

# PRODUCT SPECIFICATION

5.0" IPS LCD Module with RGB Interface

DT050CTFT-IPS-SHB, DT050CTFT-IPS-SHB-PTS



Revision 1.0

14 April 2025

---

Displaytech, a SEACOMP company

Phone: 1.760.918.6722

[sales@seacomp.com](mailto:sales@seacomp.com)

[www.seacomp.com](http://www.seacomp.com)

Contents of this document are subject to change without notice. No part of this document may be reproduced or transmitted in any form or by any means, electronic or physical, for any purpose, without the express written permission of Displaytech.

## Revision History

| REV | CHANGE DESCRIPTION | DATE        | APPR |
|-----|--------------------|-------------|------|
| 1.0 | Initial Release    | 14 APR 2025 | BHI  |
|     |                    |             |      |
|     |                    |             |      |
|     |                    |             |      |

## Table of Contents

|                                                  |    |
|--------------------------------------------------|----|
| 1 Overview .....                                 | 3  |
| 1.1 Applications.....                            | 3  |
| 1.2 LCD Features .....                           | 3  |
| 2 Pin Descriptions .....                         | 4  |
| 3 Specifications .....                           | 5  |
| 3.1 Absolute Maximum Ratings .....               | 5  |
| 3.2 Electrical Characteristics.....              | 5  |
| 3.3 Backlight Characteristics.....               | 6  |
| 3.3.1 LED Backlight Circuit Diagram.....         | 6  |
| 4 Timing Characteristics.....                    | 7  |
| 4.1 RGB Interface .....                          | 7  |
| 4.4 CTP Power Sequence.....                      | 9  |
| 5 Optical Characteristics .....                  | 9  |
| 5.1 Figures .....                                | 10 |
| 6 Environmental/Reliability Testing.....         | 12 |
| 6.1 Inspection Criteria .....                    | 12 |
| 7 Precautions for Use of LCD Modules.....        | 13 |
| 7.1 Safety .....                                 | 13 |
| 7.2 Handling .....                               | 13 |
| 7.3 Static electricity .....                     | 13 |
| 7.4 Storage.....                                 | 13 |
| 7.5 Cleaning .....                               | 13 |
| 7.6 Cautions for installation and assembly ..... | 13 |
| 8 Mechanical Drawings .....                      | 14 |
| 8.1 DT050CTFT-IPS-SHB.....                       | 14 |
| 8.2 DT050CTFT-IPS-SHB-PTS .....                  | 15 |

## 1 Overview

The **DT050CTFT-IPS-SHB** and **DT050CTFT-IPS-SHB-PTS** are 5.0" color IPS LCD modules with wide formfactor. Each composed of an LCD panel, display drivers, FPC display cable with RGB interface, and adjustable LED backlight unit. The display's active area has a resolution of 800 x 480 pixels. The DT050CTFT-IPS-SHB-PTS, is equipped with an additional capacitive touch panel.

### 1.1 Applications

- Industrial devices
- Consumer devices
- Medical devices

### 1.2 LCD Features

| Model No.           |                         | DT050CTFT-IPS-SHB       | DT050CTFT-IPS-SHB-PTS   |
|---------------------|-------------------------|-------------------------|-------------------------|
| <b>LCD Panel</b>    | Display Size            | 5.0"                    | 5.0"                    |
|                     | Resolution              | 800 (RGB) x 480         | 800 (RGB) x 480         |
|                     | Viewing Angle (U/D/L/R) | 80° / 80° / 80° / 80°   | 80° / 80° / 80° / 80°   |
|                     | Brightness              | 1,000 cd/m <sup>2</sup> | 850 cd/m <sup>2</sup>   |
|                     | Backlight Life          | 30,000 hrs              | 30,000 hrs              |
|                     | Contrast Ratio          | 1000:1                  | 1000:1                  |
|                     | Response Time           | 30 ms                   | 30 ms                   |
|                     | Voltage                 | 3.3 V Power             | 3.3 V Power             |
|                     | Signal Interface        | 24-bit RGB              | 24-bit RGB              |
|                     | Dimension (W x H x D)   | 114 x 75 x 2.95 mm      | 114 x 78 x 5.00 mm      |
| <b>Touch Screen</b> | Touch Screen            | N/A                     | Capacitive Touch Screen |
|                     | Signal Interface        |                         | I <sup>2</sup> C        |
|                     | Surface Hardness        |                         | ≥ 7H                    |
| <b>Environment</b>  | Operating Temperature   | -20°C to +70°C          | -20°C to +70°C          |
|                     | Storage Temperature     | -30°C to +80°C          | -30°C to +80°C          |

