晶采光電科技股份有限公司
**AMPIRE CO., LTD.**

# Specifications for LCD module

| Customer | |
|---|---|
| Customer part no. | |
| Ampire part no. | **AM-800480N3TZQW-T00H** |
| Approved by | |
| Date | |

☐ **Preliminary Specification**
☐ **Approved Specification**

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|---|---|---|
| | | |

# RECORD OF REVISION

| Revision Date | Page | Contents | Editor |
|---|---|---|---|
| 2019/01/30 | | New Release | Raymond |
| 2019/07/15 | 6 | Update Color chromaticity | Jessica |

# 1. Features

5 inch Amorphous-TFT-LCD (Thin Film Transistor Liquid Crystal Display) module. This TFT LCD has a 5.0 (5:3) inch diagonally measured active display area with 800x480 (800 horizontal by 480 vertical pixels) resolution. This module is composed of a 5" TFT-LCD panel and backlight unit.

(1)  Construction: a-Si TFT-LCD with driving system, 4-wire Resistive Touch Panel and White LED Backlight.

(2)  LCD type : IPS

(3)  Number of the Colors : 16.7M colors (R,G,B 8bit digital each)

(4)  Interface: 24 Bit TTL RGB interfaces. 45 pin.

(5)  LCD Power Supply Voltage: 3.3V single power input, built-in power supply circuit.

## 2. Physical Specifications

| Item | Specifications | unit |
|---|---|---|
| Display size (diagonal) | 5.0 | inch |
| Resolution | 800 (W) x RGB x 480 (H) | dot |
| Pixel pitch | 0.135 (W) x 0.135 (H) | mm |
| Color configuration | R.G.B Vertical stripe | |
| Display Mode | Normally Black | |

# 3. Absolute Maximum Ratings

## 3.1 Electrical Absolute max. ratings

| Item | Symbol | Condition | Min. | Max. | Unit | Remark |
|---|---|---|---|---|---|---|
| Power voltage | VCC | GND=0 | -0.3 | 4.0 | V | |
| Logic Input Voltage Range | VIN | GND=0 | -0.3 | VCC +0.3 | V | Note(1) |

Note(1) HD, VD, DENA, DCLK, R0~R7, G0~G7, B0~B7.

Note(2) The following are maximum values which, if exceeded, may cause operation or damage to the unit.

## 3.2 Environmental Absolute Maximum Ratings

| Item | Operating | | Storage | | Remark |
|---|---|---|---|---|---|
| | Min. | Max. | Min. | Max. | |
| Temperature | -20 | 70 | -30 | 80 | Note(2),(3),(4),(5),(6),(7) |
| Humidity | Note(1) | | Note(1) | | |
| Corrosive Gas | Not Acceptable | | Not Acceptable | | |

Note(1) Ambient temperature Temp. <= 60℃ : 90% RH max

Note(2) For storage condition Ta at -30℃ < 240h , at 80℃ < 240h

Note(3) For operating condition Ta at -20℃ < 100h , at 70℃ < 240h

Note(4) Background color changes slightly depending on ambient temperature. This phenomenon is reversible.

Note(5) The response time will be slower at low temperature.

Note(6) Only operation is guaranteed at operating temperature. Contrast, response time, another display quality are evaluated at +25℃

Note(7) When LCM panel is operated over 60℃ ( center of the panel surface temperature), the IAK of the LED back-light should be adjusted to 105mA

Note(8) This is center of the panel surface temperature, not ambient temperature.

Note(9) At 25℃

## 4. Optical Characteristics

| Item | | Symbol | Condition | Min. | Typ. | Max. | Unit | Note |
|---|---|---|---|---|---|---|---|---|
| Viewing Angle | Hor. | θU | CR≧10 | 75 | 85 | -- | deg. | (1),(4) |
| | | θD | | 75 | 85 | -- | | |
| | Ver. | θL | | 75 | 85 | -- | | |
| | | θR | | 75 | 85 | -- | | |
| Contrast ratio | | CR | Θ=Φ=0° | 800 | 1000 | -- | -- | (1),(2) |
| Response Time | | $T_R + T_F$ | Θ=Φ=0° | -- | 30 | 40 | msec | (1),(3) |
| Color Gamut | | (%) | | 45 | 50 | -- | % | |
| Color chromaticity | Red | Rx | Θ=Φ=0° | Typ. -0.05 | 0.629 | Typ. +0.05 | -- | (1),(4),(5) |
| | | Ry | | | 0.326 | | | |
| | Green | Gx | | | 0.337 | | | |
| | | Gy | | | 0.546 | | | |
| | Blue | Bx | | | 0.136 | | | |
| | | By | | | 0.143 | | | |
| | White | Wx | | | 0.32 | | | |
| | | Wy | | | 0.37 | | | |
| Luminance (IAK=140mA) | | L | Θ=Φ=0° | 320 | 400 | -- | cd/m² | (1),(6) |
| Luminance Uniformity | | ΔL | Θ=Φ=0° | 70 | - | - | % | (7) |

**Measuring Condition**

Ta=25°C. To be measured on the center area of panel after 10 minutes operation. LED Back-light IAK=140mA.

