



# 10.1 inch TFT Display Series

**GDTL101JL-S06**

Dalian Good Display Co., Ltd.



- Tentative Specification
- Preliminary Specification
- Specification Approval

**MODEL NAME : GDTL101JL-S06**  
**Version : A1**

|  |                  |
|--|------------------|
| <b>Customer: Common</b>  |                  |
| <b>APPROVED BY</b>   | <b>SIGNATURE</b> |
| <b>Name / Title</b>  | _____            |
| Note:  | _____            |
| _____  |                  |
| Please return 1 copy for your confirmation with your signature and comments. |                  |

| Approved By   | Checked By  | Prepared By   |
|---|---|---|
|  |  |  |

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**REVISION HISTORY**

| Version | Date       | Description   |
|---------|------------|---|
| 1.0     | 2021.03.16 | First release   |
| 1.1     | 2021.05.18 | Update drawing  |
|         |            | Corrected luminance value is 600cd/m2                     |
| 1.2     | 2022.10.25 | A conductive cloth is added to the steel sheet of the FPC |
|         |            |   |
|         |            |   |
|         |            |   |

GOODI DISPLAY

## 1. GENERAL DESCRIPTION

### 1.1 OVERVIEW

GDTL101JL-S06 is a 10.1" TFT Liquid Crystal Display module with LED backlight unit and 40-pin-and LVDS interface. This product supports 1024 x 600 WSVA format and can display true 16.7M colors (6-bits colors with FRC).

### 1.2 FEATURES

- Excellent brightness (600 nits)
- WSVGA (1024 x 600 pixels) resolution
- LVDS (Low Voltage Differential Signaling) interface
- Wide operation and storage temperature range
- "RoHS" compliance

### 1.3 APPLICATION

- TFT LCD monitor for Industrial applications
- Slim design display for portable applications
- Digitizer Applicable Design

### 1.4 GENERAL SPECIFICATIONS

| Item                          | Specification                          | Unit     | Note |
|-------------------------------|--|----------|------|
| Active Area                   | 222.72(W) × 125.28(H) (10.1" diagonal) | mm       | (1)  |
| LCM Outline dimension         | 235(W) × 143(H) × 5.0(D)               | mm       |      |
| Driver Element                | a-si TFT active matrix                 | -        | -    |
| Resolution                    | 1024 x R.G.B. x 600                    | pixel    | -    |
| Pixel Pitch (HxV )            | 0.2175(H) x 0.2088(V)                  | mm       | -    |
| Pixel Arrangement             | RGB vertical stripe                    | -        | -    |
| Display Colors                | 16.7 M                                 | color    | -    |
| Display Operation Mode        | Normally White                         | -        | -    |
| Surface Treatment             | Anti Glare                             | -        | -    |
| Recommended Viewing Direction | 12                                     | O' Clock | -    |

Note (1)Please refer to the attached drawings for more information of front and back outline dimensions.

### 1.5 MECHANICAL SPECIFICATIONS

| Item        | Min.           | Typ.  | Max.  | Unit  | Note |     |
|-------------|----------------|-------|-------|-------|------|-----|
| Module Size | Horizontal (H) | 234.7 | 235.0 | 235.3 | mm   | (1) |
|             | Vertical (V)   | 142.7 | 143.0 | 143.3 | mm   |     |
|             | Depth (D)      | 4.8   | 5.0   | 5.2   | mm   | -   |

Note (1)Please refer to the attached drawings for more information of front and back outline dimensions.

Note (2) Measurement should be done by pressing down the PCBA.

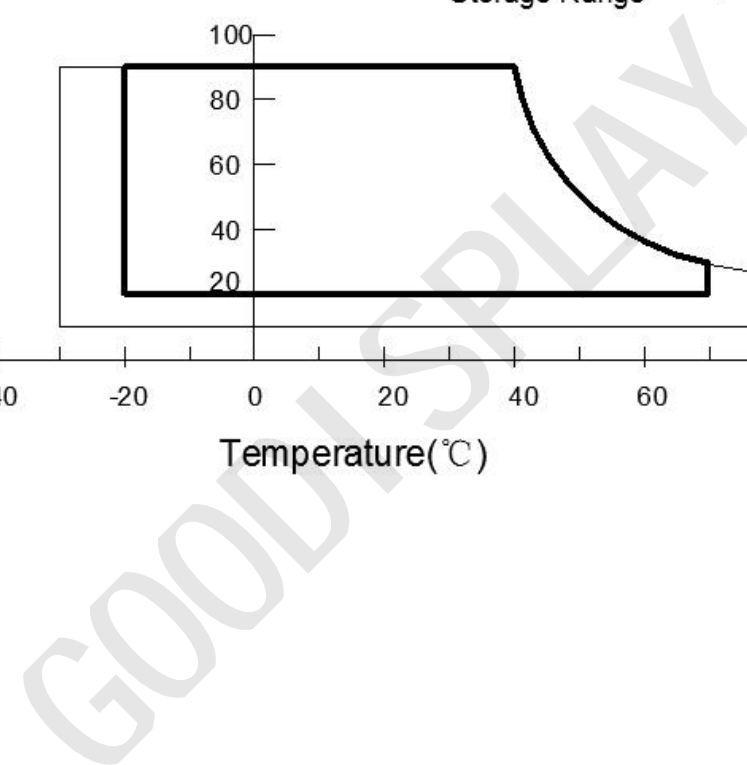
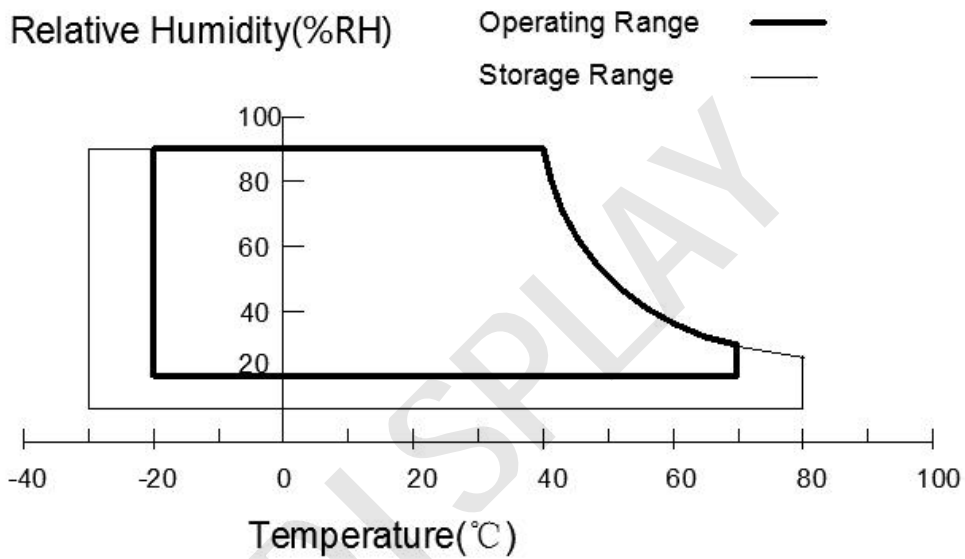
2. ABSOLUTE MAXIMUM RATINGS

2.1 ABSOLUTE RATINGS OF ENVIRONMENT

| Item                          | Symbol          | Value |      | Unit | Note |
|-------------------------------|-----------------|-------|------|------|------|
|                               |                 | Min.  | Max. |      |      |
| Operating Ambient Temperature | T <sub>OP</sub> | -20   | +70  | °C   |      |
| Storage Temperature           | T <sub>ST</sub> | -30   | +80  | °C   |      |

Note (1) Temperature and relative humidity range is shown in the figure below.

- (a) 90 %RH Max. (Ta < 40 °C).
- (b) Wet-bulb temperature should be 39 °C Max. (Ta > 40 °C).
- (c) No condensation





## 2.2 ELECTRICAL ABSOLUTE RATINGS

### 2.2.1 TFT LCD MODULE

| Item                 | Symbol | Value |      | Unit | Note |
|----------------------|--------|-------|------|------|------|
|                      |        | Min.  | Max. |      |      |
| Power Supply Voltage | VDD    | -0.3  | 3.6  | V    | (1)  |

Note (1) Permanent damage to the device may occur if maximum values are exceeded. Function operation should be restricted to the conditions described under Normal Operating Conditions.