## 2 Pin Descriptions

| LCD INTERFACE |                       |      |                                                                           |
|---------------|-----------------------|------|---------------------------------------------------------------------------|
| PIN           | NAME                  | TYPE | DESCRIPTION                                                               |
| 1             | LED-A                 | PWR  | LED backlight, anode                                                      |
| 2~4           | LED-K                 | PWR  | LED backlight, cathode                                                    |
| 5             | VDD                   | PWR  | Power supply                                                              |
| 6             | R0                    | I    | 8 bit data bus display Red data                                           |
| ...           | ...                   | ...  |                                                                           |
| 13            | R7                    | I    |                                                                           |
| 14            | G0                    | I    | 8 bit data bus display Green data                                         |
| ...           | ...                   | ...  |                                                                           |
| 21            | G7                    | I    |                                                                           |
| 22            | B0                    | I    | 8 bit data bus display Blue data                                          |
| ...           | ...                   | ...  |                                                                           |
| 29            | B7                    | I    |                                                                           |
| 30            | GND                   | PWR  | Ground                                                                    |
| 31            | DOTCLK                | I    | Dot clock signal for RGB interface operation.                             |
| 32            | DISP                  | I    | Set the display mode                                                      |
| 33            | HSYNC                 | I    | Horizontal (Line) synchronizing input signal for RGB interface operation. |
| 34            | VSYNC                 | I    | Vertical (Frame) synchronizing input signal for RGB interface operation.  |
| 35            | DE(ENABLE)            | I    | Data enable signal for RGB interface operation.                           |
| 36            | TP_GND <sup>1</sup>   | PWR  | CTP Power ground                                                          |
| 37            | TP_RST <sup>1</sup>   | I    | CTP Reset pin                                                             |
| 38            | TP_INT <sup>1</sup>   | O    | CTP Interrupt signal                                                      |
| 39            | TP_SDA <sup>1</sup>   | IO   | CTP Data signal                                                           |
| 40            | TP_SCL <sup>1</sup>   | I    | CTP Clock signal.                                                         |
| 41            | TP_IOVCC <sup>1</sup> | PWR  | CTP I/O power supply                                                      |
| 42            | TP_VDD <sup>1</sup>   | PWR  | CTP Power supply                                                          |
| 43~45         | NC                    |      | Not Connected                                                             |

<sup>1</sup> Only DT050CTFT-IPS-SHB-PTS. For DT050CTFT-IPS-SHB, these pins are Not Connected (NC).

## 3 Specifications

### 3.1 Absolute Maximum Ratings

Operation outside of the maximum ratings listed below may result in permanent damage to the LCD.

| ELECTRICAL           |                  |      |                         |      |
|----------------------|------------------|------|-------------------------|------|
| PARAMETER            |                  | MIN  | MAX                     | UNIT |
| Supply Voltage       | V <sub>DD</sub>  | -0.3 | 4.0                     | V    |
| Logic Input Voltage  | V <sub>IN</sub>  | -0.3 | V <sub>DDIO</sub> + 0.3 | V    |
| Logic Output Voltage | V <sub>OUT</sub> | -0.3 | V <sub>DDIO</sub> + 0.3 | V    |

| ENVIRONMENTAL         |                 |     |     |      |
|-----------------------|-----------------|-----|-----|------|
| PARAMETER             |                 | MIN | MAX | UNIT |
| Operating Temperature | T <sub>OP</sub> | -20 | +70 | °C   |
| Storage Temperature   | T <sub>ST</sub> | -30 | +80 | °C   |

### 3.2 Electrical Characteristics

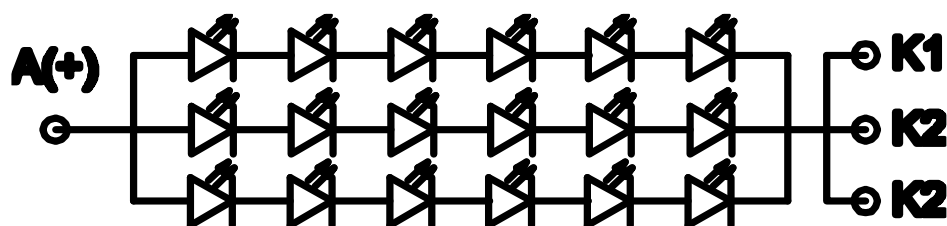
| POWER          |                 |     |     |      |      |
|----------------|-----------------|-----|-----|------|------|
| PARAMETER      |                 | MIN | TYP | MAX  | UNIT |
| Supply Voltage | V <sub>DD</sub> | 3.3 | –   | 3.45 | V    |
| Supply Current | I <sub>DD</sub> | –   | –   | TBD  | mA   |

| LOGIC                |                 |                         |     |                         |      |
|----------------------|-----------------|-------------------------|-----|-------------------------|------|
| PARAMETER            |                 | MIN                     | TYP | MAX                     | UNIT |
| Input Voltage, High  | V <sub>IH</sub> | 0.7 x V <sub>DDIO</sub> | –   | V <sub>DDIO</sub>       | V    |
| Input Voltage, Low   | V <sub>IL</sub> | 0                       | –   | 0.3 x V <sub>DDIO</sub> | V    |
| Output Voltage, High | V <sub>OH</sub> | 0.8 x V <sub>DDIO</sub> | –   | V <sub>DDIO</sub>       | V    |
| Output Voltage, Low  | V <sub>OL</sub> | 0                       | –   | 0.2 x V <sub>DDIO</sub> | V    |