● Measuring surrounding：Dark room

● Ambient temperature：25±2℃

● 15min. Warm-up time.
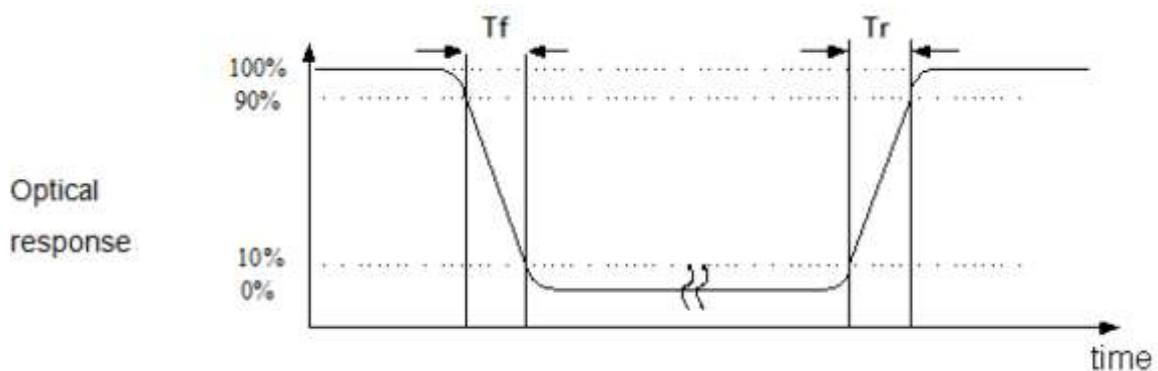
Note(1) Definition of Viewing Angle
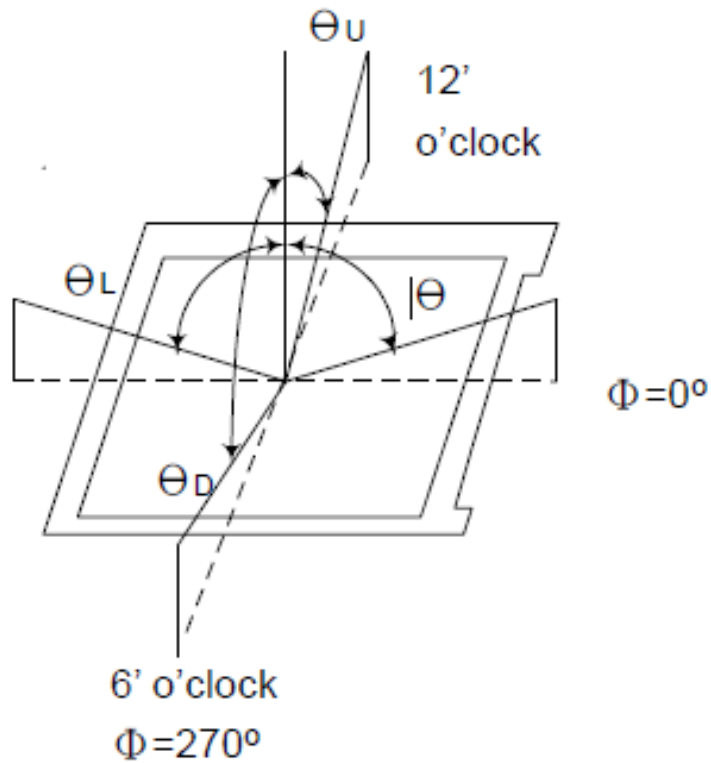


Note(2) Definition of Contrast Ratio (CR) :

Contrast ratio is calculated with the following formula.

$$\text{Contrast ratio(CR)} = \frac{\text{Photo detector output when LCD is at "White" state}}{\text{Photo detector output when LCD is at "Black" state}}$$