## 3. ELECTRICAL CHARACTERISTICS

### 3.1 TFT LCD MODULE

Ta = 25 ± 2 °C

| Parameter                 | Symbol          | Value   |      |         | Unit | Note |
|---------------------------|-----------------|---------|------|---------|------|------|
|                           |                 | Min.    | Typ. | Max.    |      |      |
| Power Supply Voltage 1    | V <sub>DD</sub> | 3.0     | 3.3  | 3.6     | V    | (1)  |
| Power Supply Voltage 2    | AVDD            | -       | 10.6 | -       | V    |      |
| Power Supply Voltage 3    | VGH             | -       | 25   | -       | V    |      |
| Power Supply Voltage 4    | VGL             | -       | -7   | -       | V    |      |
| Power Supply Voltage 5    | VCOM            | -       | -4.3 | -       | V    |      |
| Logic High Input Voltage  | V <sub>IH</sub> | 0.7VDD  |      | VDD     | V    |      |
| Logic Low Input Voltage   | V <sub>IL</sub> | GND     |      | 0.3VDD  | V    |      |
| Logic High Output Voltage | V <sub>OH</sub> | VDD-0.4 |      | VDD     | V    |      |
| Logic Low Output Voltage  | V <sub>OL</sub> | GND     |      | GND+0.4 | V    |      |
| LVDS terminating resistor | RT              | -       | 100  | -       | ohm  |      |

Note (1) The assembly should be always operated within above ranges.

Note (2) Typ. VCOM is only a reference value, it must be optimized according to each LCM.

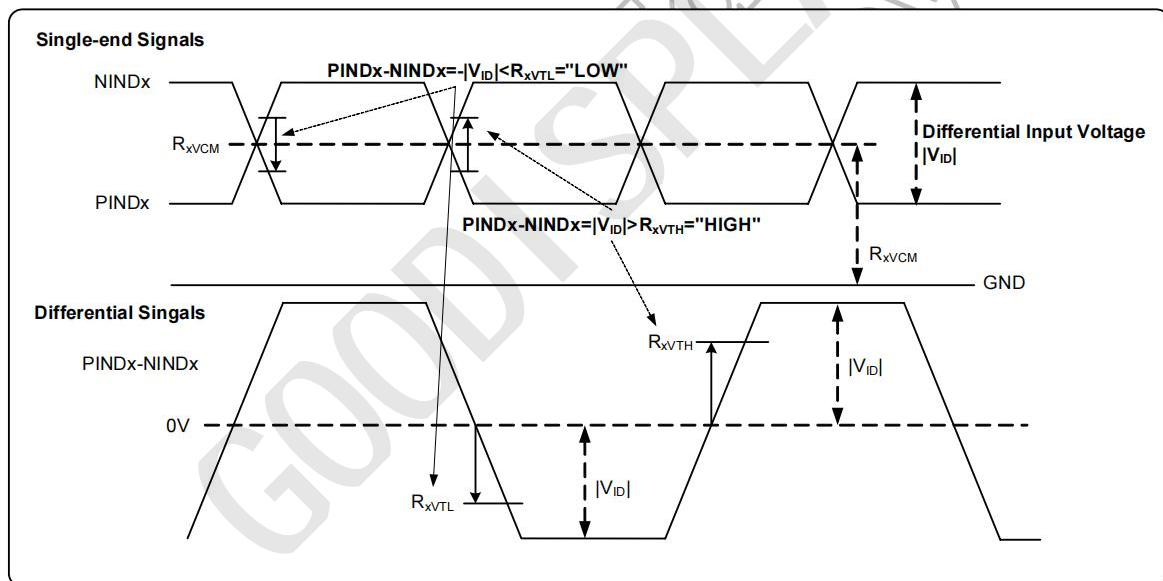
Note (3) The specified power supply current is under the conditions at Vcc = 3.3 V, Ta = 25 ± 2 °C, fv = 60 Hz, whereas a power dissipation check pattern below is displayed.

### 3.2 TTL mode AC electrical characteristics

| Parameter              | Symbol           | Spec. |      |      | Unit | Condition  |
|------------------------|------------------|-------|------|------|------|--|
|                        |                  | Min.  | Typ. | Max. |      |  |
| VDD Power On Slew rate | T <sub>POR</sub> | -     | -    | 20   | ms   | From 0V to 90% VDD   |
| RESET pulse width      | T <sub>Rst</sub> | 50    | -    | -    | µs   | DCLK=65MHz   |
| DCLK cycle time        | T <sub>cph</sub> | 14    | -    | -    | ns   | -  |
| DCLK pulse duty        | T <sub>cwh</sub> | 40    | 50   | 60   | %    | -  |
| VSD setup time         | T <sub>vst</sub> | 5     | -    | -    | ns   | -  |
| VSD hold time          | T <sub>vhd</sub> | 5     | -    | -    | ns   | -  |
| HSD setup time         | T <sub>hst</sub> | 5     | -    | -    | ns   | -  |
| HSD hold time          | T <sub>hhd</sub> | 5     | -    | -    | ns   | -  |
| Data set-up time       | T <sub>dsu</sub> | 5     | -    | -    | ns   | D0[7:0], D1[7:0], D2[7:0] to DCLK                          |
| Data hold time         | T <sub>dhd</sub> | 5     | -    | -    | ns   | D0[7:0], D1[7:0], D2[7:0] to DCLK                          |
| DE setup time          | T <sub>esu</sub> | 5     | -    | -    | ns   | -  |
| DE hold time           | T <sub>ehd</sub> | 5     | -    | -    | ns   | -  |
| Output stable time     | T <sub>sst</sub> | -     | -    | 6    | µs   | 10% to 90% target voltage.<br>CL=90pF, R=10K ohm (Cascade) |
|                        |                  |       |      | 3    |      |  |

## 3.3 LVDS mode DC electrical characteristics

| Parameter                                 | Symbol         | Spec.        |      |                      | Unit    | Condition                         |
|---|----------------|--------------|------|----------------------|---------|-----------------------------------|
|   |                | Min.         | Typ. | Max.                 |         |                                   |
| Differential input high Threshold voltage | $R_{XVTH}$     | -            | -    | +0.1                 | V       | $R_{XVCM}=1.2V$                   |
| Differential input low threshold voltage  | $R_{XVTL}$     | -0.1         | -    | -                    | V       |                                   |
| Input voltage range (singled-end)         | $R_{XVIN}$     | 0            | -    | $VDD-1.2+ V_{ID} /2$ | V       | -                                 |
| Differential input common Mode voltage    | $R_{XVCM}$     | $ V_{ID} /2$ | -    | $VDD-1.2$            | V       | -                                 |
| Differential input voltage                | $ V_{ID} $     | 0.2          | -    | 0.6                  | V       | -                                 |
| Differential input leakage Current        | $R_{V_{XIIz}}$ | -10          | -    | +10                  | $\mu A$ | -                                 |
| LVDS Digital Operating Current            | $I_{ddlvds}$   | -            | 15   | 30                   | mA      | Fclk=65MHz, VDD=3.3V              |
| LVDS Digital Stand-by Current             | $I_{stlvds}$   | -            | 10   | 50                   | $\mu A$ | Clock & all Functions are stopped |

