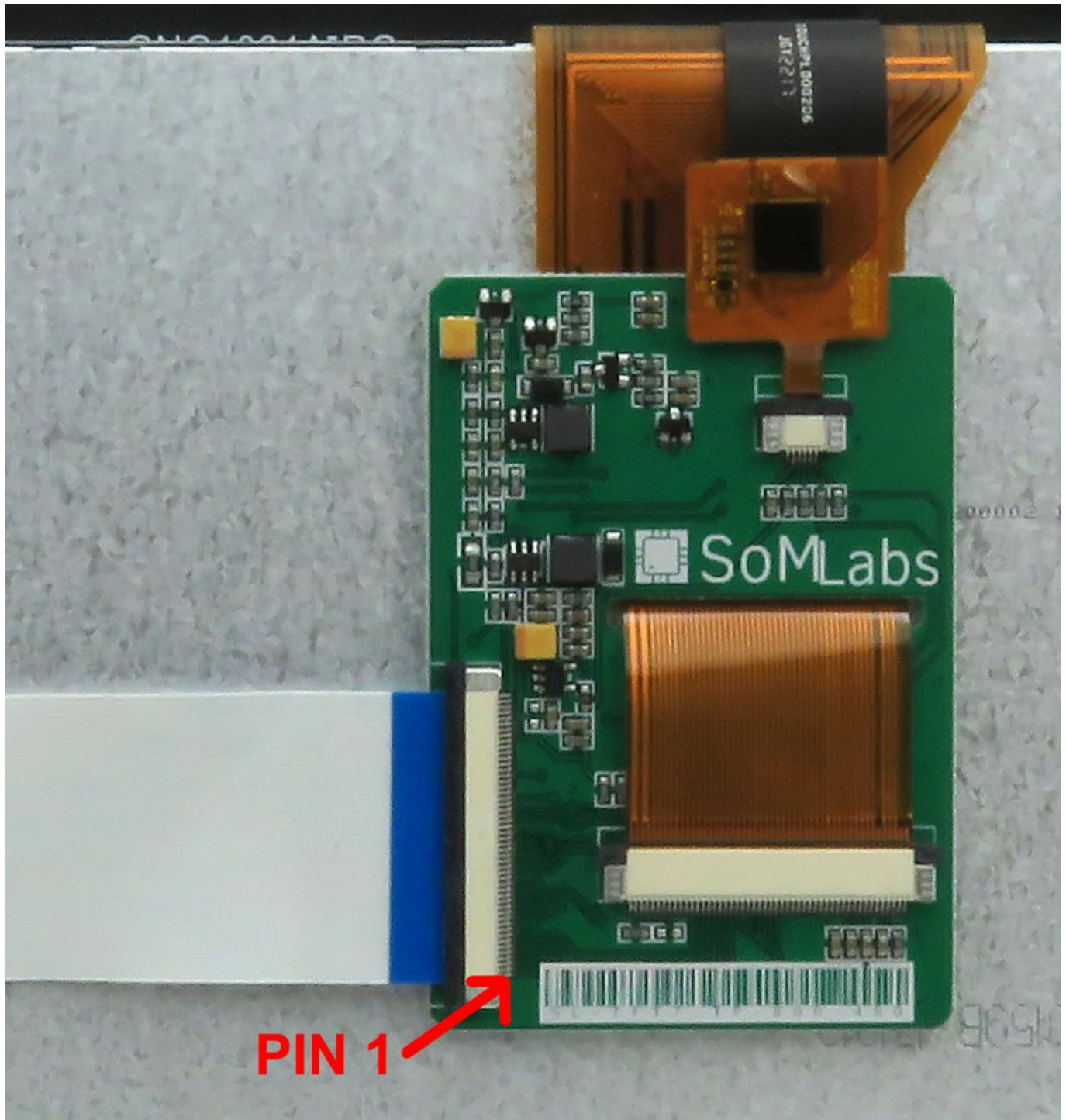
## Operating ranges

| Parameter                         | Value     | Unit | Comment                                                                   |
|-----------------------------------|-----------|------|---------------------------------------------------------------------------|
| Power Supply                      | 5.0       | V    | -                                                                         |
| Current                           | 0.4       | A    | Maximum value, depends on displayed picture and backlight light intensity |
| Video input voltage               | max. 3.3  | V    |                                                                           |
| Touch panel controller IO voltage | max. 3.3  | V    | I2C interface, 2.2k $\Omega$ pull-up resistor on SDA and SCL lines        |
| Environment temperature           | -20...+75 | °C   | -                                                                         |