Note(3) Definition of Response Time : Sum of TR and TF

Note(4) Definition of optical measurement setup

The optical characteristics should be measured in dark room. After 30 minutes operation, the optical properties are measured at the center point of the LCD screen. (Response time is measured by Photo detector TOPCON BM-7, other items are measured by BM-5A/Field of view: 1° / Height: 500mm.)
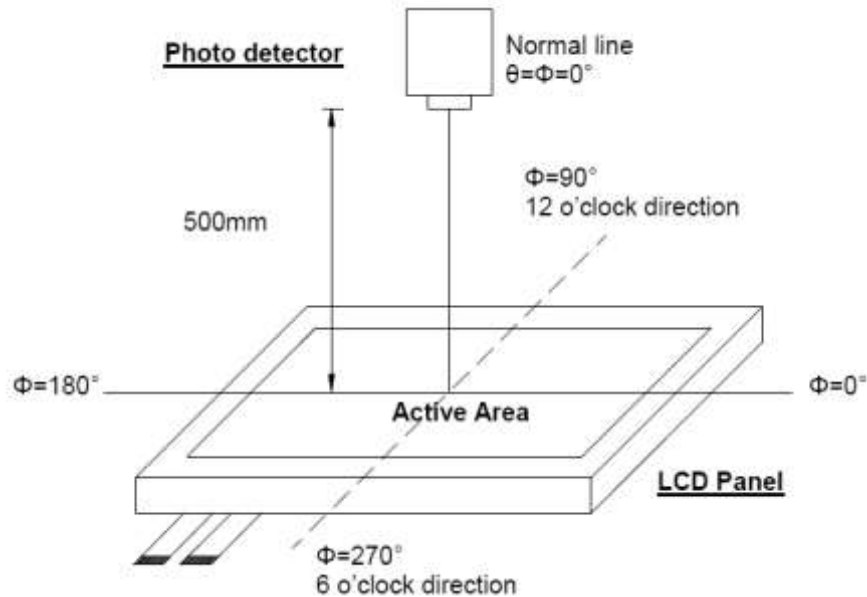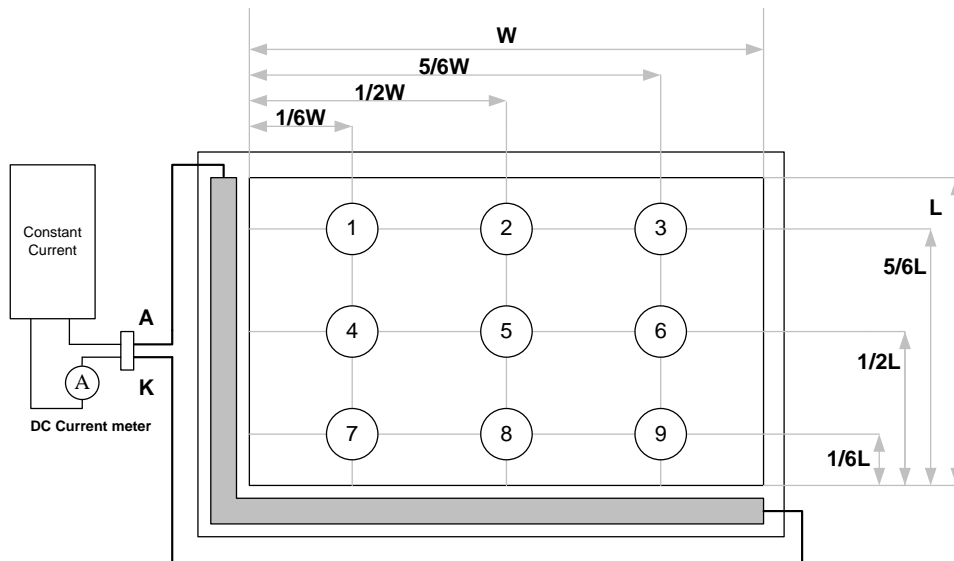


Note(5) Definition of color chromaticity (CIE1931)

Color coordinated measured at center point of LCD.

All input terminals LCD panel must be ground when measuring the center area of the panel.

Note(6) Luminance is measured at point 5 of the display.



Note(7) Definition of Luminance Uniformity

Active area is divided into 9 measuring areas (Refer to bellow figure).

Every measuring point is placed at the center of each measuring area.

$$\text{Luminance Uniformity (Yu)} = \frac{B_{min}}{B_{max}}$$

L ----- Active area length       W ----- Active area width
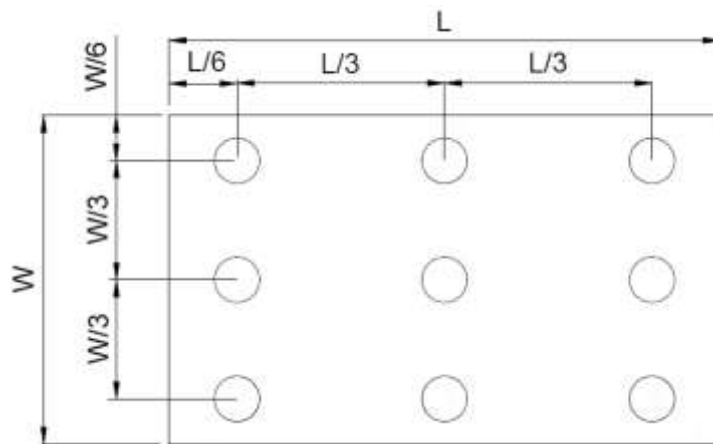


Bmax: The measured maximum luminance of all measurement position.

Bmin: The measured minimum luminance of all measurement position.

# 5. Electrical Characteristics

## 5.1 DC Characteristics

| Item | | Symbol | Min. | Typ. | Max. | Unit | Note |
|---|---|---|---|---|---|---|---|
| Power supply voltage | | VCC | 3.3 | -- | 3.6 | V | |
| Input voltage for logic | H Level | $V_{IH}$ | 0.7* VCC | -- | VCC | V | (1) |
| | L Level | $V_{IL}$ | GND | -- | 0.3* VCC | V | |
| Power Supply current | | ICC | -- | TBD | -- | mA | (2) |

Note(1) HD, VD, DENA, DCLK, and R0~R7, G0~G7, B0~B7, DISP.

