Japan Display Inc.

FOR MESSRS : _____ DATE : Jun. 3rd ,2026

# CUSTOMER'S ACCEPTANCE SPECIFICATIONS

# TX23D203VM0BAA

## Contents


| No. | ITEM | SHEET No. | PAGE |
|---|---|---|---|
| 1 | COVER | 7B64PS 2701-TX23D203VM0BAA-9 | 1-1/1 |
| 2 | RECORD OF REVISION | 7B64PS 2702-TX23D203VM0BAA-9 | 2-1/2~2/2 |
| 3 | GENERAL DATA | 7B64PS 2703-TX23D203VM0BAA-9 | 3-1/1 |
| 4 | ABSOLUTE MAXIMUM RATINGS | 7B64PS 2704-TX23D203VM0BAA-9 | 4-1/1 |
| 5 | ELECTRICAL CHARACTERISTICS | 7B64PS 2705-TX23D203VM0BAA-9 | 5-1/2~2/2 |
| 6 | OPTICAL CHARACTERISTICS | 7B64PS 2706-TX23D203VM0BAA-9 | 6-1/2~2/2 |
| 7 | BLOCK DIAGRAM | 7B64PS 2707-TX23D203VM0BAA-9 | 7-1/1 |
| 8 | RELIABILITY TESTS | 7B64PS 2708-TX23D203VM0BAA-9 | 8-1/1 |
| 9 | LCD INTERFACE | 7B64PS 2709-TX23D203VM0BAA-9 | 9-1/9~9/9 |
| 10 | OUTLINE DIMENSIONS | 7B64PS 2710-TX23D203VM0BAA-9 | 10-1/2~2/2 |
| 11 | APPEARANCE STANDARD | 7B64PS 2711-TX23D203VM0BAA-9 | 11-1/3~3/3 |
| 12 | PRECAUTIONS | 7B64PS 2712-TX23D203VM0BAA-9 | 12-1/2~2/2 |
| 13 | DESIGNATION OF LOT MARK | 7B64PS 2713-TX23D203VM0BAA-9 | 13-1/1 |


ACCEPTED BY: _____ PROPOSED BY: Oblack Tsai

# 2. RECORD OF REVISION

<table>
<tr><th>DATE</th><th>SHEET No.</th><th>SUMMARY</th></tr>
<tr><td rowspan="2">Aug.24,’20</td><td>7B64PS 2704 –<br>TX23D203VM0BAA-2<br>Page 4-1/1</td><td>4. ABSOLUTE MAXIMUM RATINGS<br>Revised :<br>Operating Temperature Min. -30℃ → -40℃</td></tr>
<tr><td>7B64PS 2708 –<br>TX23D203VM0BAA-2<br>Page 8-1/1</td><td>8. RELIABILITY TESTS<br>Revised :<br>Low Temperature -30℃ → -40℃</td></tr>
<tr><td>Jun.21,’21</td><td>7B64PS 2713 –<br>TX23D203VM0BAA-3<br>Page 13-1/1</td><td>13 DESINATION of LOT MARK<br>Added :
<table>
<tr><th>REV No.</th><th>ITEM</th><th>REMARKS</th></tr>
<tr><td>A</td><td>-</td><td>-</td></tr>
<tr><td>B</td><td>Tcon IC change</td><td>PCN1031</td></tr>
</table></td></tr>
<tr><td rowspan="3">Jan.3,’23</td><td>7B64PS 2701 –<br>TX23D203VM0BAA-4<br>Page 1-1/1</td><td rowspan="2">Company logo changed :<br>KOE JDI Group Kaohsiung Opto-Electronics Inc. → JDI Japan Display Inc.</td></tr>
<tr><td>7B64PS 2713 –<br>TX23D203VM0BAA-4<br>Page 13-1/1</td></tr>
<tr><td>All page</td><td>Company name changed:<br>From “KAOHSIUNG OPTO-ELECTRONICS INC.”<br>to “JDI Taiwan Inc. Kaohsiung Branch”</td></tr>
<tr><td rowspan="2">Feb.02,’24</td><td>7B64PS 2703 –<br>TX23D203VM0BAA -5<br>Page 3-1/1</td><td>3.1 DISPLAY FEATURES<br>LCD of Power Consumption revised：1.2W → 0.9W</td></tr>
<tr><td>7B64PS 2705 –<br>TX23D203VM0BAA -5<br>Page 5-1/2</td><td>5.1 LCD CHARACTERISTICS<br>Power Supply Current revised
<table>
<tr><th>Item</th><th>Symbol</th><th>Condition</th><th>Min.</th><th>Typ.</th><th>Max.</th><th>Unit</th><th>Remarks</th></tr>
<tr><td>Power Supply Current</td><td>$I_{DD}$</td><td>$V_{DD}$-$V_{SS}$ =3.3V</td><td>330</td><td>370</td><td>430</td><td>mA</td><td>Note 2,3</td></tr>
</table>
↓
<table>
<tr><th>Item</th><th>Symbol</th><th>Condition</th><th>Min.</th><th>Typ.</th><th>Max.</th><th>Unit</th><th>Remarks</th></tr>
<tr><td>Power Supply Current</td><td>$I_{DD}$</td><td>$V_{DD}$-$V_{SS}$ =3.3V</td><td>200</td><td>280</td><td>360</td><td>mA</td><td>Note 2,3</td></tr>
</table></td></tr>
<tr><td rowspan="2">Nov.15,’24</td><td>7B64PS 2705 –<br>TX23D203VM0BAA -6<br>Page 5-1/2</td><td>5.1 LCD CHARACTERISTICS<br>Power Supply Current revised
<table>
<tr><th>Item</th><th>Min.</th><th>Typ.</th><th>Max.</th><th>Unit</th><th>Remarks</th></tr>
<tr><td>Power Supply Current</td><td>200</td><td>280</td><td>360</td><td>mA</td><td>Note 2,3</td></tr>
</table>
↓
<table>
<tr><th>Item</th><th>Min.</th><th>Typ.</th><th>Max.</th><th>Unit</th><th>Remarks</th></tr>
<tr><td>Power Supply Current</td><td>125</td><td>150</td><td>175</td><td>mA</td><td>Note 2,3</td></tr>
</table></td></tr>
<tr><td>7B64PS 2713 –<br>TX23D203VM0BAA -6<br>Page 13-1/1</td><td>13 DESINATION of LOT MARK<br>Added :
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<tr><th>REV No.</th><th>ITEM</th><th>REMARKS</th></tr>
<tr><td>A</td><td>-</td><td>-</td></tr>
<tr><td>B</td><td>Tcon IC change</td><td>PCN 1031</td></tr>
<tr><td>C</td><td>Driver IC change</td><td>PCN 1073</td></tr>
</table></td></tr>
</table>

# 2. RECORD OF REVISION

<table>
<tr><th>DATE</th><th>SHEET No.</th><th>SUMMARY</th></tr>
<tr><td rowspan="2">May 23,’25</td><td>7B64PS 2703 –<br>TX23D203VM0BAA-7<br>Page 3-1/1</td><td>3.1 DISPLAY FEATURES<br>Revised :<br>Power Consumption 4.8 W → 5.0 W for backlight</td></tr>
<tr><td>7B64PS 2705 –<br>TX23D203VM0BAA-7<br>Page 5-2/2</td><td>5-2. BACKLIGHT CHARACTERISTICS<br>Revised :<br>LED Forward Current (0V; 0% duty) 400mA → 420mA<br>(3.3VDC; 100% Duty) 45mA → 27mA</td></tr>
<tr><td rowspan="2">Nov.3,’25</td><td>7B64PS 2704 –<br>TX23D203VM0BAA-8<br>Page 4-1/1</td><td>4. ABSOLUTE MAXIMUM RATINGS<br>Added : Pin 3.3W</td></tr>
<tr><td>7B64PS 2705 –<br>TX23D203VM0BAA-8<br>Page 5-1/2</td><td>5.1 LCD CHARACTERISTICS<br>Revised：IDD Max. 175 → 250</td></tr>
<tr><td rowspan="2">Jun.3,’26</td><td>7B64PS 2705 –<br>TX23D203VM0BAA-9<br>Page 5-2/2</td><td>5-2. BACKLIGHT CHARACTERISTICS<br>Revised : LED Forward Current Max. 35 → 59</td></tr>
<tr><td>7B64PS 2711 –<br>TX23D203VM0BAA-9<br>Page 11-2/3</td><td>11.2 LCD APPEARANCE SPECIFICATION<br>Revised :
<table>
<tr><td rowspan="4">1) Stains<br>2) Foreign Materials<br>3) Dark Spot</td><td>Average diameter (mm)</td><td rowspan="4">→</td><td>Average diameter (mm)</td></tr>
<tr><td>D≦0.22</td><td>D≦0.2</td></tr>
<tr><td>0.22＜D≦0.33</td><td>0.2＜D≦0.35</td></tr>
<tr><td>D＞0.33</td><td>D＞0.35</td></tr>
</table>
</td></tr>
<tr><td></td><td></td><td></td></tr>
</table>

# 3. GENERAL DATA

## 3.1 DISPLAY FEATURES

This module is a 9” WVGA of 16:9 format of amorphous silicon TFT. The pixel format is vertical stripe and sub pixels are arranged as R(red), G(green), B(blue) sequentially .This display is RoHS compliant , and COG (chip on glass) technology and LED backlight are applied on this display.

| | |
|---|---|
| Part Name | TX23D203VM0BAA |
| Module Dimensions | 218.0(W) mm x 135.0(H) mm x 11.15 (D) mm |
| LCD Active Area | 196.8(W) mm x 118.08(H) mm |
| Pixel Pitch | 0.246(W) mm x 0.246(H) mm |
| Resolution | 800 x 3(RGB)(W) x 480(H) Dots |
| Color Pixel Arrangement | R, G, B Vertical stripe |
| LCD Type | Transmissive Color TFT; Normally Black |
| Display Type | Active Matrix |
| Number of Colors | 16.7M Colors(8-bit) |
| Backlight | 7 LEDs parallel x 3 serial (21 LEDs in total) |
| Weight | 330 g |
| Interface | 1ch-LVDS/Receiver ; 20 pins |
| Power Supply Voltage | 3.3V for LCD ; 12.0V for Backlight |
| Power Consumption | 0.5 W for LCD ; 5.0 W for backlight |
| Viewing Direction | Super Wide Version (In Plane Switching) |

# 4. ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Min. | Max. | Unit | Remarks |
|---|---|---|---|---|---|
| Supply Voltage | $V_{DD}$ | -0.3 | 4.0 | V | - |
| Input Voltage of Logic | $V_I$ | -0.3 | $V_{DD}$+0.3 | V | Note 1 |
| Input Power | Pin | - | 3.3 | W | - |
| Operating Temperature | $T_{op}$ | -40 | 85 | °C | Note 2 |
| Storage Temperature | $T_{st}$ | -40 | 90 | °C | Note 2 |
| Backlight Input Voltage | $V_{LED}$ | - | 15 | V | - |

Note 1: The rating is defined for the signal voltages of the interface such as DIM, AMODE, CLK and pixel data pairs.