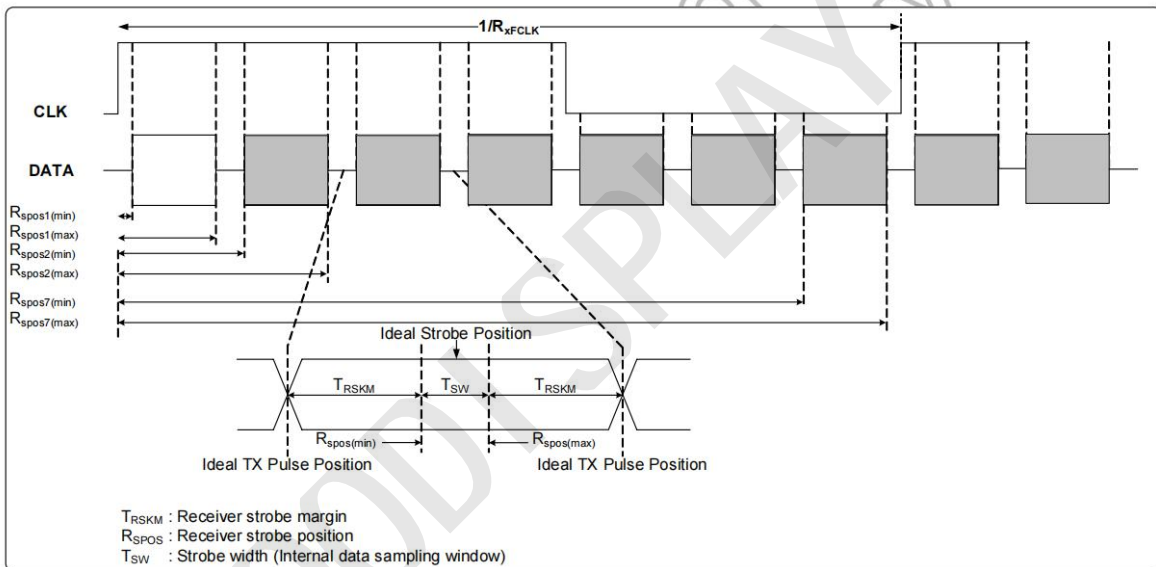
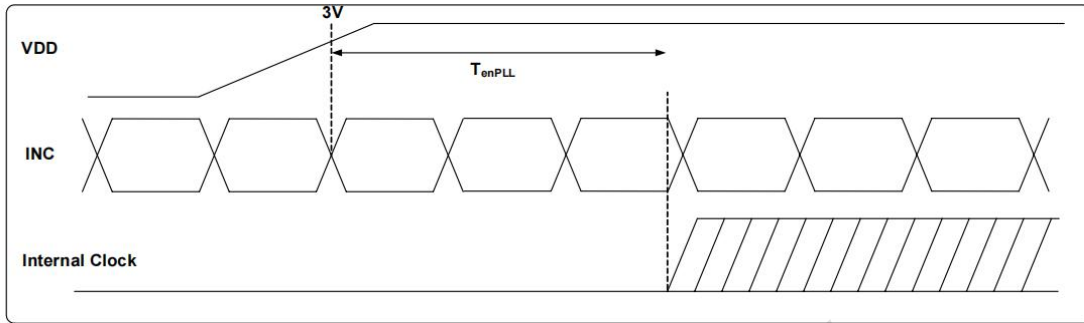
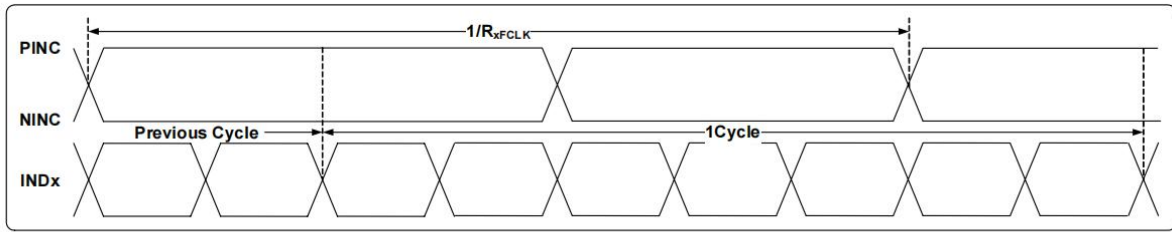


Single-end signals

## 3.4 LVDS mode AC electrical characteristics

| Parameter              | Symbol      | Spec. |                     |      | Unit    | Condition  |
|------------------------|-------------|-------|---------------------|------|---------|--|
|                        |             | Min.  | Typ.                | Max. |         |  |
| Clock frequency        | $R_{XFCLK}$ | 20    | -                   | 71   | MHz     | -  |
| Input data skew margin | $T_{RSKM}$  | 500   | -                   | -    | pS      | $ V_{ID} =400mV$<br>$R_{XVCM}=1.2V$<br>$R_{XFCLK}=71MHz$ |
| Clock high time        | $T_{LVCH}$  | -     | $4/(7 * R_{XFCLK})$ | -    | ns      | -  |
| Clock low time         | $T_{LVCL}$  | -     | $3/(7 * R_{XFCLK})$ | -    | ns      | -  |
| PLL wake-up time       | $T_{emPLL}$ | -     | -                   | 150  | $\mu s$ | -  |





LVDS figure

### 3.5 Backlight Specification

| Item of backlight characteristics | Symbol | Min.              | Typ.   | Max. | Unit  | Condition        |
|-----------------------------------|--------|-------------------|--------|------|-------|------------------|
| Forward voltage                   | Vf     | 16.2              | 18     | 20.4 | V     | If=140mA;Ta=25°C |
| Number of LED                     | -      | 42                |        |      | Piece |                  |
| Connection mode                   | S&P    | 7series×6paraller |        |      | -     |                  |
| Life Time (50%)                   |        | 30000             | 100000 |      | hrs   | Note 1           |

Ta = 25 ± 2 °C

Using condition: constant current driving method If=140mA(+/-10%).

Note 1 : The "Life Time" is defined as the time period when the brightness decrease to 50% of the initial value under continuous lighting at 25°C (dry condition) with the recommended driving current.

## 4. INTERFACE PIN ASSIGNMENT

### 4.1 TFT LCD MODULE

| No | Symbol       | I/O | Function  | Remark |
|----|--------------|-----|---|--------|
| 1  | VCOM         | P   | Common voltage  |        |
| 2  | VDD          | P   | Power supply: +3.3V   |        |
| 3  | VDD          | P   | Power supply: +3.3V   |        |
| 4  | NC           | -   | No Connection   |        |
| 5  | RESET        | I   | Global reset. Keep VDD during operation. Normally pull high   |        |
| 6  | STBYB        | I   | Standby mode control. Normally pull High.<br>When STBYB=H, all the functions are on. (Default pulls high)When STBYB=L, TCON and source driver are off and all output a GND. |        |
| 7  | GND          | P   | Ground  |        |
| 8  | RXIN0-       | I   | Negative LVDS differential data input (-)   |        |
| 9  | RXIN0+       | I   | Positive LVDS differential data input (+)   |        |
| 10 | GND          | P   | Ground  |        |
| 11 | RXIN1-       | I   | Negative LVDS differential data input (-)   |        |
| 12 | RXIN1+       | I   | Positive LVDS differential data input (+)   |        |
| 13 | GND          | P   | Ground  |        |
| 14 | RXIN2-       | I   | Negative LVDS differential data input (-)   |        |
| 15 | RXIN2+       | I   | Positive LVDS differential data input (+)   |        |
| 16 | GND          | P   | Ground  |        |
| 17 | RXCLIKIN-    | I   | Negative LVDS differential clock input  |        |
| 18 | RXCLKIN<br>+ | I   | Positive LVDS differential clock input  |        |
| 19 | GND          | P   | Ground  |        |
| 20 | RXIN3-       | I   | Negative LVDS differential data input (-)   |        |
| 21 | RXIN3+       | I   | Positive LVDS differential data input (+)   |        |
| 22 | GND          | P   | Ground  |        |
| 23 | NC           | --  | No Connection   |        |
| 24 | NC           | -   | No Connection   |        |
| 25 | GND          | P   | Ground  |        |
| 26 | NC           | -   | No Connection   |        |
| 27 | NC           | -   | No Connection   |        |

|    |      |   |  |  |
|----|------|---|--|--|
| 28 | SELB | I | Selection for 6 bits/8bit LVDS data input<br>Low : 8 bit input mode<br>High : 6 bit input mode |  |
| 29 | AVDD | P | Power for Analog Circuit   |  |
| 30 | GND  | P | Ground   |  |
| 31 | LED- | P | LED Cathode  |  |
| 32 | LED- | P | LED Cathode  |  |
| 33 | L/R  | I | L/R="1": Shift left to right<br>L/R="0": Shift right to left                                   |  |
| 34 | U/D  | I | U/D="1": Shift bottom to top<br>U/D="0": Shift top to bottom                                   |  |
| 35 | VGL  | P | Gate OFF Voltage   |  |
| 36 | NC   | - | No Connection  |  |
| 37 | NC   | - | No Connection  |  |
| 38 | VGH  | P | Gate ON Voltage  |  |
| 39 | LED+ | P | LED ANOD   |  |
| 40 | LED+ | P | LED ANOD   |  |

Note:

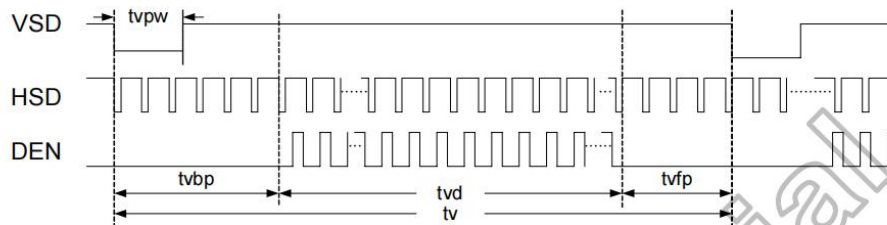
1. For "I/O", "I" is input; "O" is output; "P" is power ; "C" is passive
2. Pin "NC" means Good Display will use it but customer don't need ,so please Customer don't connect it anything.
3. SELB is used for selecting 6bit/8bit LVDS data input, L: 8bit; High:6bit.