## Electrical parameters

| Signal name        | Parameter                                         | Value |      |      | Units |
|--------------------|---------------------------------------------------|-------|------|------|-------|
|                    |                                                   | Min.  | Typ. | Max. |       |
| +5V                | Supply Voltage                                    | 4.0   | 5.0  | 5.5  | V     |
| -                  | Total Supply Current                              | 230   | 330  | 400  | mA    |
| V <sub>IO</sub>    | Video IO Input Voltage                            | 0     | 3.3  | 3.6  | V     |
| V <sub>TPIO</sub>  | TP Controller IO Voltage                          | 0     | 3.3  | 3.6  | V     |
| V <sub>PWREN</sub> | Power Enable Input Voltage                        | 0     | -    | 5.5  | V     |
| f <sub>TPI2C</sub> | TP Controller I2C Speed                           | -     | -    | 400  | kHz   |
| f <sub>PWM</sub>   | PWM Dimming Frequency                             | -     | -    | 1    | kHz   |
| R <sub>INT</sub>   | Interrupt Output Pull-up Resistance               | -     | 10   | -    | kΩ    |
| R <sub>PWREN</sub> | Power Enable Pull-up Resistance                   | -     | 10   | -    | kΩ    |
| R <sub>TPI2C</sub> | Touch Panel Controller I2C IOs Pull-up Resistance | -     | 2.2  | -    | kΩ    |