Note 2: The maximum rating is defined as above based on the chamber temperature, which might be different from ambient temperature after assembling the panel into the application. Moreover, some temperature-related phenomenon as below needed to be noticed:

- Background color, contrast and response time would be different in temperatures other than 25°C.
- Operating under high temperature will shorten LED lifetime.

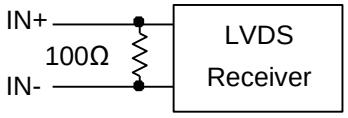
# 5. ELECTRICAL CHARACTERISTICS

## 5.1 LCD CHARACTERISTICS

$T_a = 25\ ^{\circ}C,\ VSS = 0V$

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit | Remarks |
|---|---|---|---|---|---|---|---|
| Power Supply Voltage | $V_{DD}$ | - | 3.0 | 3.3 | 3.6 | V | - |
| Input Voltage of Logic | $V_I$ | "H" level | - | - | +100 | mV | Note 1 |
| | | "L" level | -100 | - | - | | |
| Signal Input Voltage | $V_I$ | "H" level | $0.7V_{DD}$ | - | $V_{DD}$ | V | CMOS Level |
| | | "L" level | 0 | - | $0.3V_{DD}$ | | |
| Power Supply Current | $I_{DD}$ | $V_{DD}$-$V_{SS}$ =3.3V | 125 | 150 | 250 | mA | Note 2,3 |
| Frame Frequency | $f_{Frame}$ | | | 60 | 75 | Hz | - |
| DCLK Frequency | $f_{CLK}$ | - | 25 | 33.3 | 35 | MHz | |

Note 1: VCM 1.2V is common mode voltage of LVDS transmitter and receiver .The input terminal of LVDS receiver is terminated with 100Ω.




Note 2: An all white check pattern is used when measuring $I_{DD}$. $f_{Frame}$ is set to 60 Hz.

Note 3: 1.0A fuse is applied in the module for $I_{DD}$. For display activation and protection purpose, power supply is recommended larger than 2.5A to start the display and break fuse once any short circuit occurred.

Note 4: For LVDS Transmitter Input

## 5.2 BACKLIGHT CHARACTERISTICS

$T_a = 25\ ^\circ C$

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit | Remarks |
|---|---|---|---|---|---|---|---|
| LED Input Voltage | $V_{LED}$ | - | 11.5 | 12.0 | 12.5 | V | Note1 |
| LED Forward Current | $I_{LED}$ | 0V; 0% duty | 380 | 420 | 460 | mA | |
| | | 3.3VDC; 100% Duty | 19 | 27 | 59 | | |
| LED lifetime | - | $I_{LED}$ = 420mA | - | 100K | - | hrs | Note 2 |

Note 1: As Fig. 5.1 shown, LED current is constant, 420mA, controlled by the LED driver when applying 12V $V_{LED}$.

Note 2: The estimated lifetime is specified as the time to reduce 50% brightness by applying 420mA at 25°C.

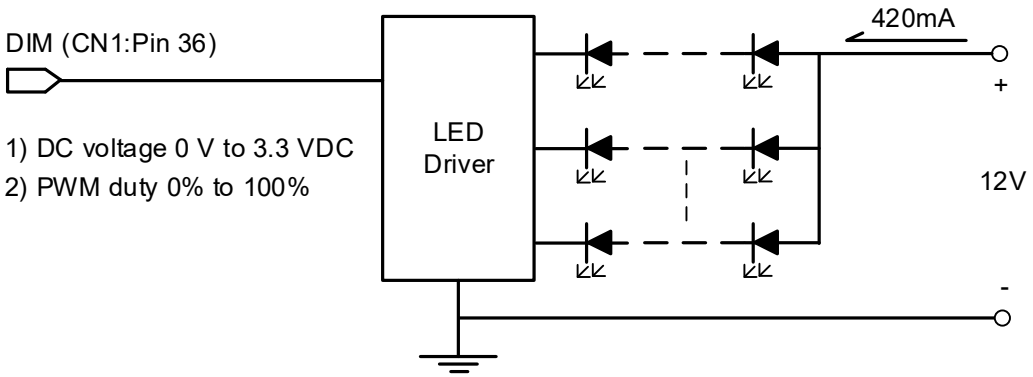



Fig. 5.1

# 6. OPTICAL CHARACTERISTICS

The optical characteristics are measured based on the conditions as below:

- Supplying the signals and voltages defined in the section of electrical characteristics.
- The backlight unit needs to be turned on for 30 minutes.
- The ambient temperature is 25°C.
- In the dark room less than 100 lx, the equipment has been set for the measurements as shown in Fig 6.1.

$T_a = 25\ ^{\circ}C,\ f_{Frame} = 60\,\text{Hz}, V_{DD} = 3.3\text{V}$

| Item | | Symbol | Condition | Min. | Typ. | Max. | Unit | Remarks |
|---|---|---|---|---|---|---|---|---|
| Brightness of White | | - | $\phi = 0^{\circ}, \theta = 0^{\circ}$, $I_{LED}$= 400mA | 800 | 1000 | - | $cd/m^2$ | Note 1 |
| Brightness Uniformity | | - | | 75 | - | - | % | Note 2 |
| Contrast Ratio | | CR | | 800 | 1000 | - | - | Note 3 |
| Response Time | | Tr + Tf | $\phi = 0^{\circ}, \theta = 0^{\circ}$ | - | 40 | - | ms | Note 4 |
| NTSC Ratio | | - | $\phi = 0^{\circ}, \theta = 0^{\circ}$ | - | 72 | - | % | - |
| Viewing Angle | | $\theta$ x | $\phi = 0^{\circ}$, CR ≥ 10 | - | 85 | - | Degree | Note 5 |
| | | $\theta$ x′ | $\phi = 180^{\circ}$, CR ≥ 10 | - | 85 | - | | |
| | | $\theta$ y | $\phi = 90^{\circ}$, CR ≥ 10 | - | 85 | - | | |
| | | $\theta$ y′ | $\phi = 270^{\circ}$, CR ≥ 10 | - | 85 | - | | |
| Color Chromaticity | Red | X | $\phi = 0^{\circ}, \theta = 0^{\circ}$ | 0.60 | 0.65 | 0.70 | - | Note 6 |
| | | Y | | 0.29 | 0.34 | 0.39 | | |
| | Green | X | | 0.26 | 0.31 | 0.36 | | |
| | | Y | | 0.57 | 0.62 | 0.67 | | |
| | Blue | X | | 0.10 | 0.15 | 0.20 | | |
| | | Y | | 0.01 | 0.07 | 0.12 | | |
| | White | X | | 0.26 | 0.31 | 0.36 | | |
| | | Y | | 0.28 | 0.33 | 0.38 | | |

Note 1: The brightness is measured from 9 point of the panel, P1~P9 in Fig. 6.2, for the average value.

Note 2: The brightness uniformity is calculated by the equation as below:

$$\text{Brightness uniformity} = \frac{\text{Min. Brightness}}{\text{Max. Brightness}} \text{ X100\%}$$

which is based on the brightness values of the 9 points in active area measured by BM-5 as shown in Fig. 6.2.

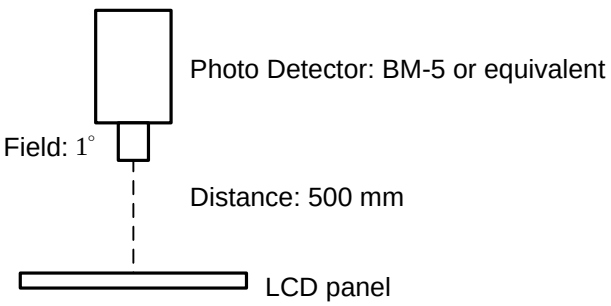



Fig 6.1

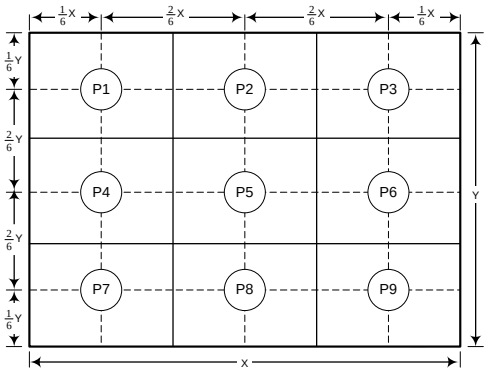



Fig 6.2

Note 3: The Contrast Ratio is measured from the center point of the panel, P5, and defined as the following equation:

$$CR = \frac{\text{Brightness of White}}{\text{Brightness of Black}}$$

Note 4: The definition of response time is shown in Fig. 6.3. The rising time is the period from 10% brightness to 90% brightness when the data is from black to white. Oppositely, Falling time is the period from 90% brightness rising to 10% brightness.