Note(2) fV =60Hz , Ta=25℃ , Display pattern : All Black

Note(3) *:Will be reference only

## 5.2 Electrical Characteristic Of LED Backlight

| Item | Symbol | Min. | Typ. | Max. | Unit | Note |
|------|--------|------|------|------|------|------|
| LED Forward Voltage | VAK | 8.4 | 9.0 | 10.2 | V | IAK=140mA, Ta=25℃ |
| LED Forward Current | IAK | -- | 140 | -- | mA | Ta=25℃ |
| LED life time | | | 30k | - | Hrs. | IAK=140mA, Ta=25℃ |

Note(1) Ta means ambient temperature of TFT-LCD module.

Note(2) If the module is driven by high current or at high ambient temperature & humidity condition. The operating life will be reduced.

Note(3) The constant current source is needed for LED back-light driving.

Note(4) Operating life means brightness goes down to 50% minimum brightness. LED life time is estimated data. Ta=25℃

Note(5) The structure of LED B/L shows as below.
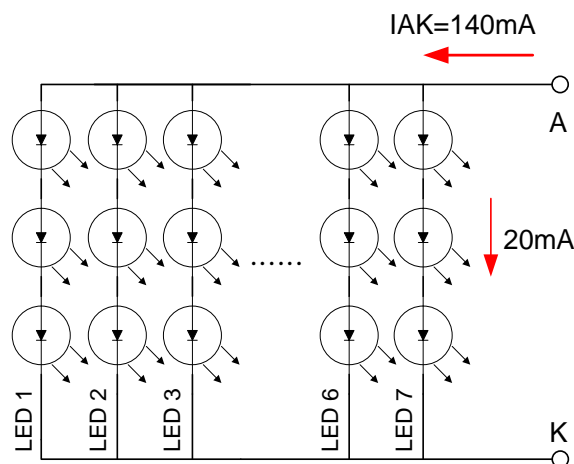


Note(6) When LCM is operated over 60℃ ambient temperature, the IAK of the LED backlight should be adjusted to 105mA max

## 6. Interface Pin Assignment

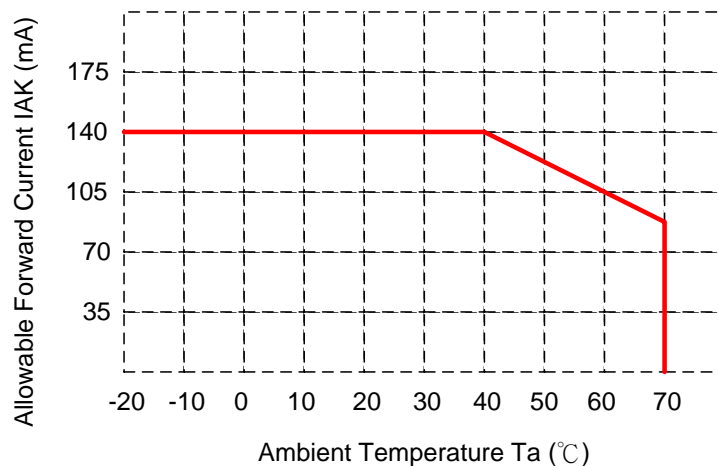| Pin No | Symbol | Function |
|--------|--------|----------|
| 1 | GND | Power Ground |
| 2 | GND | Power Ground |
| 3 | VCC | 3.3V Power Supply for LCD |
| 4 | VCC | 3.3V Power Supply for LCD |
| 5 | R0 | Red Data 0 (LSB) |
| 6 | R1 | Red Data 1 |
| 7 | R2 | Red Data 2 |
| 8 | R3 | Red Data 3 |
| 9 | R4 | Red Data 4 |
| 10 | R5 | Red Data 5 |
| 11 | R6 | Red Data 6 |
| 12 | R7 | Red Data 7 (MSB) |
| 13 | G0 | Green Data 0 (LSB) |
| 14 | G1 | Green Data 1 |
| 15 | G2 | Green Data 2 |
| 16 | G3 | Green Data 3 |
| 17 | G4 | Green Data 4 |
| 18 | G5 | Green Data 5 |
| 19 | G6 | Green Data 6 |
| 20 | G7 | Green Data 7 (MSB) |
| 21 | B0 | Blue Data 0 (LSB) |
| 22 | B1 | Blue Data 1 |
| 23 | B2 | Blue Data 2 |
| 24 | B3 | Blue Data 3 |
| 25 | B4 | Blue Data 4 |
| 26 | B5 | Blue Data 5 |
| 27 | B6 | Blue Data 6 |
| 28 | B7 | Blue Data 7(MSB) |

| 29 | GND | Power Ground |
|----|------|-------------|
| 30 | DCLK | Clock Signals |
| 31 | DISP | Display on/off (High: on, Low :off) |
| 32 | HD | Horizontal SYNC signal. |
| 33 | VD | Vertical SYNC signal |
| 34 | DENA | Data Enable signal (to settle the viewing area) |
| 35 | XR | Touch Panel Right Signal in X Axis |
| 36 | YD | Touch Panel Bottom Signal in Y Axis |
| 37 | XL | Touch Panel Left Signal in X Axis |
| 38 | YU | Touch Panel Top Signal in Y Axis |
| 39 | SC | No function. Scan direction selectable by jumper. |
| 40 | GND | Power Ground |
| 41 | GND | Power Ground |
| 42 | LED_K | LED cathode |
| 43 | LED_A | LED anode |
| 44 | LED_K | LED cathode |
| 45 | LED_A | LED anode |