**5. INTERFACE TIMING**

**5.1 INPUT SIGNAL TIMING SPECIFICATIONS**

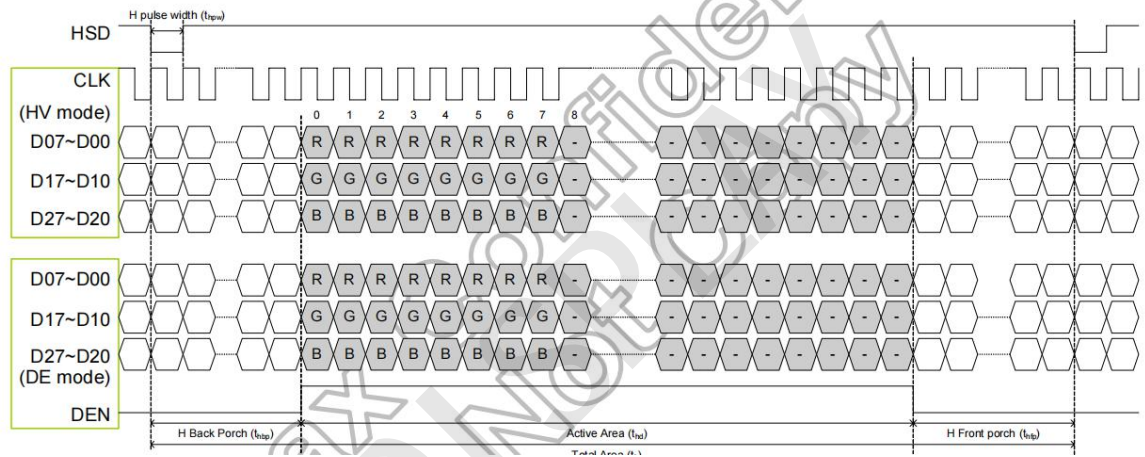
**TTL MODE Data input format**

**Vertical timing**

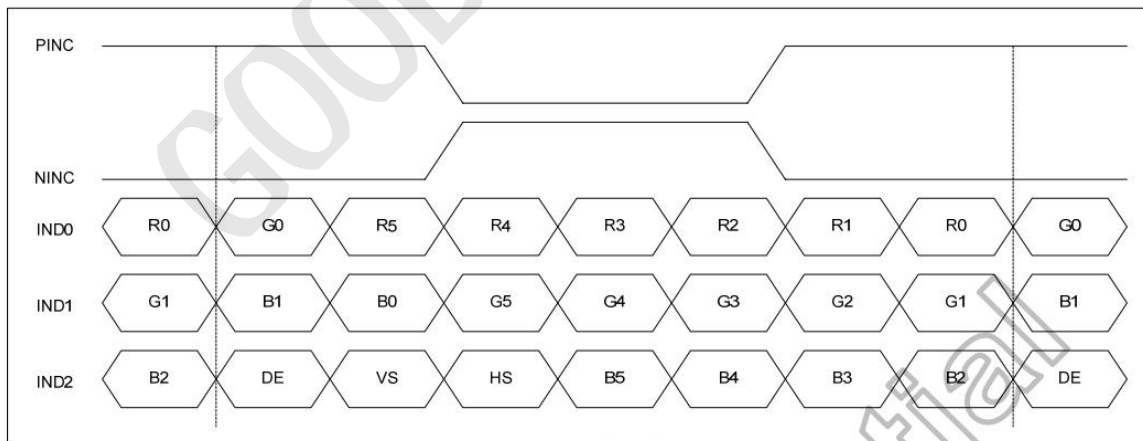


**Figure 10.2: Vertical input timing diagram**

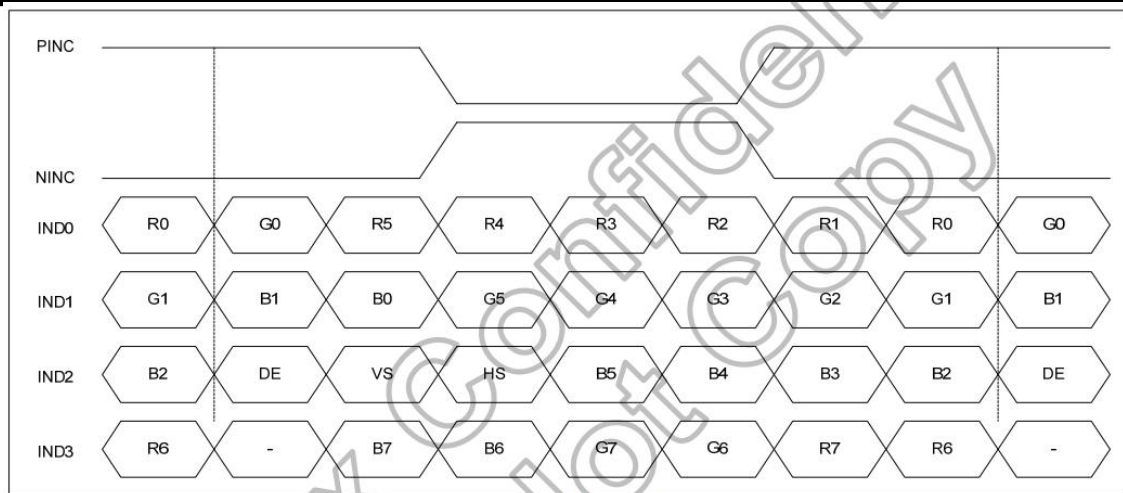
**Horizontal timing**



**LVDS MODE Data input format**



**6-bit LVDS input**



**8-bit LVDS Input**

## Parallel RGB input Timing table

### DE MODE

| Parameter               | Symbol     | Spec. |      |      | Unit           |
|-------------------------|------------|-------|------|------|----------------|
|                         |            | Min.  | Typ. | Max. |                |
| DCLK Frequency          | fclk       | 40.8  | 51.2 | 67.2 | MHz            |
| Horizontal Display Area | thd        | 1024  |      |      | DCLK           |
| HSD Period              | th         | 1114  | 1344 | 1600 | DCLK           |
| HSD Blanking            | thb+ thfp  | 90    | 320  | 376  | DCLK           |
| Vertical Display Area   | tvd        | 600   |      |      | T <sub>H</sub> |
| VSD Period              | tvbp       | 610   | 635  | 800  | T <sub>H</sub> |
| VSD Blanking            | tvbp+ tvfp | 10    | 35   | 200  | T <sub>H</sub> |

### HV MODE

#### Horizontal timing

| Parameter               | Symbol | Spec. |      |      | Unit |
|-------------------------|--------|-------|------|------|------|
|                         |        | Min.  | Typ. | Max. |      |
| DCLK Frequency          | fclk   | 44.9  | 51.2 | 63   | MHz  |
| Horizontal Display Area | thd    | 1024  |      |      | DCLK |
| HSD Period              | th     | 1200  | 1344 | 1400 | DCLK |
| HSD Pulse Width         | thpw   | 1     | -    | 140  | DCLK |
| HSD Back Porch          | thbp   | 160   |      |      | DCLK |
| HSD Front Porch         | thfp   | 16    | 160  | 216  | DCLK |