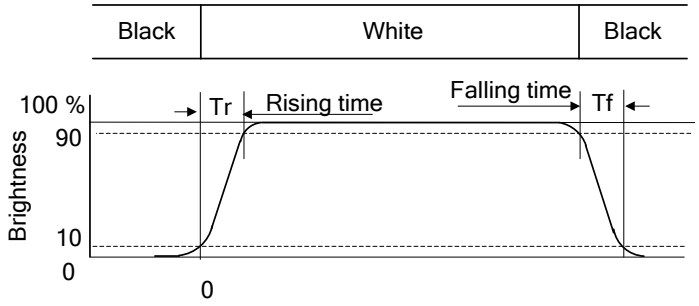



Fig 6.3

Note 5: The definition of viewing angle is shown in Fig. 6.4. Angle $\phi$ is used to represent viewing directions, for instance, $\phi = 270^\circ$ means 6 o'clock, and $\phi = 0^\circ$ means 3 o'clock. Moreover, angle $\theta$ is used to represent viewing angles from axis Z toward plane XY.

The display is super wide viewing angle version; 85° viewing angle can be obtained from each viewing direction.

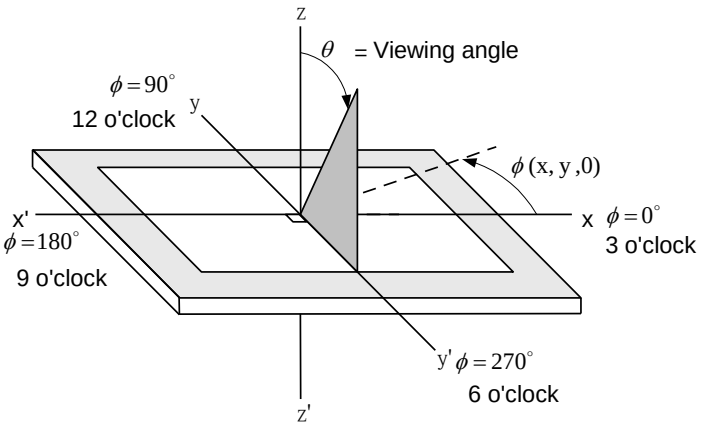
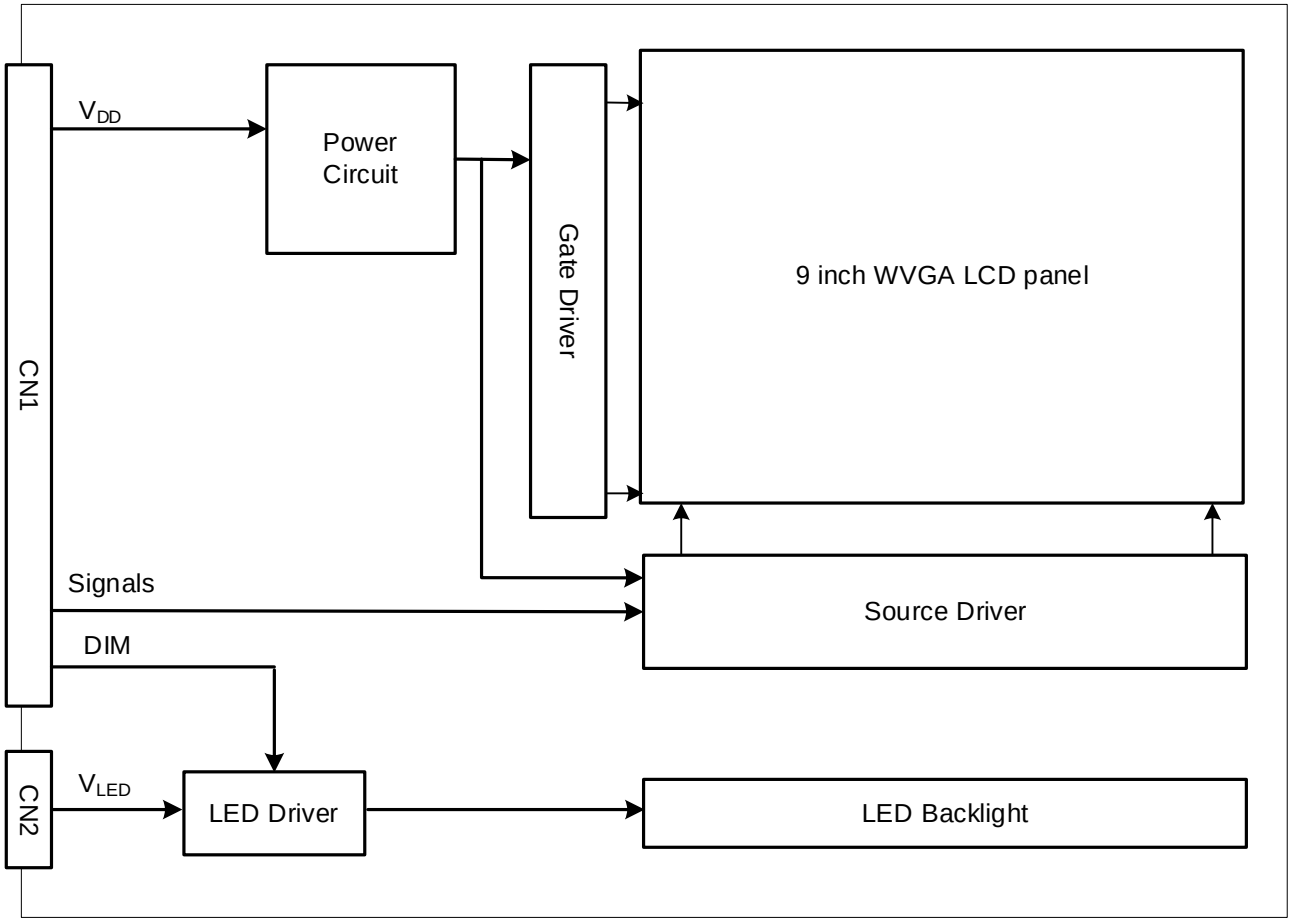



Fig 6.4

Note 6: The color chromaticity is measured from the center point of the panel, P5, as shown in Fig. 6.2.

# 7 BLOCK DIAGRAM



# 8. RELIABILITY TESTS

| Test Item | Condition | |
|---|---|---|
| High Temperature | 1) Operating<br>2) 85°C | 500 hrs |
| Low Temperature | 1) Operating<br>2) -40°C | 500 hrs |
| High Temperature | 1) Storage<br>2) 90°C | 500 hrs |
| Low Temperature | 1) Storage<br>2) -40°C | 500 hrs |
| Heat Cycle | 1) Operating<br>2) –30°C ~80°C<br>3) 3hrs~1hr~3hrs | 500 hrs |
| Thermal Shock | 1) Non-Operating<br>2) -35°C↔85°C<br>3) 0.5 hr↔0.5 hr | 500 cycles |
| High Temperature & Humidity | 1) Operating<br>2) 40°C & 85%RH<br>3) Without condensation (Note3) | 500 hrs |
| Vibration | 1) Non-Operating<br>2) 10~200 Hz<br>3) 5G<br>4) X, Y, and Z directions | 1 hr for each direction |
| Mechanical Shock | 1) Non-Operating<br>2) 10 ms<br>3) 80G<br>4) ±X, ±Y and ±Z directions | Once for each direction |
| ESD | 1) Operating<br>2) Tip:150 pF,330Ω<br>3) Air discharge for glass: ± 12KV<br>4) Contact discharge for metal frame: ± 15KV | 1) Glass: 9 points<br>2) Metal frame: 8 points (Note4) |

Note 1: Display functionalities are inspected under the conditions defined in the specification after the reliability tests.

Note 2: The display is not guaranteed for use in corrosive gas environments.

Note 3: Under the condition of high temperature & humidity, if the temperature is higher than 40°C, the humidity needs to be reduced as Fig. 8.1 shown.

Note 4: All pins of LCD interface (CN1) have been tested by ±100V contact discharge of ESD under non-operating condition.

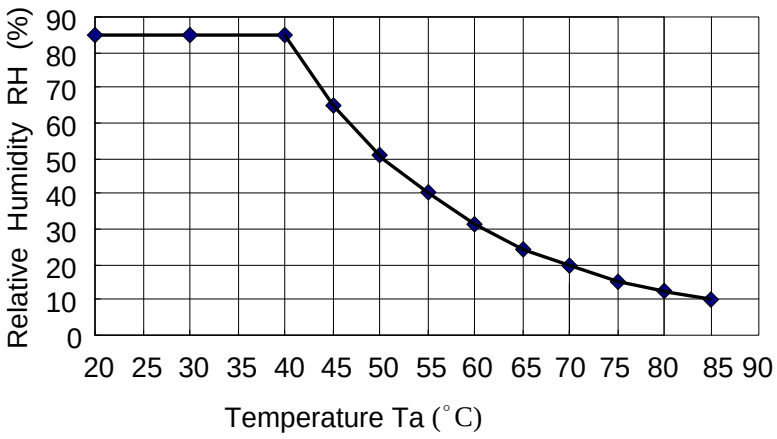



Fig. 8.1

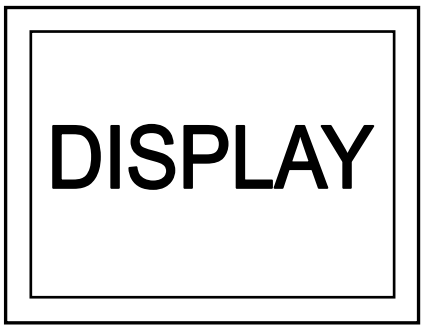
# 9. LCD INTERFACE

## 9.1 INTERFACE PIN CONNECTIONS

The display interface connector CN1 is FI-SEB20P-HF13E made by JAE and more details of the connector are shown in the section of outline dimension. Pin assignment of LCD interface is as below:

| Pin No. | Signal | Signal | Pin No. | Signal | Signal |
|---|---|---|---|---|---|
| 1 | $V_{DD}$ | Power Supply (typ.+3.3V) | 11 | IN2- | Pixel Data |
| 2 | $V_{DD}$ | | 12 | IN2+ | |
| 3 | DIM | Backlight diming (Note 3) | 13 | $V_{SS}$ | GND |
| 4 | $V_{SS}$ | GND | 14 | CLK IN- | Pixel Clock |
| 5 | IN0- | Pixel Data | 15 | CLK IN+ | |
| 6 | IN0+ | | 16 | $V_{SS}$ | GND |
| 7 | $V_{SS}$ | GND | 17 | IN3- | Pixel Data |
| 8 | IN1- | Pixel Data | 18 | IN3+ | |
| 9 | IN1+ | | 19 | SD | Scan Direction Control (Note 1) |
| 10 | $V_{SS}$ | GND | 20 | AMODE | L:8bit(default),H:8bit/6bit |

Note 1: Scan direction is available to be switched as below.