# 7. Interface Timing
## Timing for RGB Interface
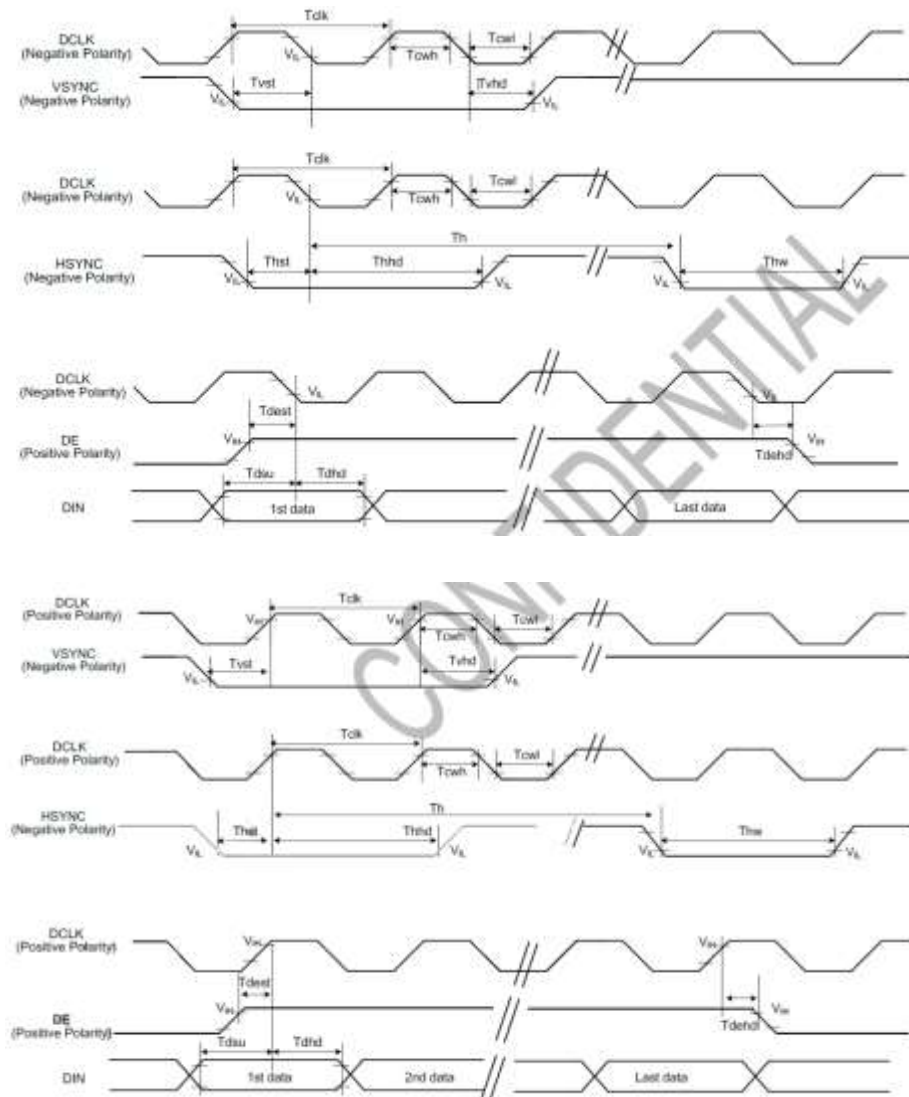


| Item | Symbol | Min. | Typ. | Max. | Unit | Conditions |
|---|---|---|---|---|---|---|
| CLK Pulse Duty | Tcw | 40 | 50 | 60 | % | |
| HSYNC Width | Thw | 2 | - | - | DCLK | |
| HSYNC Period | Th | 55 | 60 | 65 | us | |
| VSYNC Setup Time | Tvst | 12 | - | - | ns | |
| VSYNC Hold Time | Tvhd | 12 | - | - | ns | |
| HSYNC Setup Time | Thst | 12 | - | - | ns | |
| HSYNC Hold Time | Thhd | 12 | - | - | ns | |
| Data Setup Time | Tdsu | 12 | - | - | ns | |
| Data Hold Time | Tdhd | 12 | - | - | ns | |
| DE Setup Time | Tdest | 12 | - | - | ns | |
| DE Hold Time | Tdehd | 12 | - | - | ns | |