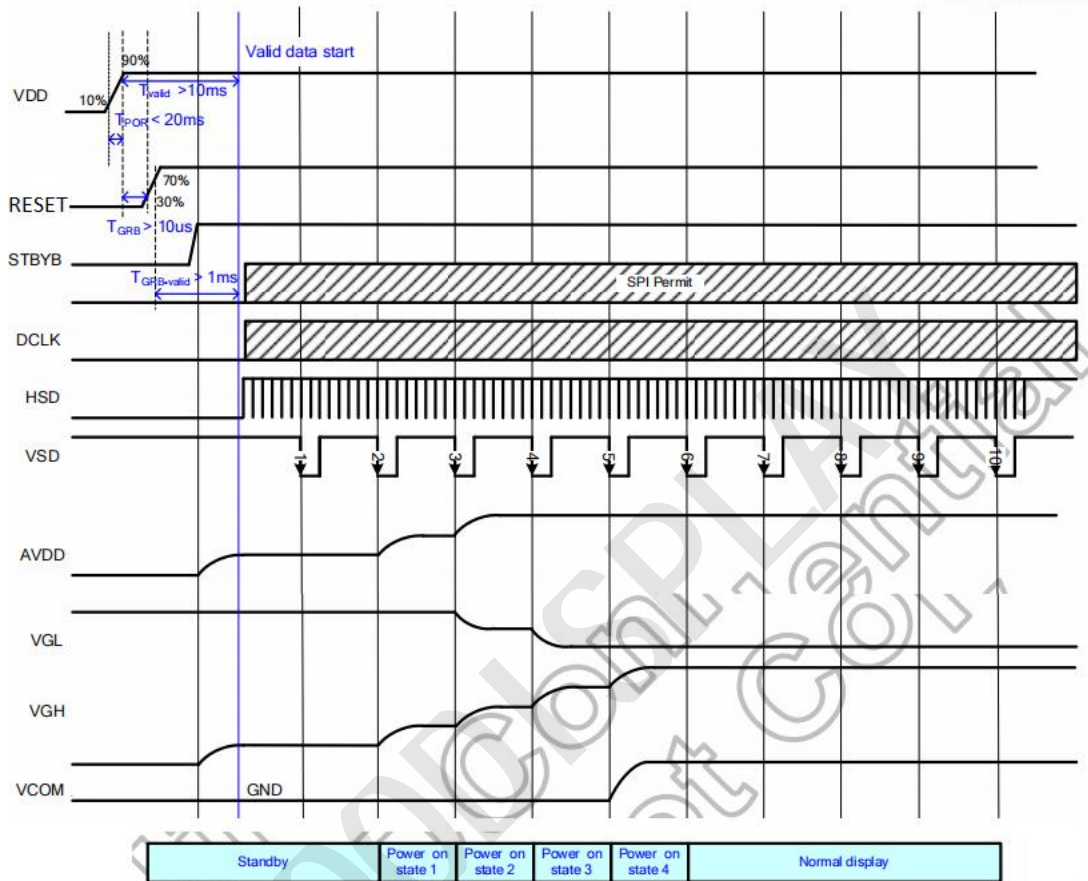
#### Vertical Timing

| Parameter             | Symbol | Spec. |      |      | Unit           |
|-----------------------|--------|-------|------|------|----------------|
|                       |        | Min.  | Typ. | Max. |                |
| Vertical Display Area | tvd    | 600   |      |      | T <sub>H</sub> |
| VSD Period            | tv     | 624   | 635  | 750  | T <sub>H</sub> |
| VSD Pulse Width       | tvpw   | 1     | -    | 20   | T <sub>H</sub> |
| VSD Back Porch        | tvbp   | 23    |      |      | T <sub>H</sub> |
| VSD Front Porch       | tvfp   | 1     | 12   | 127  | T <sub>H</sub> |



**5.2 POWER ON/OFF SEQUENCE**

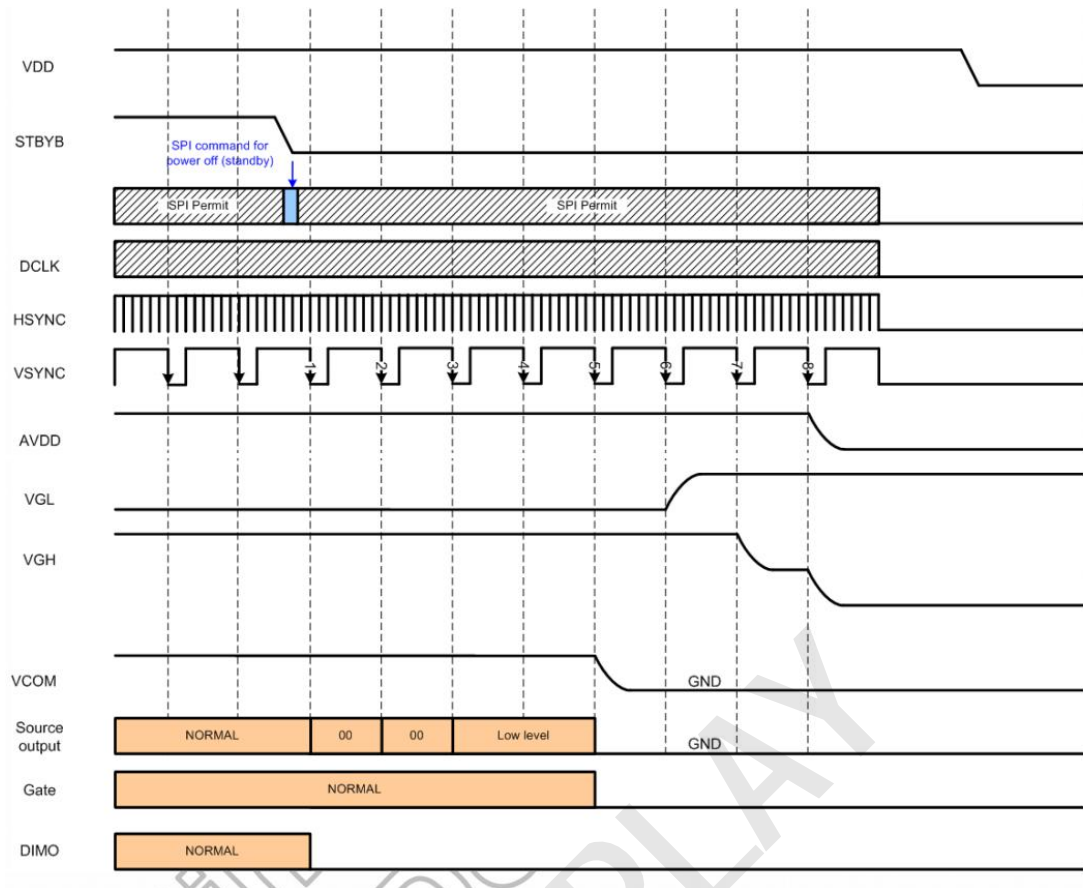
To prevent a latch-up or DC operation of LCD assembly, the power on/off sequence should be as the diagram below. This LCM has a power on/off sequence control function. In order to prevent IC from power on reset fail, the rising time (TPOR) of the digital power supply VDD should be maintained within the given specifications. Please refer to "TTL mode AC electrical characterisitcs " for more detail on timing .



| Symbol          | Parameter                                   | Spec. |      |      | Unit | Note |
|-----------------|---|-------|------|------|------|------|
|                 |   | Min.  | Typ. | Max. |      |      |
| $T_{POR}$       | Power rise duration                         | -     | -    | 20   | ms   | -    |
| $T_{GRB}$       | Min. active pulse width for GRB pin signal. | 10    | -    | -    | µs   | -    |
| $T_{VALID}$     | Min. valid data start.                      | 10    | -    | -    | ms   | -    |
| $T_{GRB-valid}$ | GRB pin High to valid data start Low        | 1     | -    | -    | ms   | -    |

**Power ON sequence**





**Power OFF sequence**

Note (1) Please avoid floating state of interface signal at invalid period.

Note (2) When the interface signal is invalid, be sure to pull down the power supply of LCD VCC to 0 V.

Note (3) We recommend turn on the backlight when LCD Display normal. There is  $\geq 8$  frames.

Note (4) When power off , We recommend turn off backlight first.