SD：Low or Open (Default)




SD：High

Note 2: In n- and n+ (n=0,1,2,3), CLK IN- and CLK IN+ should be wired by twist-pairs or side by side FPC patterns, respectively.

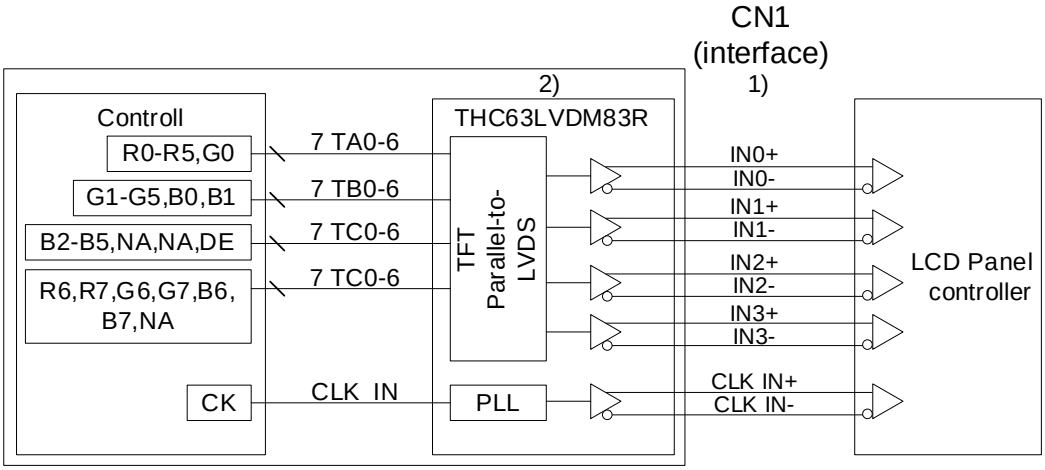
Note 3: Normal brightness: 0V or 0% PWM duty; Brightness control: 0V to 3.3V DC or 0% to 100% PWM duty.

The backlight interface connector CN2 is SM08B-SRSS-TB made by JST, and pin assignment of backlight is as below:

| Pin No. | Signal | Function |
|---|---|---|
| 1~3 | $V_{LED}$+ | Power Supply for LED(12V) |
| 4~5 | NC | No Connection |
| 6~8 | $V_{LED}$- | GND |

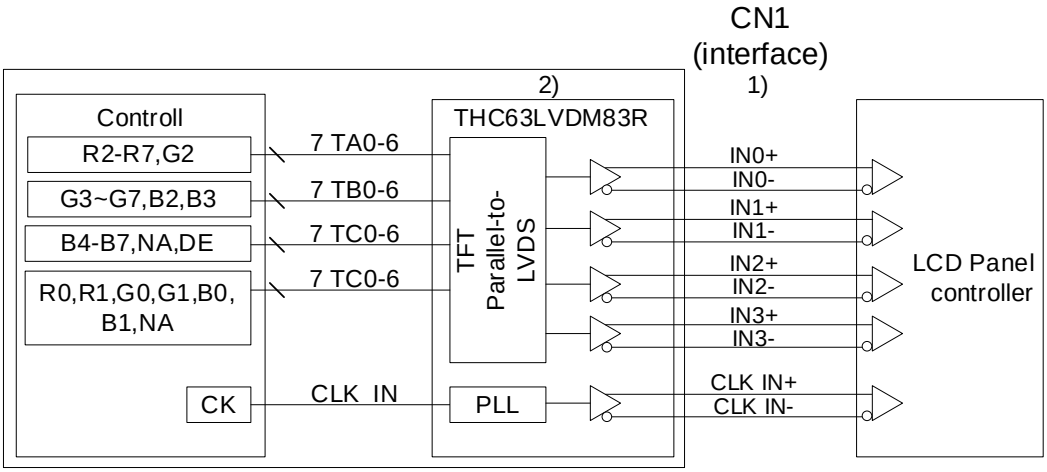
9.2 LVDS INTERFACE

1) 8Bit Mode ( AMODE = LOW )

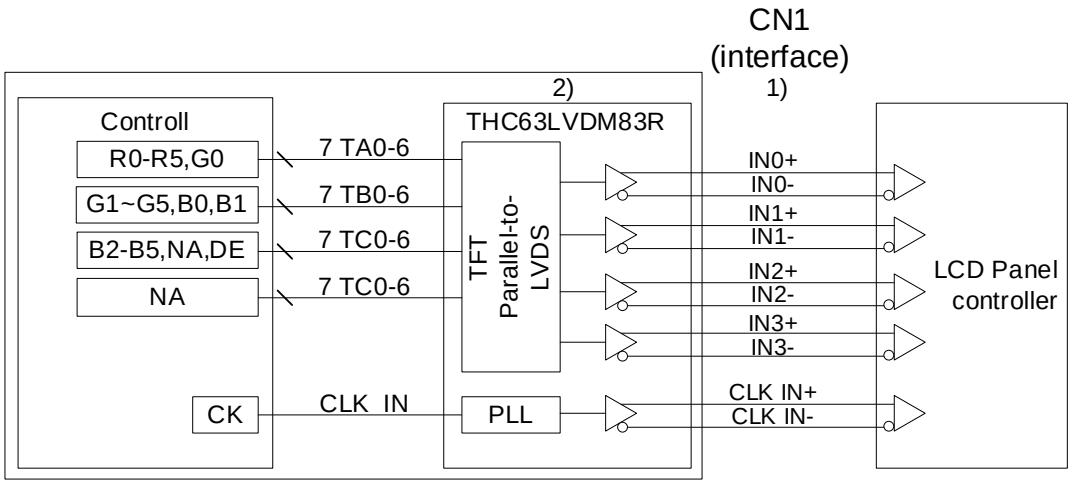



2) 8Bit / 6Bit Mode( AMODE = HIGH )

① 8Bit Mode




② 6Bit Mode



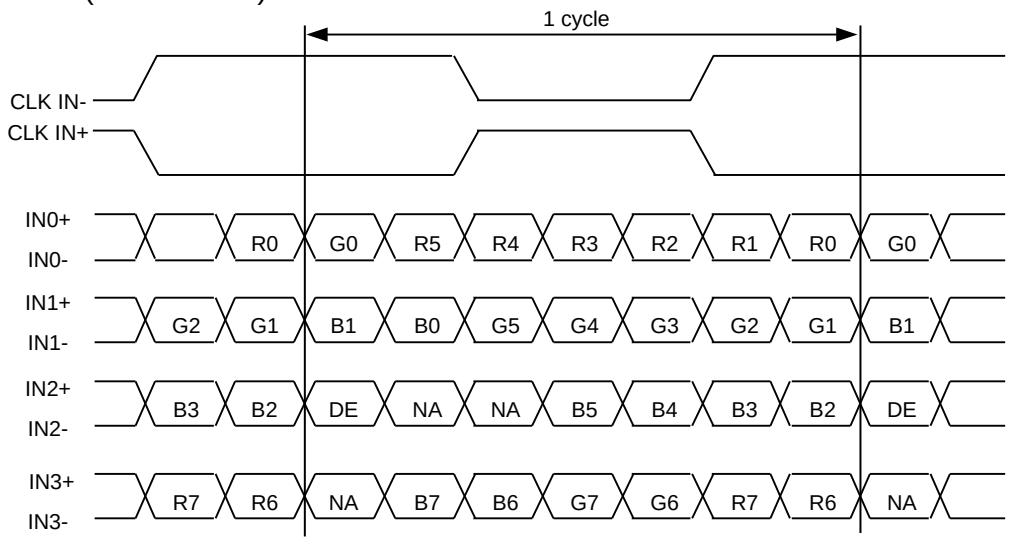

Note 1: 100Ω impedance of LVDS cable is recommended for best optical performance.

Note 2: Transmitter Made by Thine : THC63LVDM83R or equivalent.