### 3.3 Backlight Characteristics

| LED BACKLIGHT             |         |      |        |      |      |                     |
|---------------------------|---------|------|--------|------|------|---------------------|
| PARAMETER                 |         | MIN  | TYP    | MAX  | UNIT | Remark              |
| Forward Current           | $I_F$   | –    | 60     | –    | mA   | 6 LEDs              |
| Forward Voltage           | $V_F$   | 16.2 | 18.3   | 19.8 | V    | 6 LEDs              |
| Reverse Current           | $I_r$   | –    | –      | 25   | uA   | $V_r=5.0V$ , 1LED   |
| Luminous Tolerance        | $I_v-m$ | 80   | –      | –    | %    | $(\min/\max)*100\%$ |
| Power dissipation         | $P_d$   | –    | –      | –    | mW   | 18 LEDs             |
| Reverse voltage           | $V_R$   | –    | –      | 5    | V    | 1 LED               |
| LED Lifetime <sup>2</sup> | –       | –    | 30,000 | –    | Hr   |                     |

#### 3.3.1 LED Backlight Circuit Diagram



**Figure 1** Backlight  
3 x 6 = 18 LEDs,  $I_F = 60$  mA

<sup>2</sup> LED lifetime is defined as the amount of time it takes for brightness to decrease to 50% of its original value at  $T_A=25^\circ\text{C}$  and  $I_F=60\text{mA}$ . LED lifetime may decrease if operating current,  $I_F$ , is higher than 60mA.

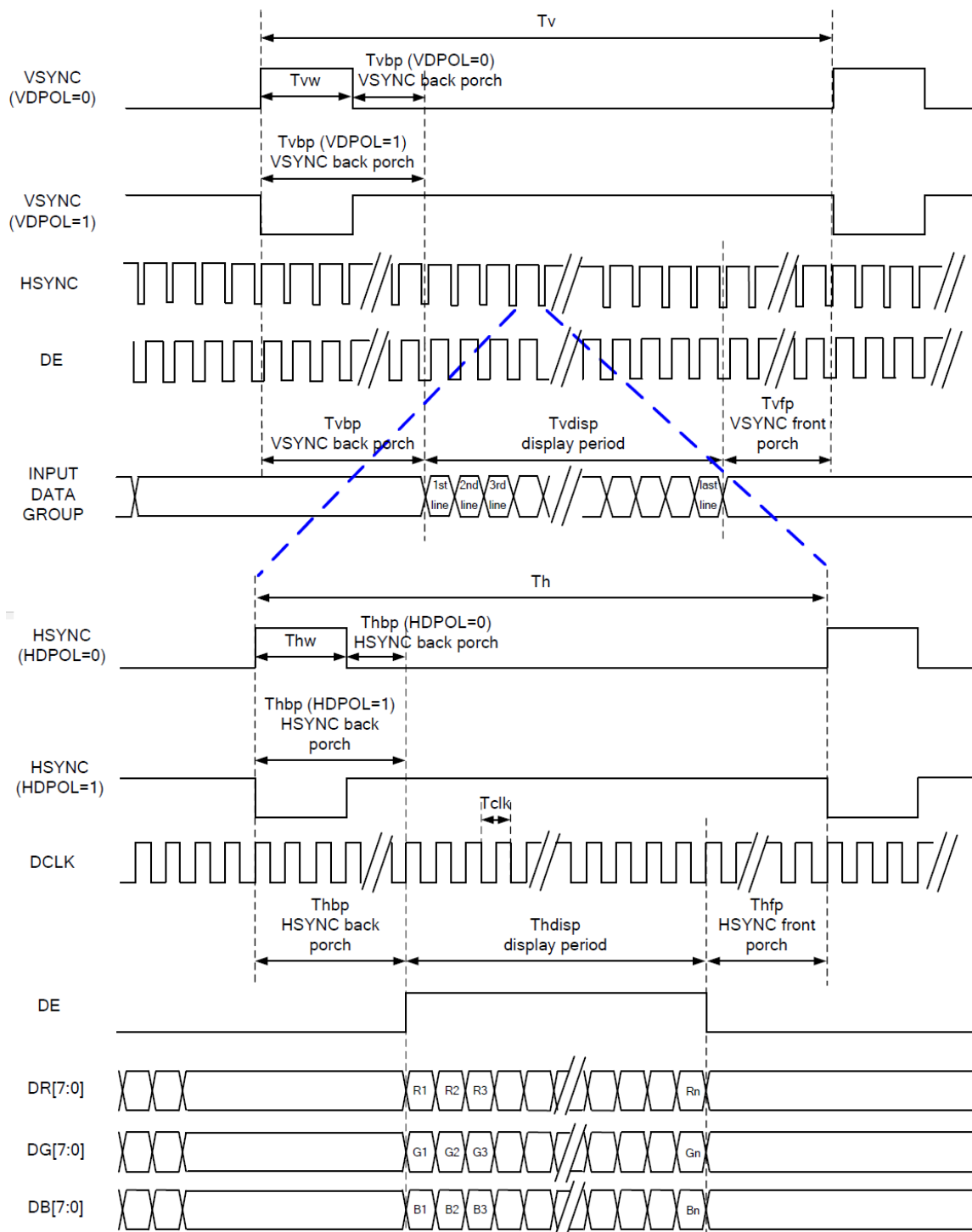
## 4 Timing Characteristics

### 4.1 RGB Interface

The following are timing characteristics for 24-bit RGB input in SYNC-DE Mode. For additional options, refer to the ST7262 data sheet.