## 6. OPTICAL CHARACTERISTICS

### 6.1 TEST CONDITIONS

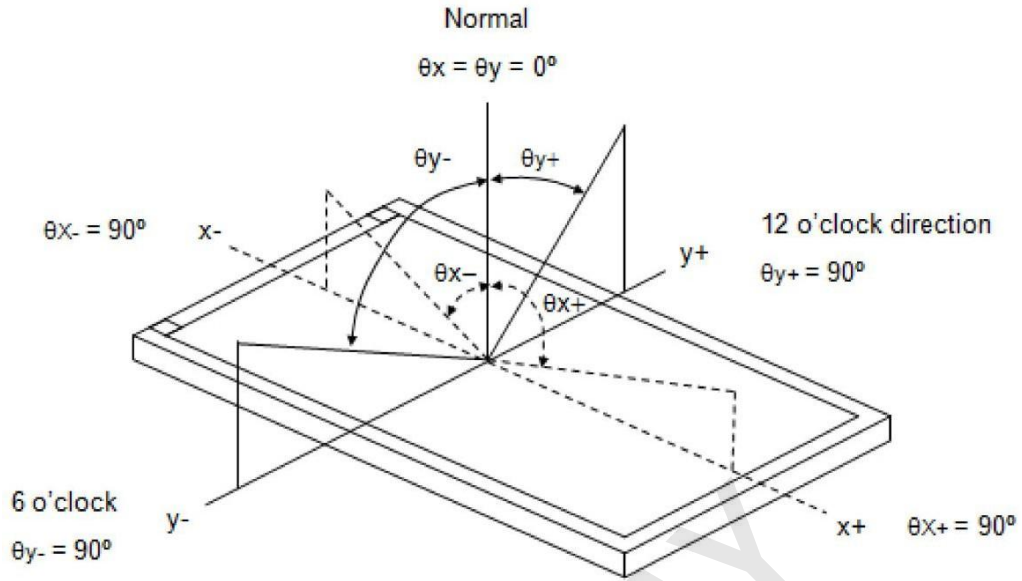
| Item                                      | Value  | Unit |
|---|--|------|
| Ambient Temperature (Ta)                  | 25 ± 2   | °C   |
| Ambient Humidity (Ha)                     | 50 ± 10  | %RH  |
| Supply Voltage                            | According to typical value in "ELECTRICAL CHARACTERISTICS" |      |
| Input Signal                              |  |      |
| LED Light Bar Input Current Per Input Pin |  |      |

### 6.2 OPTICAL SPECIFICATIONS

The relative measurement methods of optical characteristics are shown in 7.2 and all items are measured at the center point of screen except white variation. The following items should be measured under the test conditions described in 7.1 and stable environment shown in Note (6).

| Item                      | Symbol     | Condition   | Min.   | Typ.      | Max.   | Unit              | Note |     |
|---------------------------|------------|---|--------|-----------|--------|-------------------|------|-----|
| Contrast Ratio            | CR         | $\theta_x=0^\circ, \theta_y=0^\circ$<br>Viewing angle at normal direction | 400    | 700       | -      | -                 | (2)  |     |
| Response Time             | TR         |   | -      | 5         | 10     | ms                | (3)  |     |
|                           | TF         |   | -      | 11        | 22     | ms                |      |     |
| Center Luminance of White | LC         |   | 500    | 600       | -      | cd/m <sup>2</sup> | (4)  |     |
| Luminance uniformity      | $\delta W$ |   | 75     | 80        | -      | %                 | (7)  |     |
| Chromaticity              | Red        |   | Rx     | Typ.-0.05 | 0.5723 | Typ.+0.05         | -    | (6) |
|                           |            |   | Ry     |           | 0.3383 |                   | -    |     |
|                           | Green      | Gx  | 0.3123 |           | -      |                   |      |     |
|                           |            | Gy  | 0.5813 |           | -      |                   |      |     |
|                           | Blue       | Bx  | 0.1548 |           | -      |                   |      |     |
|                           |            | By  | 0.1171 |           | -      |                   |      |     |
|                           | White      | Wx  | 0.295  |           | -      |                   |      |     |
| Wy                        |            | 0.305   | -      |           |        |                   |      |     |
| Viewing Angle             | Horizontal | $\theta_{x+}$   | -      | 80        | -      | Deg.              | (1)  |     |
|                           |            | $\theta_{x-}$   | -      | 80        | -      |                   |      |     |
|                           | Vertical   | $\theta_{y+}$   | -      | 60        | -      |                   |      |     |
|                           |            | $\theta_{y-}$   | -      | 70        | -      |                   |      |     |

Note (1) Definition of Viewing Angle ( $\theta_x, \theta_y$ ):  
Viewing angles are measured by BM5A



Note (2) Definition of Contrast Ratio (CR):

The contrast ratio can be calculated by the following expression.

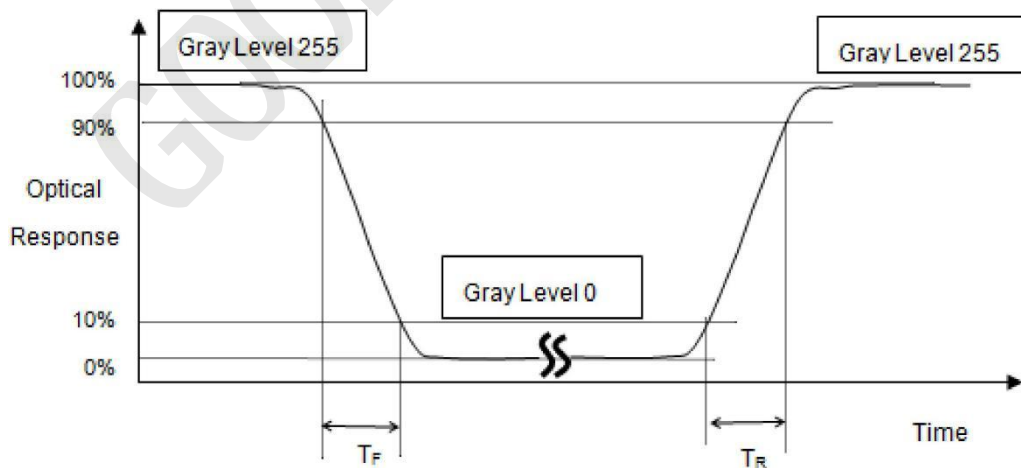
$$\text{Contrast Ratio (CR)} = L_{255} / L_0$$

L255: Luminance of gray level 255

L 0: Luminance of gray level 0

CR = CR (5), where CR (X) is corresponding to the Contrast Ratio of the point X at the figure in Note (7).

Note (3) Definition of Response Time (TR, TF):



Note (4) Definition of Luminance of White (LC):

Measure the luminance of gray level 255 at center point and 5 points

$L_c = L (5)$ , where L (X) is corresponding to the luminance of the point X at the figure in Note (7).

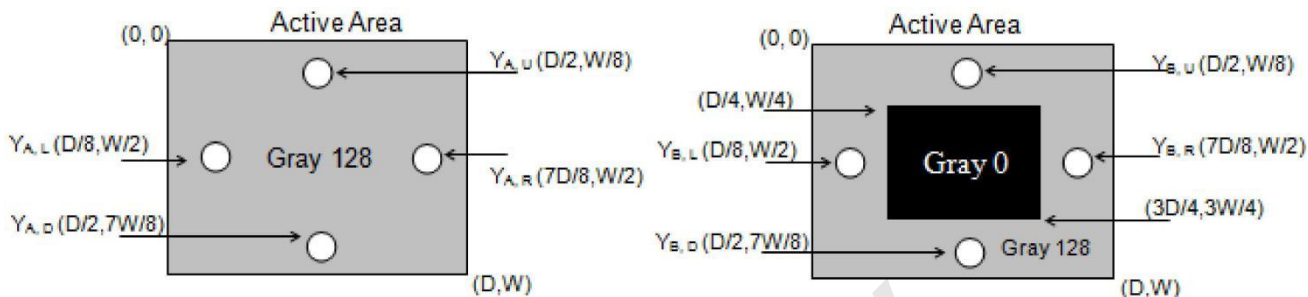
Note (5) Definition of Cross Talk (CT):

$$CT = | Y_B - Y_A | / Y_A \times 100 (\%)$$

Where:

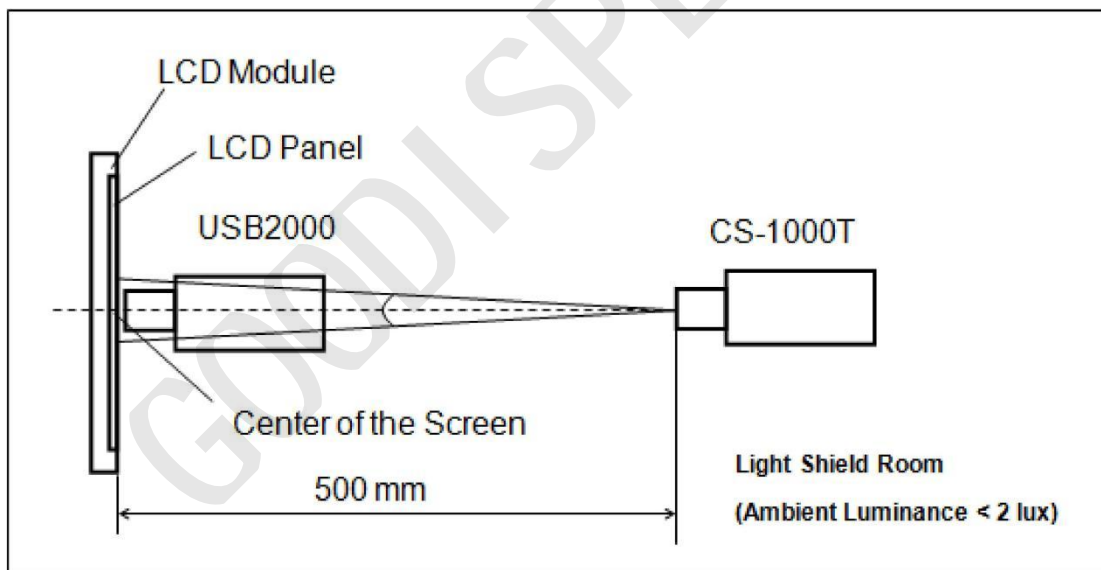
$Y_A$  = Luminance of measured location without gray level 0 pattern (cd/m<sup>2</sup>)

$Y_B$  = Luminance of measured location with gray level 0 pattern (cd/m<sup>2</sup>)



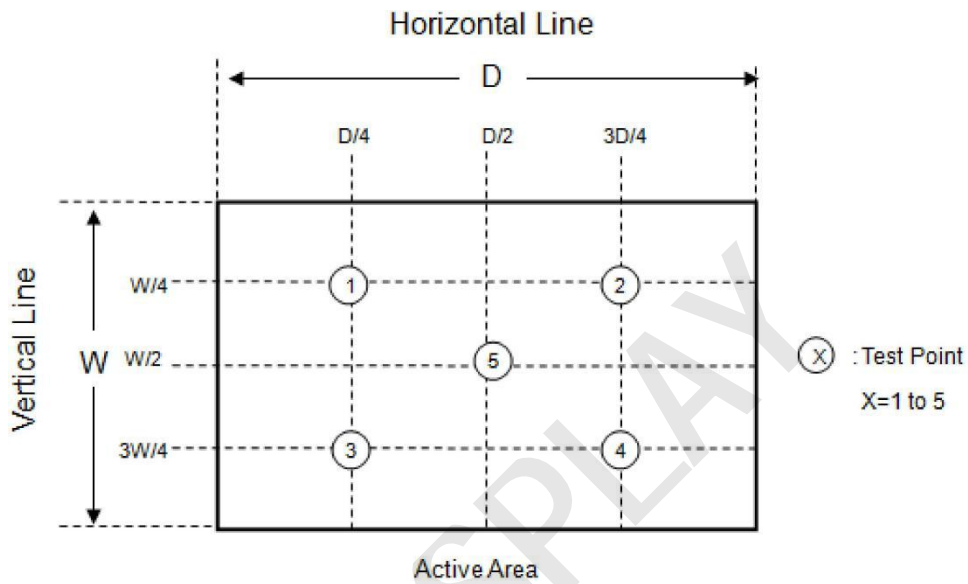
Note (6) Measurement Setup:

The LCD assembly should be stabilized at given temperature for 30 minutes to avoid abrupt temperature change during measuring. In order to stabilize the luminance, the measurement should be executed after lighting Backlight for 30 minutes in a windless room.



Note (7) The uniformity in surface luminance is determined by measuring luminance at each test position 1 through 5, and then dividing the maximum luminance of 5 points luminance by minimum luminance of 5 points luminance.

$$\delta W = \text{Minimum [L (1), L (2), L (3), L (4), L (5)]} / \text{Maximum [L (1), L (2), L (3), L (4), L (5)]}$$



## 7. RELIABILITY TEST CRITERIA

| Test Item                                       | Test Condition  | Note                     |
|---|---|--------------------------|
| High Temperature Storage Test                   | 80°C, 96 hours  | (1)<br>(2)<br>(4)<br>(5) |
| Low Temperature Storage Test                    | -30°C, 96 hours   |                          |
| Thermal Shock Storage Test                      | -30°C, 0.5hour <----> 80 °C, 0.5hour; 10cycles, 1hour/cycle |                          |
| High Temperature Operation Test                 | 70°C, 96 hours  |                          |
| Low Temperature Operation Test                  | -20°C, 96 hours   |                          |
| High Temperature & High Humidity Operation Test | 60°C, 90%RH, 96hours  | (1)<br>(2)<br>(4)<br>(6) |
| Electro Static Discharge                        | Air discharge: +/-8KV,<br>Contact discharge: +/-4KV         |                          |

Note (1) There should be no condensation on the surface of panel during test.

Note (2) Temperature of panel display surface area should be 87 °C Max.

Note (3) At testing Vibration and Shock, the fixture in holding the module has to be hard and rigid enough so that the module would not be twisted or bent by the fixture.

Note (4) In the standard conditions, there is no function failure issue occurred. All the cosmetic specification is judged before the reliability test.

Note (5) Before cosmetic and function test, the product must have enough recovery time, at least 2 hours at room temperature.

Note (6) Before cosmetic and function test, the product must have enough recovery time, at least 24 hours at room temperature.

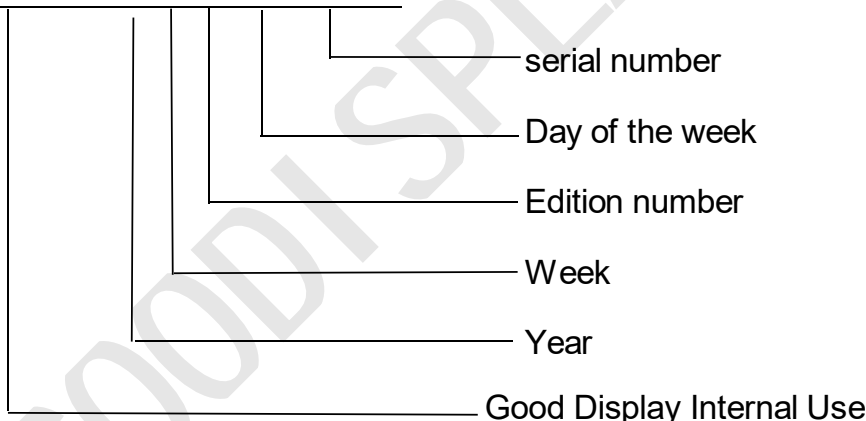


**8. GOOD DISPLAY MODULE LABEL**

The barcode nameplate is pasted on each module as illustration, and its definitions are as following explanation.