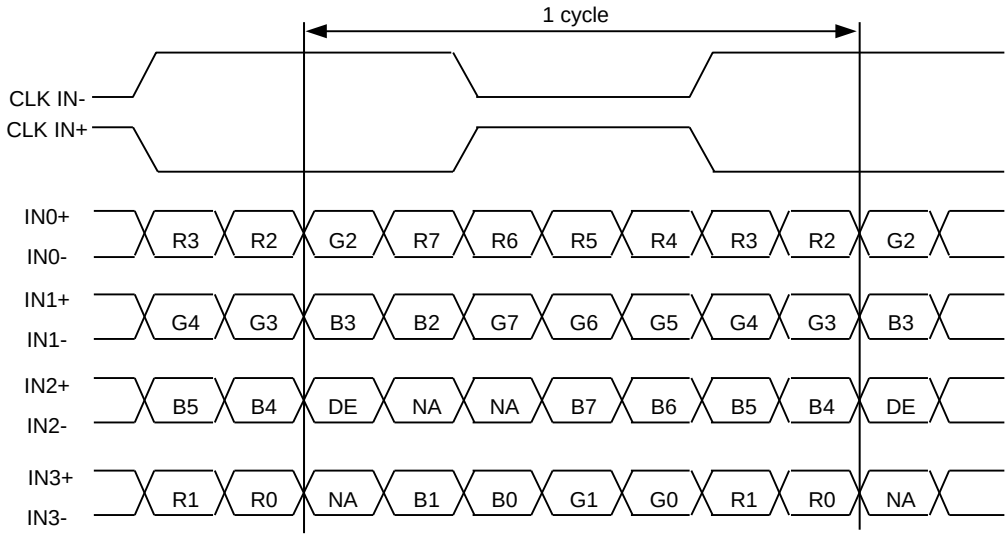
## 9.3 DATA MAPPING

| Transmitter | | 8Bit Mode | 8Bit Mode | 6Bit Mode |
|---|---|---|---|---|
| Pin No. | Pin name | AMODE | | |
| | | LOW | HIGH | |
| 51 | TA0 | R0(LSB) | R2 | R0(LSB) |
| 52 | TA1 | R1 | R3 | R1 |
| 54 | TA2 | R2 | R4 | R2 |
| 55 | TA3 | R3 | R5 | R3 |
| 56 | TA4 | R4 | R6 | R4 |
| 3 | TA5 | R5 | R7(MSB) | R5(MSB) |
| 4 | TA6 | G0(LSB) | G2 | G0(LSB) |
| 6 | TB0 | G1 | G3 | G1 |
| 7 | TB1 | G2 | G4 | G2 |
| 11 | TB2 | G3 | G5 | G3 |
| 12 | TB3 | G4 | G6 | G4 |
| 14 | TB4 | G5 | G7(MSB) | G5(MSB) |
| 15 | TB5 | B0(LSB) | B2 | B0(LSB) |
| 19 | TB6 | B1 | B3 | B1 |
| 20 | TC0 | B2 | B4 | B2 |
| 22 | TC1 | B3 | B5 | B3 |
| 23 | TC2 | B4 | B6 | B4 |
| 24 | TC3 | B5 | B7(MSB) | B5(MSB) |
| 27 | TC4 | (NA) | (NA) | (NA) |
| 28 | TC5 | (NA) | (NA) | (NA) |
| 30 | TC6 | DE | DE | DE |
| 50 | TD0 | R6 | R0(LSB) | (NA) |
| 2 | TD1 | R7(MSB) | R1 | (NA) |
| 8 | TD2 | G6 | G0(LSB) | (NA) |
| 10 | TD3 | G7(MSB) | G1 | (NA) |
| 16 | TD4 | B6 | B0(LSB) | (NA) |
| 18 | TD5 | B7(MSB) | B1 | (NA) |
| 25 | TD6 | (NA) | (NA) | (NA) |

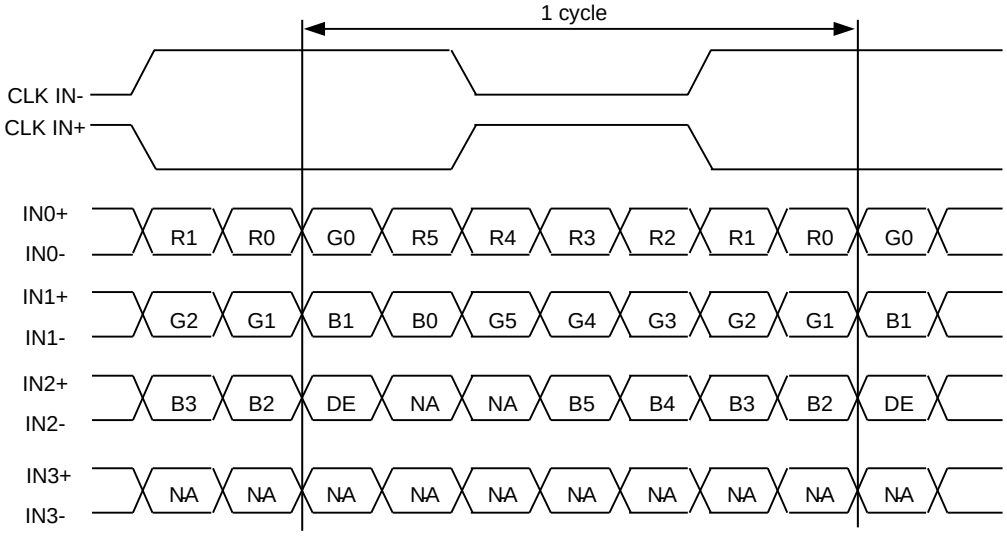
(1) 8Bit Mode (Amode=Low)




(2) 8Bit Mode (Amode=High)




(3) 6Bit Mode (Amode=High)




DE : Display Enable

NA : Not Available

## 9.4 DATA INPUT for DISPLAY COLOR

## (8BIT MODE)

| Input color | | Red Data | | | | | | | | Green Data | | | | | | | | Blue Data | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R7 | R6 | R5 | R4 | R3 | R2 | R1 | R0 | G7 | G6 | G5 | G4 | G3 | G2 | G1 | G0 | B7 | B6 | B5 | B4 | B3 | B2 | B1 | B0 |
| | | MSB | | | | | | | LSB | MSB | | | | | | | LSB | MSB | | | | | | | LSB |
| Basic Color | Black | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(255) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(255) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Blue(255) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cyan | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Magenta | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Yellow | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | White | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Red | Black | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(2) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
| | Red(253) | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(254) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(255) | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Green | Black | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(2) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
| | Green(253) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(254) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(255) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Blue | Black | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Blue(1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Blue(2) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
| | Blue(253) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 1 |
| | Blue(254) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 |
| | Blue(255) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |

Note 1: Definition of gray scale : Color(n) Number in parenthesis indicates gray scale level. Larger number corresponds to brighter level.

Note 2: Data Signal : 1 : High, 0 : Low

(6BIT MODE)

| Input color | | Red Data | | | | | | Green Data | | | | | | Blue Data | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | R5 | R4 | R3 | R2 | R1 | R0 | G5 | G4 | G3 | G2 | G1 | G0 | B5 | B4 | B3 | B2 | B1 | B0 |
| | | MSB | | | | | LSB | MSB | | | | | LSB | MSB | | | | | LSB |
| Basic Color | Black | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(63) | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(63) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Blue(63) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Cyan | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Magenta | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |
| | Yellow | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | White | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Red | Black | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(1) | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(2) | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
| | Red(61) | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(62) | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Red(63) | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Green | Black | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(2) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
| | Green(61) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(62) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Green(63) | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |
| Blue | Black | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Blue(1) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| | Blue(2) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |
| | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : |
| | Blue(61) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 0 | 1 |
| | Blue(62) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 0 |
| | Blue(63) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 |

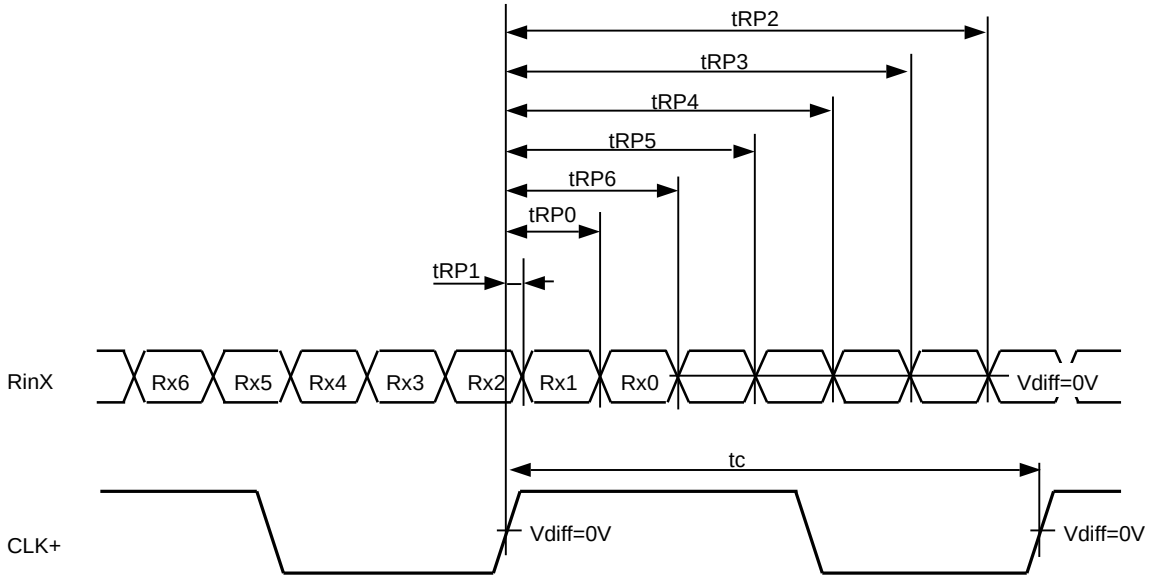
Note 1: Definition of gray scale : Color(n) Number in parenthesis indicates gray scale level. Larger number corresponds to brighter level.