| TIMING, PARALLEL 24-BIT RGB INPUT <sup>3</sup> |                |             |     |     |     |       |
|------------------------------------------------|----------------|-------------|-----|-----|-----|-------|
| PARAMETER                                      |                |             | MIN | TYP | MAX | UNIT  |
| DCLK Frequency                                 |                | $F_{CLK}$   | 23  | 25  | 27  | MHz   |
| HSYNC                                          | Period         | $T_H$       | 808 | 816 | 896 | DCLK  |
|                                                | Display period | $T_{HDISP}$ | –   | 800 | –   | DCLK  |
|                                                | Back porch     | $T_{HBP}$   | 4   | 8   | 48  | DCLK  |
|                                                | Front porch    | $T_{HFP}$   | 4   | 8   | 48  | DCLK  |
|                                                | Pulse width    | $T_{HW}$    | 2   | 4   | 8   | DCLK  |
| VSYNC                                          | Period         | $T_V$       | 488 | 496 | 504 | HSYNC |
|                                                | Display period | $T_{VDISP}$ | –   | 480 | –   | HSYNC |
|                                                | Back porch     | $T_{VBP}$   | 4   | 8   | 12  | HSYNC |
|                                                | Front porch    | $T_{VFP}$   | 4   | 8   | 12  | HSYNC |
|                                                | Pulse width    | $T_{VW}$    | 2   | 4   | 8   | HSYNC |

<sup>3</sup>  $V_{DD} = 3.3\text{ V}$ ,  $GND = 0\text{ V}$ ,  $T_A = 25\text{ °C}$



## 4.4 CTP Power Sequence

In power down mode, all the clocks of ST1633i are stopped. The way to exit power down mode is by a hardware reset or I2C.

Host application can reset ST1633i through RESET pin. The RESET pin is active low and needs to be held low for 1 uS to take effect.

## 5 Optical Characteristics

| OPTICAL CHARACTERISTICS <sup>4</sup> |                                    |     |      |      |      |                   |
|--------------------------------------|------------------------------------|-----|------|------|------|-------------------|
| PARAMETER                            |                                    | MIN | TYP  | MAX  | UNIT |                   |
| Contrast Ratio <sup>5,6</sup>        | CR                                 | 800 | 1000 | –    | –    |                   |
| Response Time <sup>7</sup>           | T <sub>ON</sub> / T <sub>OFF</sub> | –   | 30   | 40   | mS   |                   |
| Viewing Angles <sup>8,9</sup>        | Θ <sub>T</sub>                     | 70  | 80   | –    | °    |                   |
|                                      | Θ <sub>B</sub>                     | 70  | 80   | –    |      |                   |
|                                      | Θ <sub>L</sub>                     | 70  | 80   | –    |      |                   |
|                                      | Θ <sub>R</sub>                     | 70  | 80   | –    |      |                   |
| Chromaticity <sup>10</sup>           | X <sub>RED</sub>                   | –   | TBD  | –    | –    |                   |
|                                      | Y <sub>RED</sub>                   | –   | TBD  | –    |      |                   |
|                                      | X <sub>GRN</sub>                   | –   | TBD  | –    |      |                   |
|                                      | Y <sub>GRN</sub>                   | –   | TBD  | –    |      |                   |
|                                      | X <sub>BLU</sub>                   | –   | TBD  | –    |      |                   |
|                                      | Y <sub>BLU</sub>                   | –   | TBD  | –    |      |                   |
|                                      | X <sub>WHT</sub>                   | –   | TBD  | –    |      |                   |
|                                      | Y <sub>WHT</sub>                   | –   | TBD  | –    |      |                   |
| Luminance <sup>13</sup>              | DT050CTFT-IPS-SHB                  | L   | 800  | 1000 | –    | cd/m <sup>2</sup> |
|                                      | DT050CTFT-IPS-SHB-PTS              |     | 650  | 850  | –    |                   |
| Uniformity <sup>13</sup>             |                                    | U   | 75   | –    | –    | %                 |