| Item | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|
| Clock Frequency | 1/T1 | 23 | 25 | 27 | MHz |
| HSYNC Pulse Wide | T2 | 2 | 8 | 8 | clocks |
| HSYNC Back Porch | T3 | 4 | 8 | 48 | Clocks |
| HSYNC Front Porch | T5 | 4 | 8 | 48 | Clocks |
| Horizontal Display Period | T4 | | 800 | | Clocks |
| Horizontal total Period | T3+T4+T5 | 808 | 816 | 896 | Clocks |
| VSYNC Pulse Wide | T6 | 2 | 4 | 8 | Lines |
| VSYNC Back Porch | T7 | 4 | 8 | 12 | Lines |
| VSYNC Front Porch | T9 | 4 | 8 | 12 | Lines |
| Vertical Display Period | T8 | | 480 | | Lines |
| Vertical total Period | T7+T8+T9 | 488 | 496 | 504 | Lines |
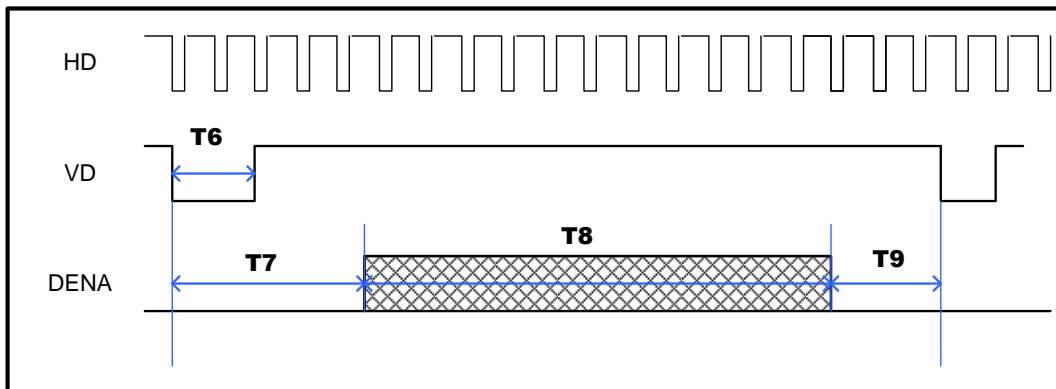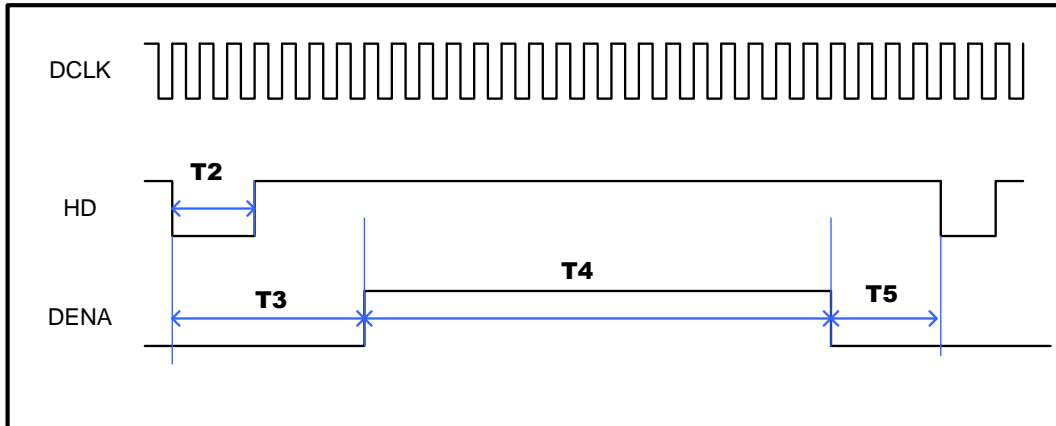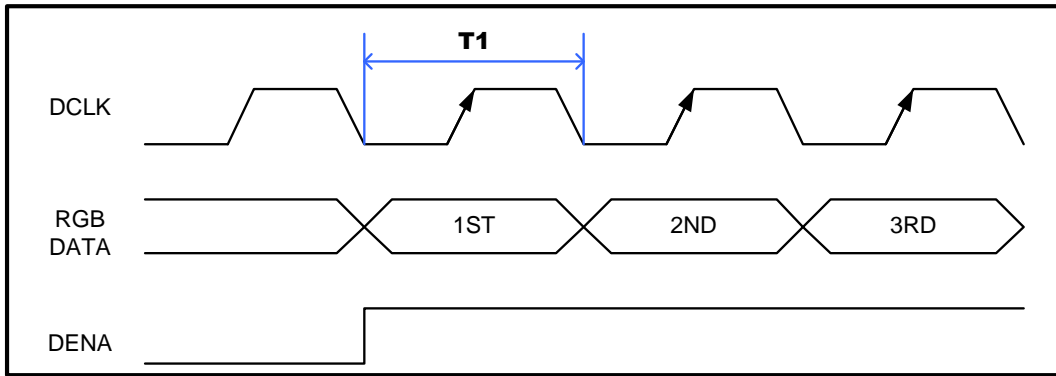
## 8. Power On/Off Sequence
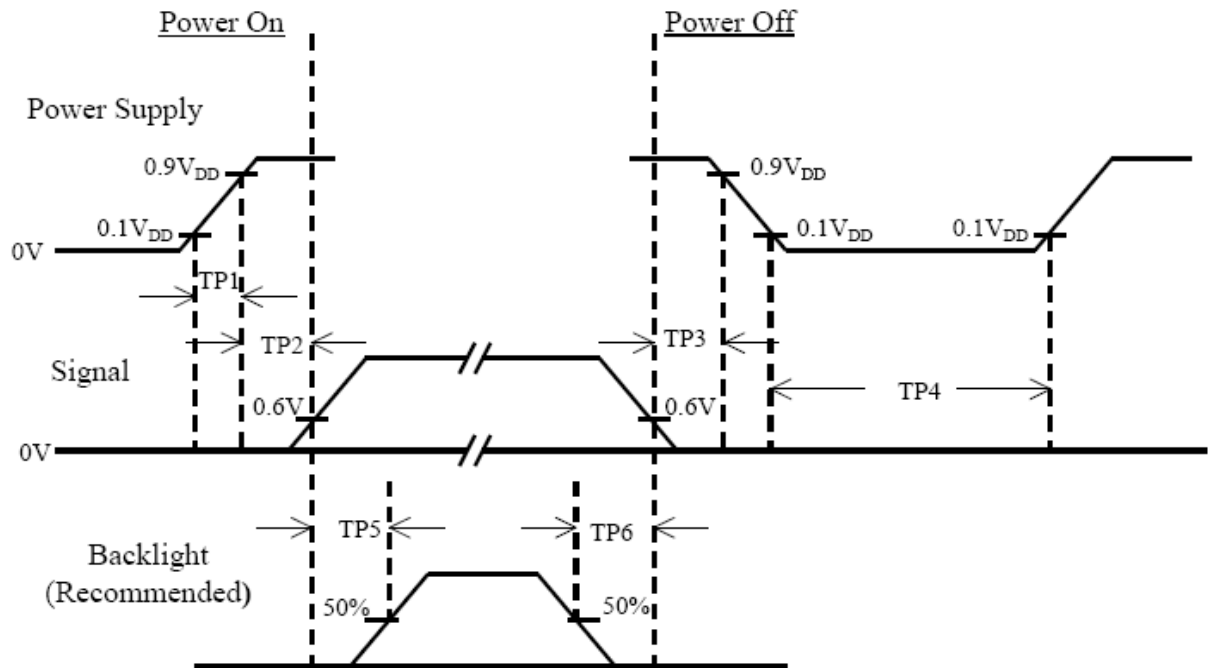