Note 2: Data Signal : 1 : High, 0 : Low

## 9.5 INTERFACE TIMING

(1) LVDS Receiver Timing

(Interface of TFT module)




RinX=(RinX+)-(RinX-) (X=0,1,2)

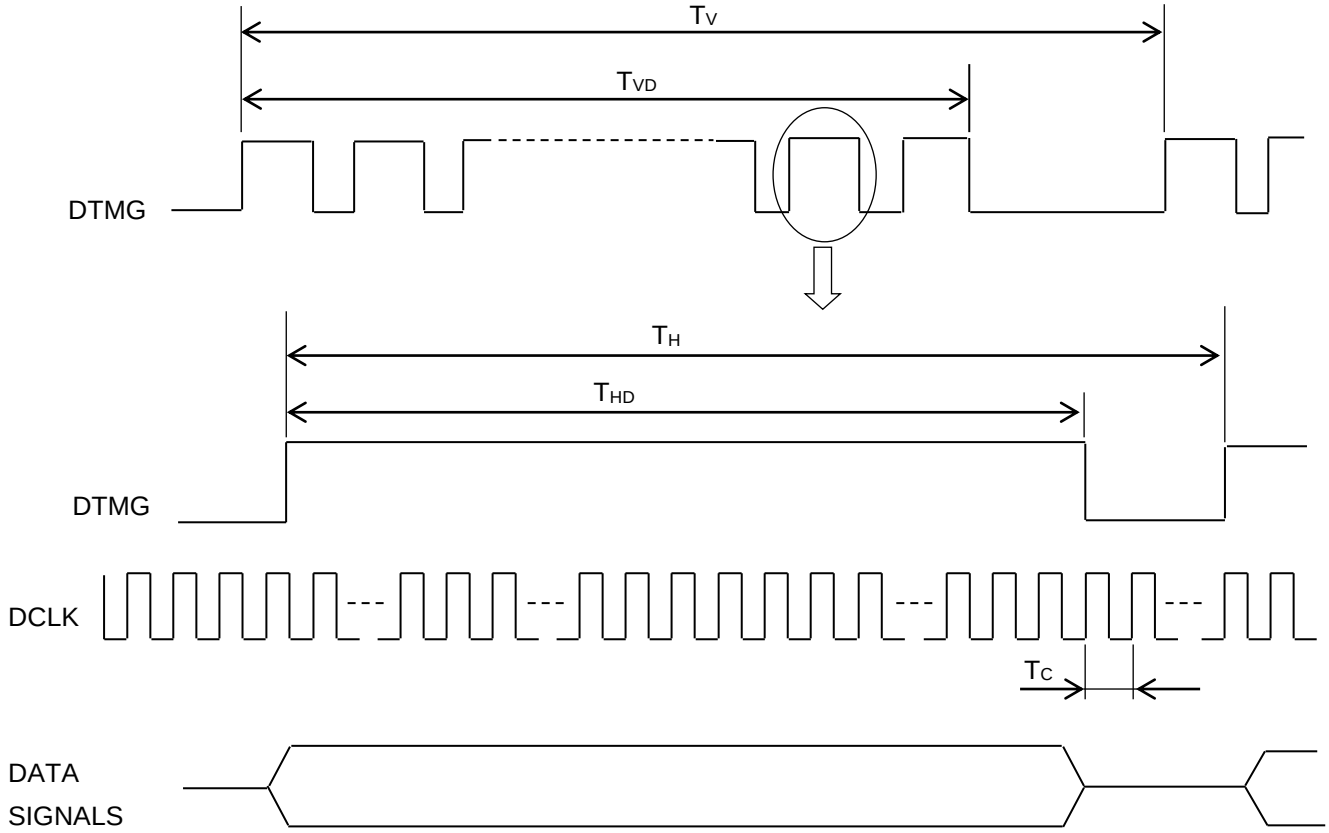
| Item | | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| DCLK | FREQUENCY | 1/tc | 25.0 | 27.72 1) 33.3 2) | 35.0 | MHz |
| RinX (X=0,1,2) | 0 data position | $t_{RP0}$ | $1/7t_{CLK}$-0.65 | $1/7*t_{CLK}$ | $1/7t_{CLK}$+0.65 | ns |
| | 1st data position | $t_{RP1}$ | -0.65 | 0 | -0.65 | |
| | 2nd data position | $t_{RP2}$ | $6/7t_{CLK}$-0.65 | $6/7*t_{CLK}$ | $6/7t_{CLK}$+0.65 | |
| | 3rd data position | $t_{RP3}$ | $5/7t_{CLK}$-0.65 | $5/7*t_{CLK}$ | $5/7t_{CLK}$+0.65 | |
| | 4th data position | $t_{RP4}$ | $4/7t_{CLK}$-0.65 | $4/7*t_{CLK}$ | $4/7t_{CLK}$+0.65 | |
| | 5th data position | $t_{RP5}$ | $3/7t_{CLK}$-0.65 | $3/7*t_{CLK}$ | $3/7t_{CLK}$+0.65 | |
| | 6th data position | $t_{RP6}$ | $2/7t_{CLK}$-0.65 | $2/7*t_{CLK}$ | $2/7t_{CLK}$+0.65 | |

Note 1: $f_{Frame}$=50Hz

Note 2: $f_{Frame}$=60Hz

(2) Timing converter timing

(Input timing for transmitter)

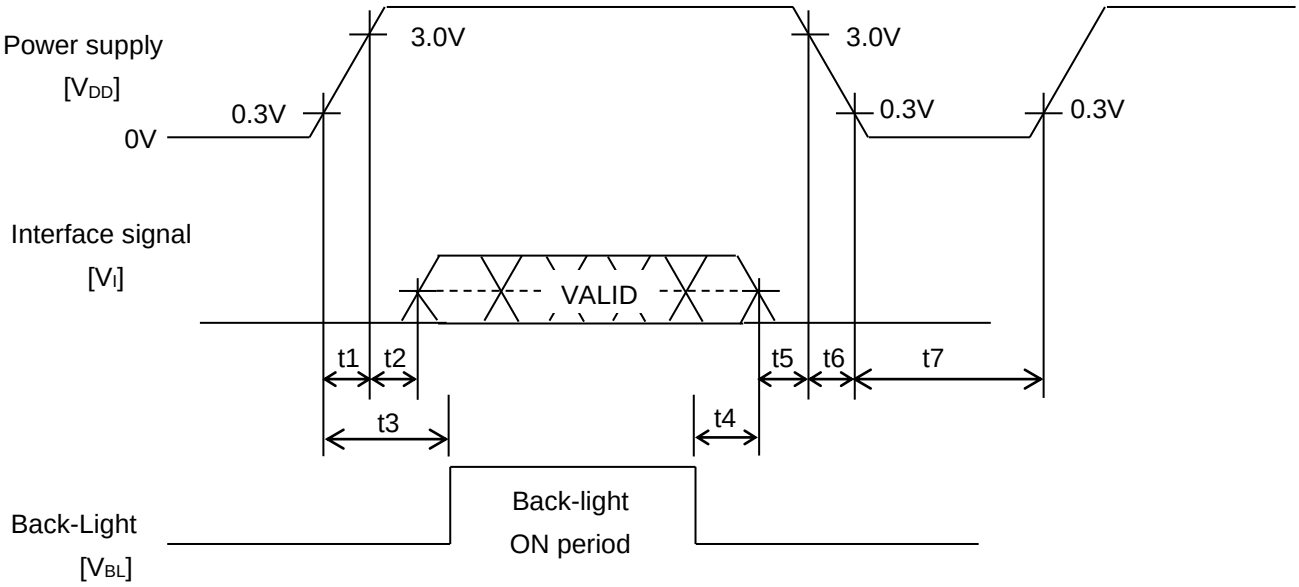



The timings except mentioned above are referred to the specifications of your transmitter.

| Item | | Symbol | Min. | Typ. | Max. | Unit | Remarks |
|---|---|---|---|---|---|---|---|
| DCLK | Cycle time | $T_C$ | 28.6 | 30 | 40 | ns | |
| | Duty | D | 0.45 | 0.5 | 0.55 | - | |
| Horizontal | Horizontal period | $T_H$ | 845 | 1056 | 1200 | $T_C$ | |
| | Horizontal width-Active | $T_{HD}$ | 800 | 800 | 800 | $T_C$ | |
| Vertical | Vertical period | $T_V$ | 490 | 525 | 640 | $T_H$ | |
| | Vertical width-Active | $T_{VD}$ | 480 | 480 | 480 | $T_H$ | |
| | Frame frequency | $f_V$ | 45 | 60 | 75 | $H_Z$ | |

(3) Timing between interface signal and power supply

Power Supply, Input Signal and Backlight Voltage should comply with the following sequence.




| POWER ON | POWER OFF |
|---|---|
| 0< t1≦15ms | 5ms≦ t4 |
| 0< t2 ≦45ms | 0≦ t5 ≦45ms |
| 100ms≦t3 | 0≦ t6 ≦20ms |
| | 500ms≦t7 |

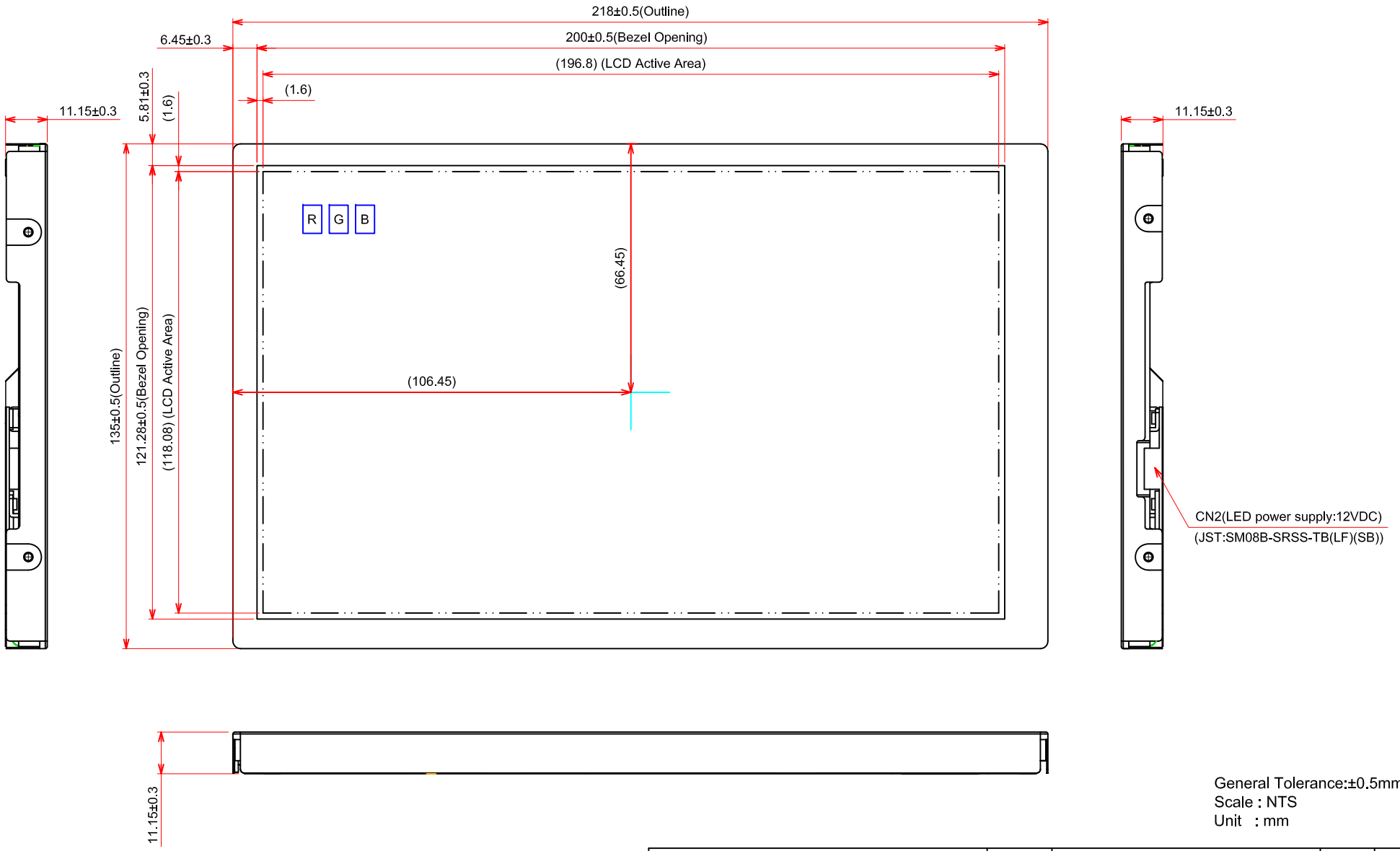
Note 1: In order to prevent electronic parts from destruction caused by latch-up, please input signal after Power Supply Voltage ON. In addition, please turn off signals before power supply voltage OFF.