<sup>4</sup> See Section 5.1, Figure 5

<sup>5</sup> Viewing Angle (Θ) = 0°

<sup>6</sup> See Section 5.1, Figure 7

<sup>7</sup> See Section 5.1, Figure 6

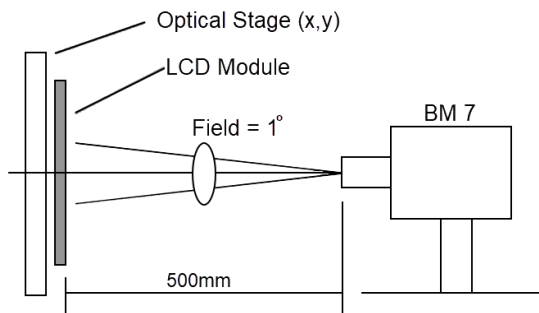
<sup>8</sup> Contrast Ratio (CR) ≥ 10

<sup>9</sup> See Section 5.1, Figure 7

<sup>10</sup> See Section 5.1, Figure 9

## 5.1 Figures

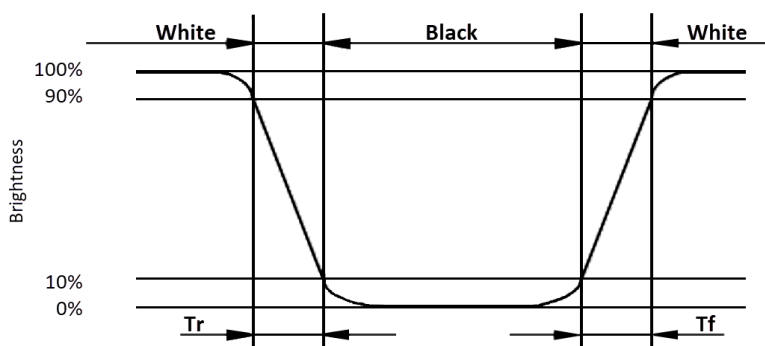
**Figure 5: Optical Measurement System**



Conditions:

$I_F = 60 \text{ mA}$ ,  $T_A = 25 \text{ }^\circ\text{C}$ , ambient brightness  $< 150 \text{ lx}$

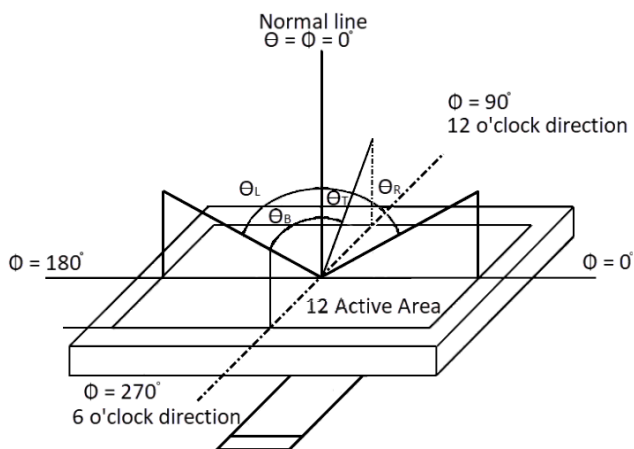
**Figure 6: Response Times**



**Decay Time (TF)** = Time required for display to transition from white to black

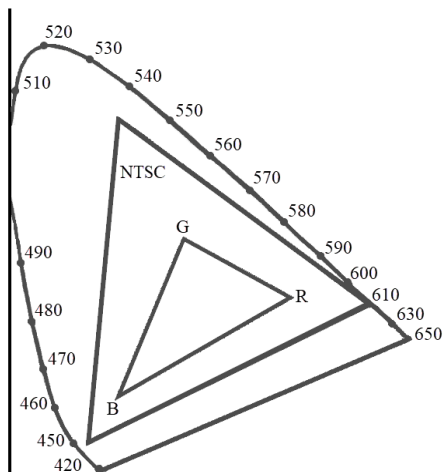
**Rise Time (TR)** = Time required for display to transition from black to white

**Figure 7: Viewing Angles**



**Viewing angle** is measured from center point of LCD

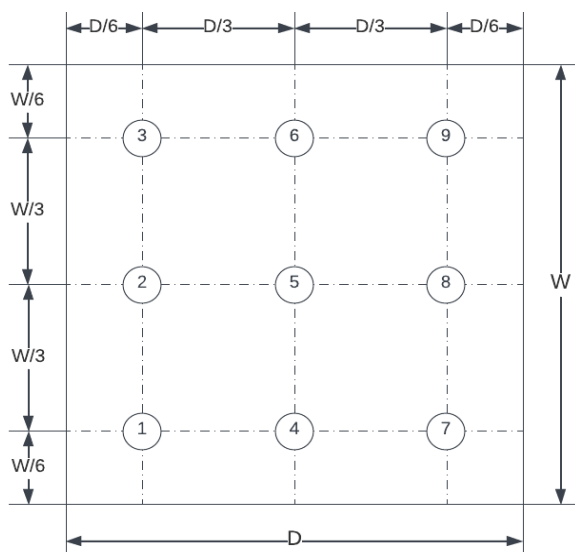
Figure 8: Chromaticity (CIE 1931)



$$\text{Chromaticity} = \text{Area of } \triangle_{\text{RGB}} / \text{Area of } \triangle_{\text{NTSC}}$$

\* Color coordinates measured at center point of LCD

Figure 9: Luminance Uniformity



**Luminance** is defined as the brightness of all white pixels at the center of the display area at optimum contrast.

**Uniformity** is determined by measuring Luminance at 9 points and calculating  $\text{Luminance}_{\text{MIN}} / \text{Luminance}_{\text{MAX}}$

$$\text{Contrast Ratio} = \frac{\text{Surface Luminance}_{\text{WhitePixels}}}{\text{Surface Luminance}_{\text{BlackPixels}}}$$