| Item | Min. | Typ. | Max. | Unit | Remark |
|------|------|------|------|------|--------|
| TP1 | 0.5 | -- | 10 | msec | |
| TP2 | 0 | -- | 50 | msec | |
| TP3 | 0 | -- | 50 | msec | |
| TP4 | 500 | -- | -- | msec | |
| TP5 | 200 | -- | -- | msec | |
| TP6 | 200 | -- | -- | msec | |

Note(1)　The supply voltage of the external system for the module input should be the same as the definition of VCC.

Note(2)　Apply the lamp voltage within the LCD operation range. When the back-light turns on before the LCD operation or the LCD turns off before the back-light turns off, the display may momentarily become white.

Note(3)　In case of VCC = off level, please keep the level of input signal on the low or keep a high impedance.

Note(4)　TP4 should be measured after the module has been fully discharged between power off and on period.

Note(5)　Interface signal shall not be kept at high impedance when the power is on.

## 9. Displayed Color and Input Data

**Data Signal**

| COLOR | | R DATA R7 (MSB) | R6 | R5 | R4 | R3 | R2 | R1 | R0 (LSB) | G DATA G7 (MSB) | G6 | G5 | G4 | G3 | G2 | G1 | G0 (LSB) | B DATA B7 (MSB) | B6 | B5 | B4 | B3 | B2 | B1 | B0 (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 | 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(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 | 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(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 | 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(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 |

## 10. Touch Panel Specification

| Parameter | Condition | Standard Value |
|---|---|---|
| Terminal Resistance | X Axis | 450 ~ 1500 $\Omega$ |
| | Y Axis | 70 ~ 900 $\Omega$ |
| Insulating Resistance | DC 25 V | More than 10M$\Omega$ |
| Linearity | -- | Under $\pm$1.5 % * |
| Notes life by Pen | Note a | 1,00,000 times(min) |
| Input life by finger | Note a | 1,000,000 times (min) |

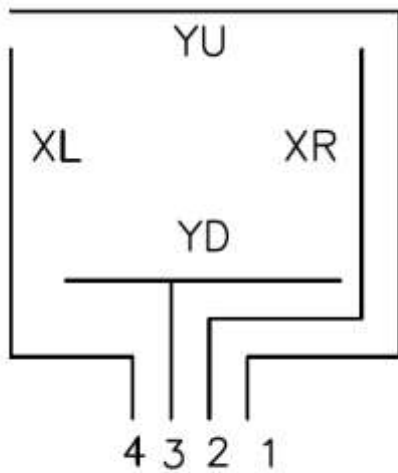 * after environmental & life test   Linearity   ≤ 3.0%