Note 2: In order to prevent from function error due to residual charge, please reenter power supply voltage after time stipulated with t7.

Note 3: Please turn on Backlight after signals fix and turn off before signals down, otherwise noise appears in the display. The noise cause no problem with display performance in case of timing sequence comply with the spec.

# 10. OUTLINE DIMENSIONS

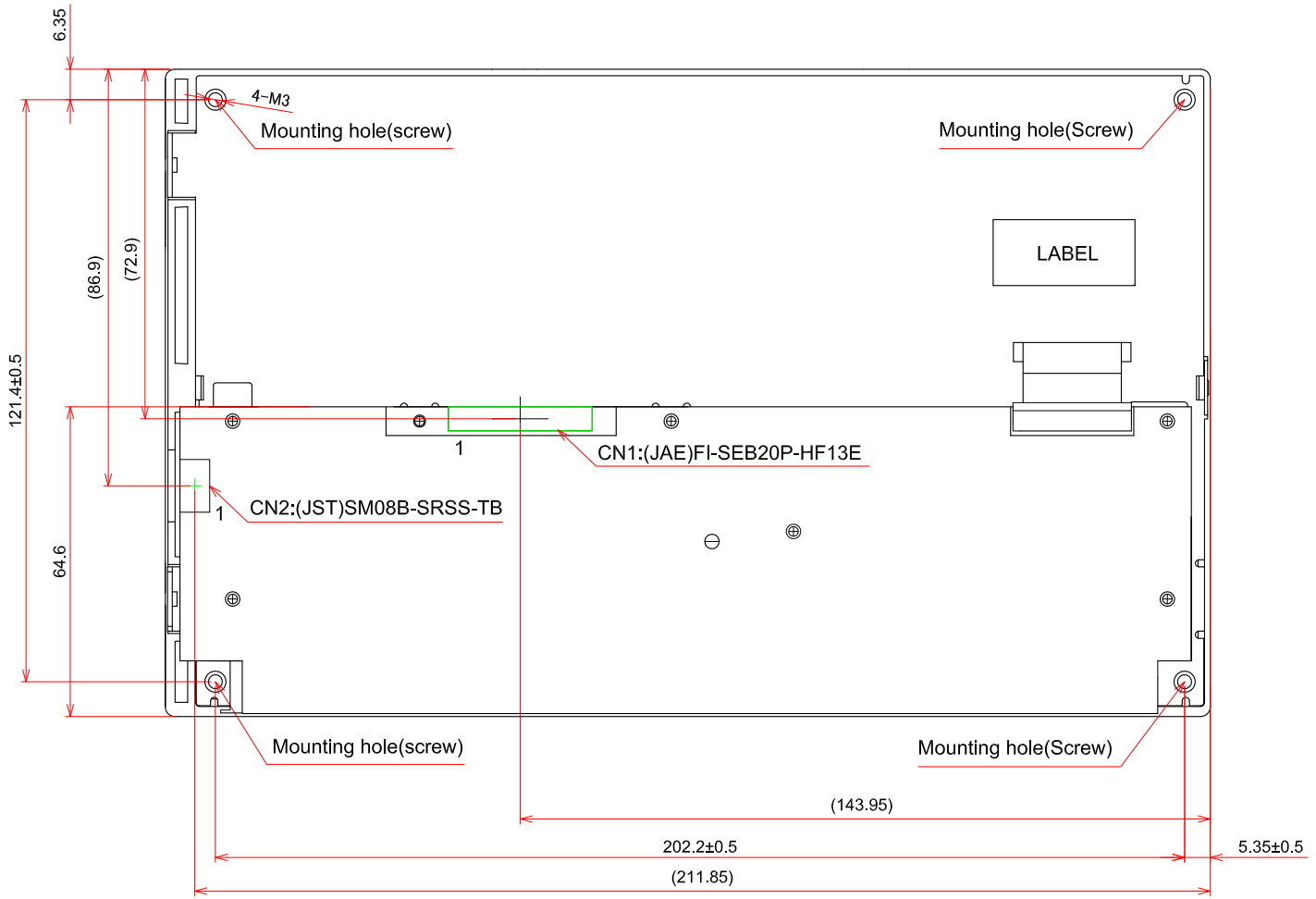
## 10.1 FRONT VIEW




General Tolerance:±0.5mm
Scale : NTS
Unit : mm

| JDI Taiwan Inc. Kaohsiung Branch | SHEET No. | 7B64PS 2710-TX23D203VM0BAA-9 | PAGE | 10-1/2 |
|---|---|---|---|---|

## 10.2 RAER VIEW




Note 1: Maximum length of screw for the mounting hole is 3.3mm

General Tolerance:±0.5mm
Scale : NTS
Unit : mm

| | | | | |
|---|---|---|---|---|
| JDI Taiwan Inc. Kaohsiung Branch | SHEET No. | 7B64PS 2710-TX23D203VM0BAA-9 | PAGE | 10-2/2 |

# 11. APPEARANCE STANDARD

The appearance inspection is performed in a dark room around 1200 lx based on the conditions as below:

- The distance between inspector's eyes and display is 30 cm.
- The viewing zone is defined with angle $\theta$ shown in Fig. 11.1 The inspection should be performed within 45° when display is shut down. The inspection should be performed within 5° when display is power on.

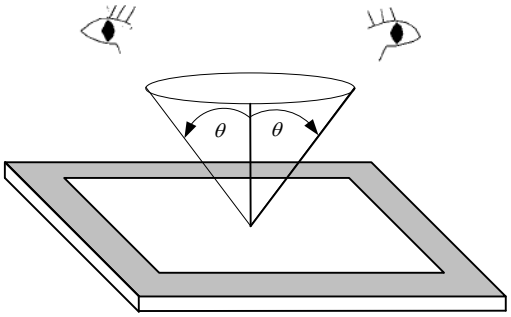



Fig. 11.1

## 11.1 THE DEFINITION OF LCD ZONE

LCD panel is divided into 3 areas as shown in Fig.11.2 for appearance specification in next section. A zone is the LCD active area (dot area); B zone is the area, which extended 1 mm out from LCD active area; C zone is the area between B zone and metal frame.

In terms of housing design, B zone is the recommended window area customers' housing should be located in.

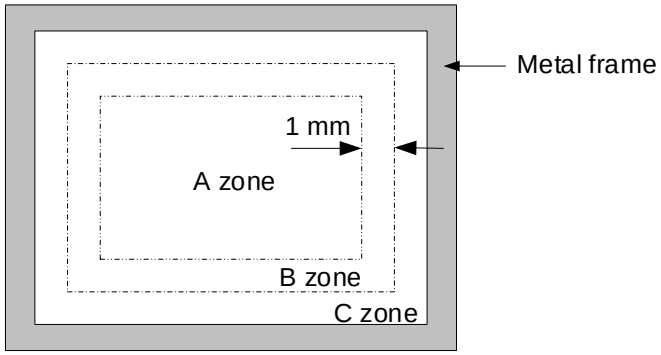



Fig. 11.2

## 11.2 LCD APPEARANCE SPECIFICATION

The specification as below is defined as the amount of unexpected phenomenon or material in different zones of LCD panel. The definitions of length, width and average diameter using in the table are shown in Fig. 11.3 and Fig. 11.4.