- (a) Model Name: GDTL101JL-S06
- (b) Serial ID: X X X X X Y W X X X X X X X

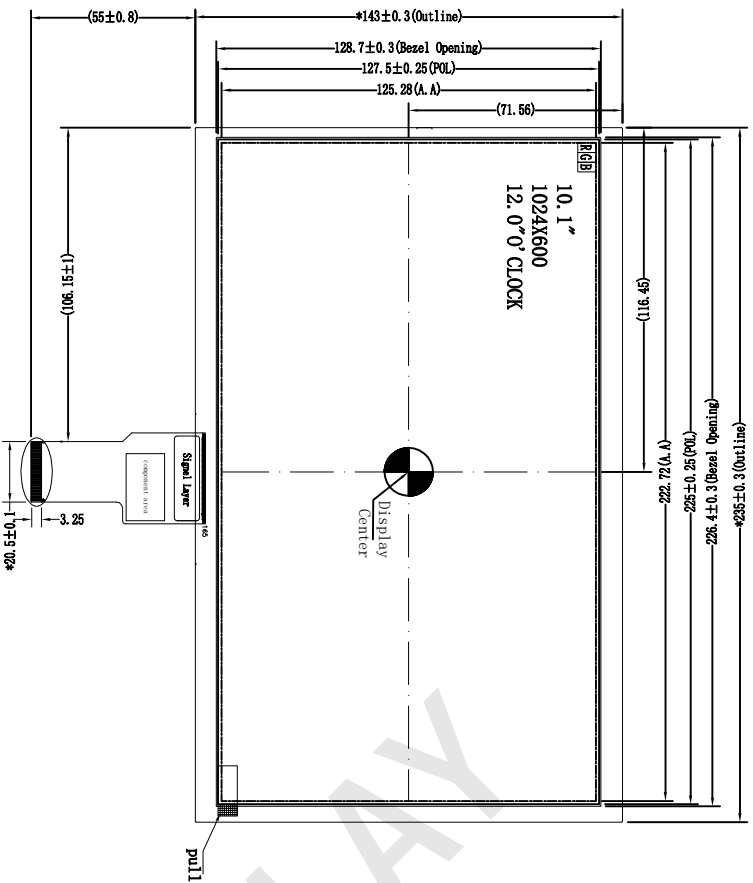


Serial ID includes the information as below:

- (a) Manufactured Date:
  - Year: 00~99, ... 2019=19, 2020=20, 2021=21..., 2028=28.
  - Week: 01~56, first week of the year=01; second week of the year=02; ...
  - Day of the week: A~G=Monday~Sunday
- (b) Edition number: cover all the change; A1, A2... Sample order;  
C for mass production, C1, C2... change of order
- (c) Serial No.: Manufacturing sequence of product

客户承认

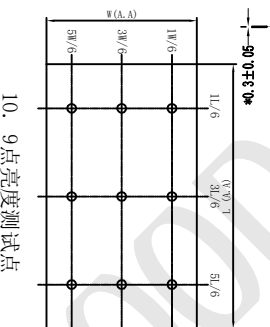
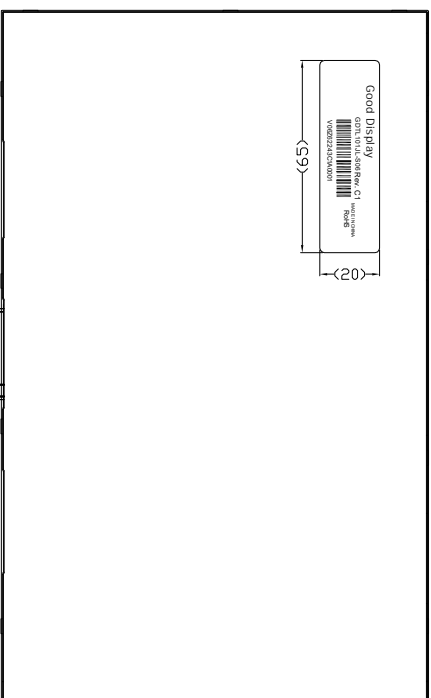
# 正视图



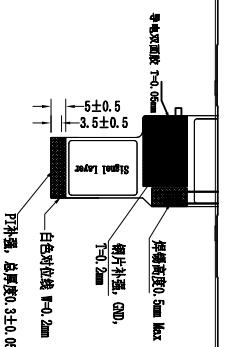
# 侧视图



# 背视图



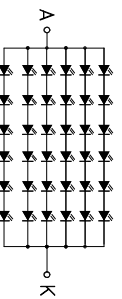
10. 9点亮度测试点



| Pin# | Assignment |
|------|------------|
| 1    | VCOM       |
| 2    | VDD        |
| 3    | VDD        |
| 4    | NC         |
| 5    | RESET      |
| 6    | STBYB      |
| 7    | GND        |
| 8    | RXIN0-     |
| 9    | RXIN0+     |
| 10   | GND        |
| 11   | RXIN1-     |
| 12   | RXIN1+     |
| 13   | GND        |
| 14   | RXIN2-     |
| 15   | RXIN2+     |
| 16   | GND        |
| 17   | RXCCLKIN-  |
| 18   | RXCCLKIN+  |
| 19   | GND        |
| 20   | RXIN3-     |
| 21   | RXIN3+     |
| 22   | GND        |
| 23   | NC         |
| 24   | NC         |
| 25   | GND        |
| 26   | NC         |
| 27   | NC         |
| 28   | SELB       |
| 29   | AVDD       |
| 30   | GND        |
| 31   | LED-       |
| 32   | LED-       |
| 33   | L/R        |
| 34   | L/D        |
| 35   | VGL        |
| 36   | NC         |
| 37   | NC         |
| 38   | VGH        |
| 39   | LED+       |
| 40   | LED+       |

# DALIAN GOOD DISPLAY CO., LTD.

9. LED 电路图: 6串X7并=42LED



1. 单位: mm
2. 显示模式: 10.1" Color TFT, Normally White
3. 驱动IC: HX8282-A01/ /HX8696-A
4. 未注倒角: R0.3, 未注尺寸公差: ±0.3
5. "※" 重点管控尺寸; "( )" 参考尺寸
6. "△" 修改位置;
7. 环保符合RoHS和REACH要求
8. 光电特性参数:

| Item            | Symbol          | Min   | Typ   | Max   | Unit              | Condition |
|-----------------|-----------------|-------|-------|-------|-------------------|-----------|
| LCM             | Luminance       | 450   | 500   | ---   | cd/m <sup>2</sup> | If=140 mA |
|                 | Uniformity      | 75    | 80    | ---   | %                 |           |
|                 | Colour          | X     | 0.265 | 0.315 | 0.365             |           |
| Coordinate      | Y               | 0.275 | 0.325 | 0.375 | ---               | ---       |
|                 | Forward Voltage | Vf    | ---   | ---   | V                 | ---       |
| Reverse Voltage | Ir              | ---   | 18.0  | ---   | mA                | Vr=5.0 V  |

Operating Temperature: -20~+70° C • Storage Temperature: -30~+80° C

V0

V1

初版图纸  
钢片补强上面增加导电双面胶

2021.01.12  
2022.10.24

| UNIT   | mm    | TITLE       | 模组工程图         | NAME        | DATE             |
|--------|-------|-------------|---------------|-------------|------------------|
| RATIO: | 1 : 1 | PRODUCT NO  | GDTL101JL-S06 | DRAWN BY    | YF_CHEN 21.01.12 |
| VIEW:  |       | CUSTOMER NO |               | CHECKED BY  |                  |
| REV    |       | REV         | C1            | APPROVED BY |                  |

**10. PACKAGING**

TBD

GOODDISPLAY

## 11. PRECAUTIONS

### 11.1 ASSEMBLY AND HANDLING PRECAUTIONS

- (1) Do not apply rough force such as bending or twisting to the module during assembly.
- (2) It is recommended to assemble or to install a module into the user's system in clean working areas. The dust and oil may cause electrical short or worsen the polarizer.
- (3) Do not apply pressure or impulse to the module to prevent the damage of LCD panel and Backlight.
- (4) Always follow the correct power-on sequence when the LCD module is turned on. This can prevent the damage and latch-up of the CMOS LSI chips.
- (5) Do not plug in or pull out the I/F connector while the module is in operation.
- (6) Do not disassemble the module.
- (7) Use a soft dry cloth without chemicals for cleaning, because the surface of polarizer is very soft and easily scratched.
- (8) Moisture can easily penetrate into LCD module and may cause the damage during operation.
- (9) High temperature or humidity may deteriorate the performance of LCD module. Please store LCD modules in the specified storage conditions.
- (10) When ambient temperature is lower than 10°C, the display quality might be reduced. For example, the response time will become slow, and the starting voltage of backlight will be higher than that of room temperature.
- (11) Do not keep same pattern in a long period of time. It may cause image sticking on LCD.

## 12. SAFETY PRECAUTIONS

- (1) The startup voltage of a Backlight is approximately 1000 Volts. It may cause an electrical shock while assembling with the inverter. Do not disassemble the module or insert anything into the Backlight unit.
- (2) If the liquid crystal material leaks from the panel, it should be kept away from the eyes or mouth. In case of contact with hands, skin or clothes, it has to be washed away thoroughly with soap.
- (3) After the module's end of life, it is not harmful in case of normal operation and storage.