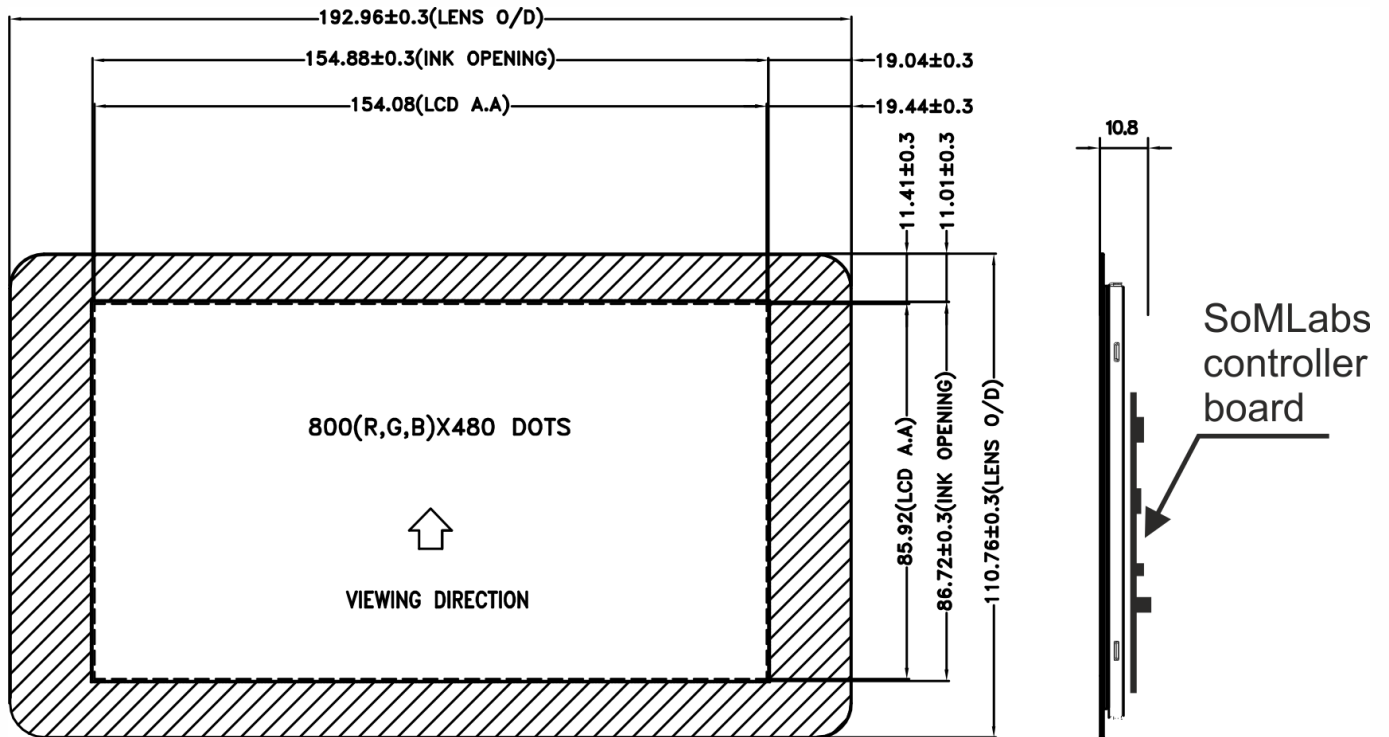
## Pinout



| FPC50 connector pin | Function name | Description  |
|---------------------|---------------|--------------|
| 1                   | B0            | Blue 0 input |
| 2                   | B1            | Blue 1 input |
| 3                   | B2            | Blue 2 input |
| 4                   | B3            | Blue 3 input |
| 5                   | B4            | Blue 4 input |

|    |         |                                                                                                                        |
|----|---------|------------------------------------------------------------------------------------------------------------------------|
| 6  | B5      | Blue 5 input                                                                                                           |
| 7  | B6      | Blue 6 input                                                                                                           |
| 8  | B7      | Blue 7 input                                                                                                           |
| 9  | GND     | Power supply                                                                                                           |
| 10 | G0      | Green 0 input                                                                                                          |
| 11 | G1      | Green 1 input                                                                                                          |
| 12 | G2      | Green 2 input                                                                                                          |
| 13 | G3      | Green 3 input                                                                                                          |
| 14 | G4      | Green 4 input                                                                                                          |
| 15 | G5      | Green 5 input                                                                                                          |
| 16 | G6      | Green 6 input                                                                                                          |
| 17 | G7      | Green 7 input                                                                                                          |
| 18 | GND     | Power supply                                                                                                           |
| 19 | R0      | Red 0 input                                                                                                            |
| 20 | R1      | Red 1 input                                                                                                            |
| 21 | R2      | Red 2 input                                                                                                            |
| 22 | R3      | Red 3 input                                                                                                            |
| 23 | R4      | Red 4 input                                                                                                            |
| 24 | R5      | Red 5 input                                                                                                            |
| 25 | R6      | Red 6 input                                                                                                            |
| 26 | R7      | Red 7 input                                                                                                            |
| 27 | GND     | Power supply                                                                                                           |
| 28 | DE      | DE display controller input                                                                                            |
| 29 | HSYNC   | HSYNC display controller input                                                                                         |
| 30 | VSYNC   | VSYNC display controller input                                                                                         |
| 31 | GND     | Power supply                                                                                                           |
| 32 | DCLK    | Main clock input (display controller)                                                                                  |
| 33 | GND     | Power supply                                                                                                           |
| 34 | -       | -                                                                                                                      |
| 35 | -       | -                                                                                                                      |
| 36 | nINT    | Touch-panel controller interrupt output (OC with 10kΩ pull-up)                                                         |
| 37 | GPIO1   | PWM signal input for backlight control (leave open if not used)                                                        |
| 38 | -       | -                                                                                                                      |
| 39 | -       | -                                                                                                                      |
| 40 | -       | -                                                                                                                      |
| 41 | -       | -                                                                                                                      |
| 42 | SCL     | Touch-panel controller SCL input (with 2.2kΩ pull-up)                                                                  |
| 43 | SDA     | Touch-panel controller SDA IO (with 2.2kΩ pull-up)                                                                     |
| 44 | GND     | Power supply                                                                                                           |
| 45 | NC      | No external connections!                                                                                               |
| 46 | NC      | No external connections!                                                                                               |
| 47 | +5V     | Power supply                                                                                                           |
| 48 | +5V     | Power supply                                                                                                           |
| 49 | nRES_TP | Touch-panel controller reset signal                                                                                    |
| 50 | PWREN   | Backlight LEDs on/off, with 10kΩ pull-up resistor (level +5V). If PWREN pin is open or connected to "1" - LEDs are on. |

## Dimensions



**SoMLabs**

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

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- Подбор аналогов;
- Консультации по применению компонента;
- Поставка образцов и прототипов;
- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.