<table>
<tr><td>Item</td><td colspan="5">Criteria</td><td>Applied zone</td></tr>
<tr><td rowspan="9">Scratches</td><td>Length (mm)</td><td>Width (mm)</td><td colspan="2">Maximum number</td><td>Minimum space</td><td rowspan="9">A, B</td></tr>
<tr><td>Ignored</td><td>W≦0.01</td><td colspan="2">Ignored</td><td>-</td></tr>
<tr><td>L≦40</td><td>0.01＜W≦0.02</td><td colspan="2">10</td><td>-</td></tr>
<tr><td>L≦20</td><td>0.02＜W≦0.04</td><td colspan="2">10</td><td>-</td></tr>
<tr><td>-</td><td>W＞0.04</td><td colspan="2">0</td><td></td></tr>
<tr><td colspan="3">Average diameter (mm)</td><td colspan="2">Maximum number</td></tr>
<tr><td colspan="3">D≦0.2</td><td colspan="2">Ignored</td></tr>
<tr><td colspan="3">0.2＜D≦0.4</td><td colspan="2">10</td></tr>
<tr><td colspan="3">D＞0.4</td><td colspan="2">0</td></tr>
<tr><td>Dent</td><td colspan="5">Serious one is not allowed</td><td>A</td></tr>
<tr><td>Wrinkles in polarizer</td><td colspan="5">Serious one is not allowed</td><td>A</td></tr>
<tr><td rowspan="5">Bubbles on polarizer</td><td colspan="3">Average diameter (mm)</td><td colspan="2">Maximum number</td><td rowspan="5">A</td></tr>
<tr><td colspan="3">D≦0.3</td><td colspan="2">Ignored</td></tr>
<tr><td colspan="3">0.3＜D≦0.5</td><td colspan="2">10</td></tr>
<tr><td colspan="3">0.5＜D≦1.0</td><td colspan="2">5</td></tr>
<tr><td colspan="3">D＞1.0</td><td colspan="2">0</td></tr>
<tr><td rowspan="15">1) Stains<br>2) Foreign Materials<br>3) Dark Spot</td><td colspan="4">Filamentous (Line shape)</td><td rowspan="6">A, B</td></tr>
<tr><td>Length (mm)</td><td colspan="2">Width (mm)</td><td>Maximum number</td></tr>
<tr><td>Ignored</td><td colspan="2">W≦0.02</td><td>Ignored</td></tr>
<tr><td>L≦2.0</td><td colspan="2">0.02＜W≦0.03</td><td>10</td></tr>
<tr><td>L≦1.0</td><td colspan="2">0.03＜W≦0.06</td><td>10</td></tr>
<tr><td>-</td><td colspan="2">W＞0.06</td><td>0</td></tr>
<tr><td colspan="4">Round (Dot shape)</td><td rowspan="6">A, B</td></tr>
<tr><td colspan="2">Average diameter (mm)</td><td colspan="2">Maximum number</td></tr>
<tr><td colspan="2">D≦0.2</td><td colspan="2">Ignored</td></tr>
<tr><td colspan="2">0.2＜D≦0.35</td><td colspan="2">5</td></tr>
<tr><td colspan="2">D＞0.35</td><td colspan="2">0</td></tr>
<tr><td colspan="4">Those wiped out easily are acceptable</td></tr>
<tr><td rowspan="7">Dot-Defect<br>(Note 1)</td><td colspan="2"></td><td>Type</td><td>Maximum number</td><td rowspan="7">A</td></tr>
<tr><td colspan="2">Bright dot-defect</td><td>1 dot</td><td>0</td></tr>
<tr><td rowspan="4">Dark dot-defect</td><td>1 dot</td><td>3</td></tr>
<tr><td>2 adjacent dot</td><td>2</td></tr>
<tr><td>3 adjacent dot or above</td><td>Not allowed</td></tr>
<tr><td>In total</td><td>5</td></tr>
<tr><td colspan="3">In total</td><td>5</td></tr>
</table>

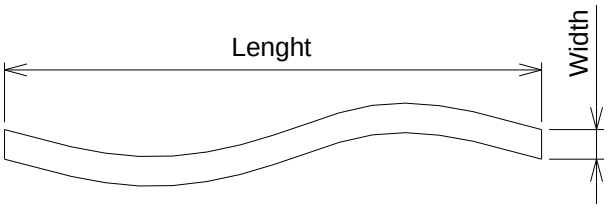



Fig 11.3

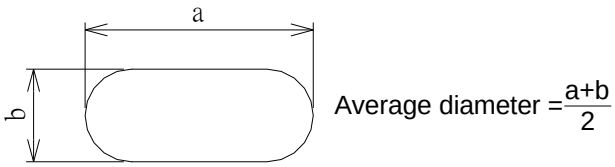



Fig 11.4

Note 1: The definitions of dot defect are as below:

- For bright dot-defect, showing black pattern, visible with 5% ND filter is defined.
- For dark dot-defect, showing white pattern, defect size over 1/2 dot area is defined.
- The definition of 1-dot-defect is the defect-dot, which is isolated and no adjacent defect-dot.
- The definition of adjacent dot is shown as Fig. 11.5.
- The Density of dot defect is defined in the area within diameter $\phi$ =10mm.

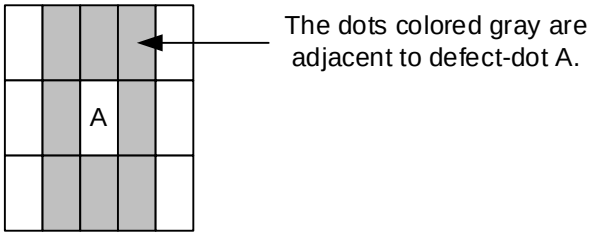



Fig. 11.5

# 12. PRECAUTIONS

## 12.1 PRECAUTIONS of ESD

1) Before handling the display, please ensure your body has been connected to ground to avoid any damages by ESD. Also, do not touch display's interface directly when assembling.

2) Please remove the protection film very slowly before turning on the display to avoid generating ESD.

## 12.2 PRECAUTIONS of HANDLING

1) In order to keep the appearance of display in good condition, please do not rub any surfaces of the displays by sharp tools harder than 3H, especially touch panel, metal frame and polarizer.

2) Please do not pile the displays in order to avoid any scars leaving on the display. In order to avoid any injuries, please pay more attention for the edges of glasses and metal frame, and wear finger cots to protect yourself and the display before working on it.

3) Touching the display area or the terminal pins with bare hand is prohibited. This is because it will stain the display area and cause poor insulation between terminal pins, and might affect display's electrical characteristics furthermore.

4) Do not use any harmful chemicals such as acetone, toluene, and isopropyl alcohol to clean display's surfaces.

5) Please use soft cloth or absorbent cotton with ethanol to clean the display by gently wiping. Moreover, when wiping the display, please wipe it by horizontal or vertical direction instead of circling to prevent leaving scars on the display's surface, especially polarizer.

6) Please wipe any unknown liquids immediately such as saliva, water or dew on the display to avoid color fading or any permanently damages.

7) Maximum pressure to the surface of the display must be less than $1{,}96 \times 10^4$ Pa. If the area of adding pressure is less than $1\,cm^2$, the maximum pressure must be less than 1.96N.

## 12.3 PRECAUTIONS OF OPERATING

1) Please input signals and voltages to the displays according to the values defined in the section of electrical characteristics to obtain the best performance. Any voltages over than absolute maximum rating will cause permanent damages to this display. Also, any timing of the signals out of this specification would cause unexpected performance.

2) When the display is operating at significant low temperature, the response time will be slower than it at $25\,C^\circ$. In high temperature, the color will be slightly dark and blue compared to original pattern. However, these are temperature-related phenomenon of LCD and it will not cause permanent damages to the display when used within the operating temperature.

3) The use of screen saver or sleep mode is recommended when static images are likely for long periods of time. This is to avoid the possibility of image sticking.

4) Spike noise can cause malfunction of the circuit. The recommended limitation of spike noise is no bigger than $\pm$ 100 mV.

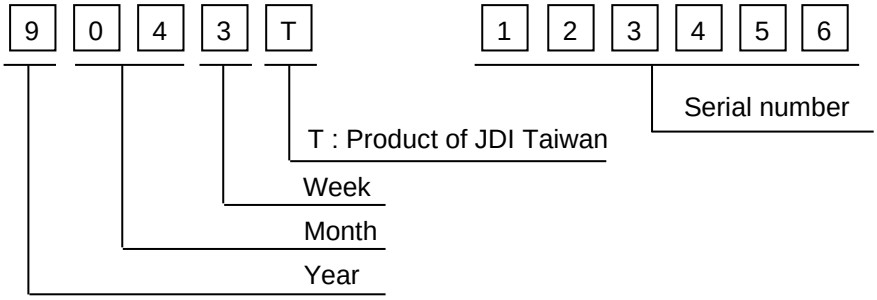
## 12.4 PRECAUTIONS of STORAGE

If the displays are going to be stored for years, please be aware the following notices.

1) Please store the displays in a dark room to avoid any damages from sunlight and other sources of UV light.
2) The recommended long term storage temperature is between 10℃~35℃ and 55%~75% humidity to avoid causing bubbles between polarizer and LCD glasses, and polarizer peeling from LCD glasses.
3) It would be better to keep the displays in the container, which is shipped from JDI, and do not unpack it.
4) Please do not stick any labels on the display surface for a long time, especially on the polarizer.

# 13. DESIGNATION of LOT MARK

1) The lot mark is showing in Fig.13.1. First 4 digits are used to represent production lot, T represented product of JDI Taiwan, and the last 6 digits are the serial number.




2) The tables as below are showing what the first 4 digits of lot mark are shorted for.

| Year | Mark |
|---|---|
| 2019 | 9 |
| 2020 | 0 |
| 2021 | 1 |
| 2022 | 2 |
| 2023 | 3 |

| Month | Mark | Month | Mark |
|---|---|---|---|
| 1 | 01 | 7 | 07 |
| 2 | 02 | 8 | 08 |
| 3 | 03 | 9 | 09 |
| 4 | 04 | 10 | 10 |
| 5 | 05 | 11 | 11 |
| 6 | 06 | 12 | 12 |

| Week (Days) | Mark |
|---|---|
| 1~7 | 1 |
| 8~14 | 2 |
| 15~21 | 3 |
| 22~28 | 4 |
| 29~31 | 5 |

3) Except letters I and O, revision number will be shown on lot mark and following letters A to Z.

| REV No. | ITEM | REMARKS |
|---|---|---|
| A | - | - |
| B | Tcon IC change | PCN 1031 |
| C | Driver IC change | PCN 1073 |

4) The location of the lot mark is on the back of the display shown in Fig. 13.1.

Label example:




Fig 13.1