## 6 Environmental/Reliability Testing

Judgment is based on inspection performed after test, per the Inspection Criteria table.<sup>11</sup>

| ITEM UNDER TEST                     | TEST CONDITION                                                                                                 |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------|
| High Temperature Operation          | T <sub>A</sub> = 70°C, 120 Hrs                                                                                 |
| Low Temperature Operation           | T <sub>A</sub> = -20°C, 120 Hrs                                                                                |
| High Temperature Storage            | T <sub>S</sub> = 80°C, 120 Hrs                                                                                 |
| Low Temperature Storage             | T <sub>S</sub> = -30°C, 120 Hrs                                                                                |
| High Temperature & Humidity Storage | T <sub>S</sub> = 60°C, 120 Hrs, 90% RH                                                                         |
| Thermal Shock (Non-Operation)       | -30°C (30 min) ~ 80°C (30 min)<br>Change time: 5 min, 10 cycles                                                |
| ESD<br>(Operation)                  | C = 150pF, R = 330Ω, 5 points/panel<br>Air: 8KV (5x), Contact: 4KV (5x)                                        |
| Vibration<br>(Non-Operation)        | Frequency Range: 10Hz ~ 55Hz<br>Stroke: 1.5mm<br>Sweep: 10Hz ~ 55Hz ~ 10Hz<br>2 Hrs each in X, Y, Z directions |
| Package Drop Test                   | Height: 80cm<br>1 corner, 3 edges, 6 surfaces                                                                  |

### 6.1 Inspection Criteria

| INSPECTION ITEM     | CRITERIA                                                                                                         |
|---------------------|------------------------------------------------------------------------------------------------------------------|
| Appearance          | No cracks present on FPC<br>No cracks present on LCD panel                                                       |
| LCD Panel Alignment | No bubbles present on/in LCD panel<br>No alignment defects in active area                                        |
| Electrical Current  | Within device specifications                                                                                     |
| Function/Display    | No broken circuits nor short circuits present<br>No black lines present on LCD panel<br>No other display defects |

<sup>11</sup> Functional test shall be conducted after 4 hours of storage at normal temperature and humidity, after LCD is removed from test chamber.

## 7 Precautions for Use of LCD Modules

### 7.1 Safety

Liquid crystal in LCD is poisonous. Do not put in mouth. If liquid crystal comes in contact with skin or clothes, wash off immediately using soap and water.

### 7.2 Handling

- A. LCD panel is made of plate glass. Do not subject panel to mechanical shock or excessive force on its surface.
- B. In order to ensure reliability, do not hold product by flexible printed circuit (FPC) cable.
- C. Provide space so that panel does not come into contact with other components.
- D. Transparent electrodes may be disconnected if panel is used in an environment where dew condensation is present.
- E. Properties of semiconductor devices may be affected when exposed to light, possibly resulting in integrated circuit (IC) malfunctions. To prevent such malfunctions, design and mounting layout should be done in such a way that IC is not exposed to light during use.

### 7.3 Static electricity

- A. Ground soldering iron tips, tools, and testers while in use.
- B. Ground your body when handling LCD products.
- C. Power on the LCD module before applying the voltage to the input terminals.
- D. Do not apply any voltage that exceeds absolute maximum rating.
- E. Store products in an anti-electrostatic bag or container.

### 7.4 Storage

- A. Store product in a dark place at  $25^{\circ}\text{C} \pm 10^{\circ}\text{C}$  with low humidity (40% RH ~ 60% RH). Do not expose display to sunlight or fluorescent light.
- B. Storage in a clean environment, free from dust, active gas, and solvents.

### 7.5 Cleaning

- A. To clean the product, wipe with a soft cloth moistened with ethanol. Do not allow ethanol to get between upper film and bottom glass, as this may cause peeling issues and/or defective operation. Do not use any organic solvent or detergent other than ethanol.

### 7.6 Cautions for installation and assembly

- A. Bezel edge must be positioned between Active area and Viewing area.
- B. For stable display assembly, Displaytech recommends designing a support for the backside of the display.
- C. Do not display any fixed pattern for long periods of time. If a fixed pattern must be displayed, use a screen saver in order to avoid image persistence.

**Specification**

**FRONT VIEW:**

- ① 114.00±0.25(BL Outline)
- 111.60±0.1(TFT/CF)
- 108.00(A.A)
- ② 75.00±0.25(BL Outline)
- 72.60±0.1(TFT)
- 68.90(CF)
- 64.80(A.A)
- ③ 43.00±0.5
- ④ 41.49±0.5
- ⑤ 23.00±0.1
- ⑥ LCM 2.95±0.2
- 2.85(BL)
- 1.10LCD+POL
- PULL TAPE(Yellow)
- 8\*(5+10)\*0.1
- 1.20
- 3.00
- (0,0) A
- 5.0" IPS TFT
- 800RGB\*480 DOTS
- Viewing Direction : ALL
- Bending area
- 38.66
- 3.30±0.3
- 1.2MAX
- Conductive Au
- Stiffener PI
- 0.30±0.05 ⑦

**BACK VIEW:**

- DT050CTFT-IPS-SHB
- YYWW
- 5.00±0.5

**DETAIL B (SCALE 2:1):**

- ⑧ R0.20
- ⑨ 0.50±0.10
- ⑩ 0.30±0.03
- P=0.50
- ⑪ P0.5\*(40-1)=22.0±0.05

**LED Circuit Diagram 3\*6=18 pcs:**

RGB Detail "A" SCALE=100:1

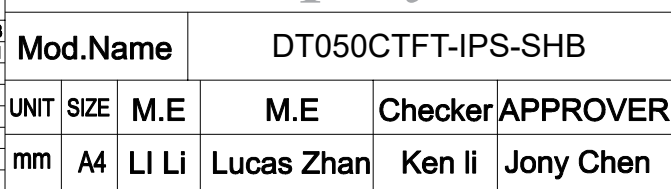
A(+)

K1, K2, K2

| DISPLAY INTERFACE |       |
|-------------------|-------|
| PIN NO.           | NAME  |
| 1                 | LED-A |
| 2                 | LED-K |
| 3                 | LED-K |
| 4                 | LED-K |
| 5                 | VDD   |
| 6                 | R0    |
| 7                 | R1    |
| 8                 | R2    |
| 9                 | R3    |
| 10                | R4    |
| 11                | R5    |
| 12                | R6    |
| 13                | R7    |
| 14                | G0    |
| 15                | G1    |
| 16                | G2    |
| 17                | G3    |
| 18                | G4    |
| 19                | G5    |
| 20                | G6    |
| 21                | G7    |
| 22                | B0    |
| 23                | B1    |
| 24                | B2    |
| 25                | B3    |
| 26                | B4    |
| 27                | B5    |
| 28                | B6    |
| 29                | B7    |
| 30                | GND   |
| 31                | CLK   |
| 32                | DISP  |
| 33                | HSYNC |
| 34                | VSYNC |
| 35                | DE    |
| 36                | NC    |
| 37                | NC    |
| 38                | NC    |
| 39                | NC    |
| 40                | NC    |
| 41                | NC    |
| 42                | NC    |
| 43                | NC    |
| 44                | NC    |
| 45                | NC    |

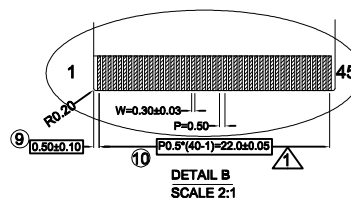
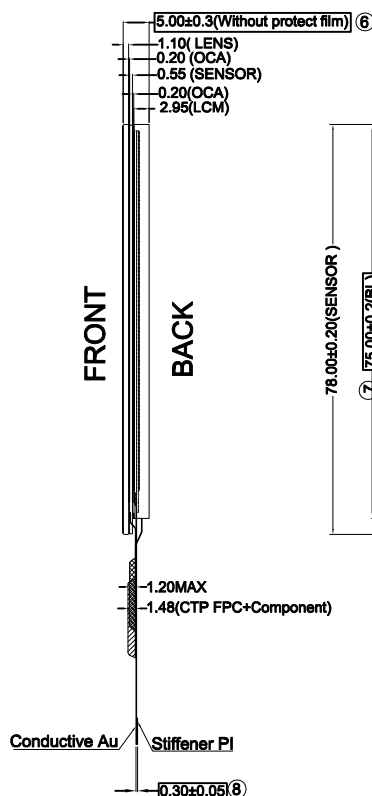
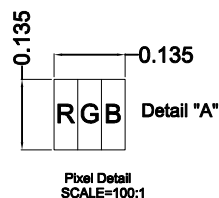
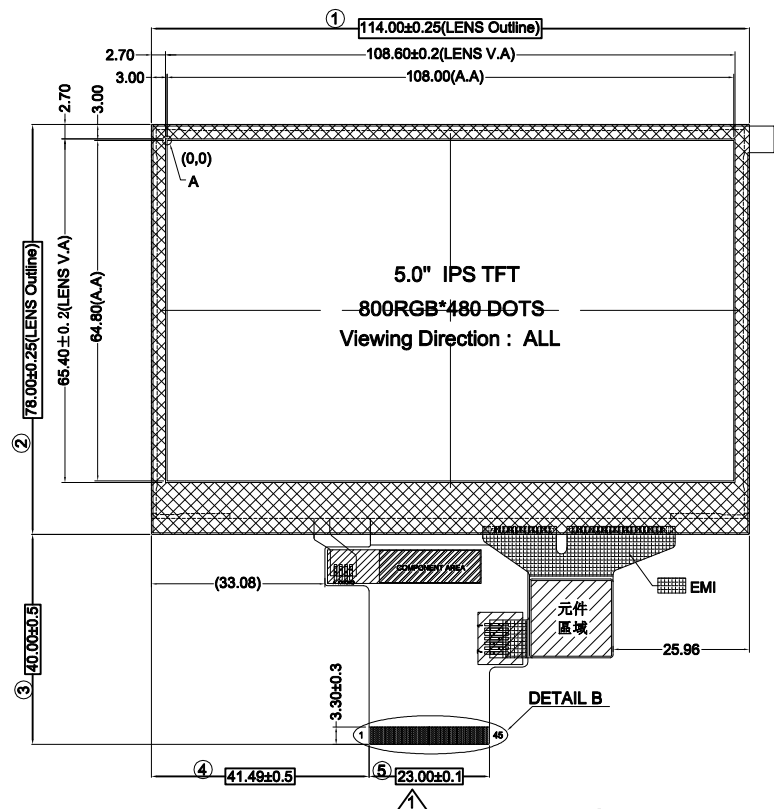
|                                                                            |                                  |
|----------------------------------------------------------------------------|----------------------------------|
| 1.Display mode: 5.0" -TFT,Normally Black,IPS mode,Transmissive,16.7M color |                                  |
| 2.Driving condition: 800 RGB(H) x 480(V), VDD=3.3V                         |                                  |
| 3.Back light:18PCS WHITE LED , Vf=18.3V(Typ) ; If=60mA                     |                                  |
| 4.Operating temp: -20°C to 70°C , Storage temp: -30°C to 80°C              |                                  |
| 5.LCM Luminace(cd/㎡): 1000(TYP.)                                           | 6.Viewing angle:All,80/80/80/80  |
| 7.TFT Driver IC : ST7262-G4-1-H2                                           | 8.Connector: FPC                 |
| 9.Interface : 16 Bit RGB                                                   | 10.Unspecified tolerance: ±0.3mm |
| 11.(.):REFERENCE DIMENSION                                                 | 12.□IMPORTANT DIMENSION          |
| 13.YYWW: Date code (year week)                                             | 14.Remark: RoHS                  |

| Rec. | Revision content description                                                                                                | Date       |
|------|-----------------------------------------------------------------------------------------------------------------------------|------------|
| #00  | FIRST ISSUE                                                                                                                 | 2024.10.18 |
| #01  | The PIN number changes from 40 to 45.  | 2025.03.31 |
|      |                                                                                                                             |            |
|      |                                                                                                                             |            |
|      |                                                                                                                             |            |



|                                                                                       |       |
|---------------------------------------------------------------------------------------|-------|
|  |       |
| SCALE                                                                                 | SHEET |
| NTS                                                                                   | 1/1   |
| FILE NAME                                                                             |       |
| Count Dwg.                                                                            |       |

|          |  |                 |  |                     |  |
|----------|--|-----------------|--|---------------------|--|
| CUSTOMER |  | CUSTOMER'S CODE |  | CUSTOMER'S APPROVAL |  |
|----------|--|-----------------|--|---------------------|--|



LED Circuit Diagram 3\*6=18 pcs



| PIN NO. | NAME    |
|---------|---------|
| 1       | LED-A   |
| 2       | LED-K   |
| 3       | LED-K   |
| 4       | LED-K   |
| 5       | VDD     |
| 6       | R0      |
| 7       | R1      |
| 8       | R2      |
| 9       | R3      |
| 10      | R4      |
| 11      | R5      |
| 12      | R6      |
| 13      | R7      |
| 14      | G0      |
| 15      | G1      |
| 16      | G2      |
| 17      | G3      |
| 18      | G4      |
| 19      | G5      |
| 20      | G6      |
| 21      | G7      |
| 22      | B0      |
| 23      | B1      |
| 24      | B2      |
| 25      | B3      |
| 26      | B4      |
| 27      | B5      |
| 28      | B6      |
| 29      | B7      |
| 30      | GND     |
| 31      | CLK     |
| 32      | DISP    |
| 33      | HSYN    |
| 34      | VSYN    |
| 35      | DE      |
| 36      | TP_GNC  |
| 37      | TP_RST  |
| 38      | TP_INT  |
| 39      | TP_SDA  |
| 40      | TP_SCL  |
| 41      | TP_I0VC |
| 42      | TP_VDD  |
| 43      | NC      |
| 44      | NC      |
| 45      | NC      |

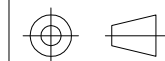
## Specification

|                                                                             |
|-----------------------------------------------------------------------------|
| 1.Display mode: 5.0 inch IPS TFT, Normally Black, Transmissive, 16.7M color |
| 2.Driving condition: 800 RGB(H) x 480(V), VDD=3.3V                          |
| 3.Back light: 18PCS WHITE LED, Vf=18.3V(Typ); If=60mA                       |
| 4.Operating temp: -20°C to 70°C, Storage temp: -30°C to 80°C                |
| 5.Surface Luminance(cd/m²): 850(TYP.) 6.Viewing angle: All, 80/80/80/80     |
| 7.TFT Driver IC: ST7262-G4-1-H2 8.Connector: FPC                            |
| 9.CTP Driver IC: ST16331                                                    |
| 10.Interface: 16 Bit RGB 11.Unspecified tolerance: ±0.3mm                   |
| 12.(.): REFERENCE DIMENSION 13.□ IMPORTANT DIMENSION                        |
| 14.YYWW: Date code (year week) 15.Remark: RoHS                              |

## Count drawing & Spec.revision record during discussion with customer

| Rec. | Revision content description | Date       |
|------|------------------------------|------------|
| #00  | FIRST ISSUE                  | 2024.10.19 |
| #01  | Modify dimension marking.    | 2025.04.01 |

Displaytech



|          |                       |          |           |
|----------|-----------------------|----------|-----------|
| Mod.Name | DT050CTFT-IPS-SHB-PTS | SCALE    | SHEE      |
| UNIT     | SIZE                  | DESIGNER | CHECK     |
| mm       | A4                    | LI Li    | Amy Tu    |
| APPROVER | FILE                  | NAMI     | Count Dwg |
| NTS      | 1/1                   |          |           |

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Displaytech:](#)

[DT050CTFT-IPS-SHB-PTS](#) [DT050CTFT-IPS-SHB](#)