Note a

Measurement condition of minimum input force

Resistance between X & Y axis must be equal or lower than 2k$\Omega$ ($R_{on}$ ≤ 2k$\Omega$)。

**Interface**

| No. | Symbol | Function |
|---|---|---|
| 1 | YU | Touch Panel Top Signal in Y Axis |
| 2 | XR | Touch Panel Right Signal in X Axis |
| 3 | YD | Touch Panel Bottom Signal in Y Axis |
| 4 | XL | Touch Panel Left Signal in X Axis |



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## 11. Reliability Test Conditions

| Test Item | Test Conditions | Note |
|---|---|---|
| High Temperature Operation | 70±3°C , t=240 hrs | |
| Low Temperature Operation | -20±3°C , t=240 hrs | |
| High Temperature Storage | 80±3°C , t=240 hrs | (1),(2) |
| Low Temperature Storage | -30±3°C , t=240 hrs | (1),(2) |
| Storage Humidity Test | 60 °C, Humidity 90%, 240 hrs | (1),(2) |
| Vibration Test (Packing) | Sweep frequency : 10 ~ 50 ~ 10 Hz/1min<br>Amplitude : 0.75mm<br>Test direction : X.Y.Z/3 axis<br>Duration : 30min/each axis | (2) |

Note(1) Condensation of water is not permitted on the module.

Note(2) The module should be inspired after 1 hour storage in normal conditions (15~35℃, 45~65%RH).

Note(3) The module shouldn't be tested over one condition, and all the tests are independent.

Note(4) All reliability tests should be done without the protective film.

Definitions of life end point:

● Current drain should be smaller than the specific value.

● Function of the module should be maintained.

● Appearance and display quality should not have degraded noticeably.

● Contrast ratio should be greater than 50% of initial value.

## 12. Use Precautions

### 12.1 Handling precautions

(1) The polarizing plate may break easily so be careful when handling it. Do not touch, press or rub it with a hard-material tool like tweezers.

(2) Do not touch the polarizing plate surface with bare hands so as not to make it dirty. If the surface or other related part of the polarizing plate is dirty, soak a soft cotton cloth or chamois leather in benzine and wipe off with it. Do not use chemical liquids such as acetone, toluene and isopropyl alcohol. Failure to do so may bring chemical reaction phenomena and deteriorations.

(3) Remove any spit or water immediately. If it is left for hours, the suffered part may deform or decolorize.

(4) If the LCD element breaks and any LC stuff leaks, do not suck or lick it. Also if LC stuff is stuck on your skin or clothing, wash thoroughly with soap and water immediately.

### 12.2 Installing precautions

(1) The PCB has many ICs that may be damaged easily by static electricity. To prevent breaking by static electricity from the human body and clothing, earth the human body properly using the high resistance and discharge static electricity during the operation. In this case, however, the resistance value should be approx. 1MΩ and the resistance should be placed near the human body rather than the ground surface. When the indoor space is dry, static electricity may occur easily so be careful. We recommend the indoor space should be kept with humidity of 60% or more. When a soldering iron or other similar tool is used for assembly, be sure to earth it.

(2) When installing the module and ICs, do not bend or twist them. Failure to do so may crack LC element and cause circuit failure.

(3) To protect LC element, especially polarizing plate, use a transparent protective plate (e.g., acrylic plate, glass etc) for the product case.

(4) Do not use an adhesive like a both-side adhesive tape to make LCD surface (polarizing plate) and product case stick together. Failure to do so may cause the polarizing plate to peel off.

### 12.3 Storage precautions

(1) Avoid a high temperature and humidity area. Keep the temperature between 0°C and 35°C and also the humidity under 60%.

(2) Choose the dark spaces where the product is not exposed to direct sunlight or fluorescent light.

(3) Store the products as they are put in the boxes provided from us or in the same conditions as we recommend.

### 12.4 Operating precautions

(1) Do not boost the applied drive voltage abnormally. Failure to do so may break ICs. When applying power voltage, check the electrical features beforehand and be careful. Always turn off the power to the LC module controller before removing or inserting the LC module input connector. If the input connector is removed or inserted while the power is turned on, the LC module internal circuit may break.

(2) The display response may be late if the operating temperature is under the normal standard, and the display may be out of order if it is above the normal standard. But this is not a failure; this will be restored if it is within the normal standard.

(3) The LCD contrast varies depending on the visual angle, ambient temperature, power voltage etc. Obtain the optimum contrast by adjusting the LC dive voltage.

(4) When carrying out the test, do not take the module out of the low-temperature space suddenly. Failure to do so will cause the module condensing, leading to malfunctions.

(5) Make certain that each signal noise level is within the standard (L level: 0.2Vdd or less and H level: 0.8Vdd or more) even if the module has functioned properly. If it is beyond the standard, the module may often malfunction. In addition, always connect the module when making noise level measurements.

(6) The CMOS ICs are incorporated in the module and the pull-up and pull-down function is not adopted for the input so avoid putting the input signal open while the power is ON.

(7) The characteristic of the semiconductor element changes when it is exposed to light emissions, therefore ICs on the LCD may malfunction if they receive light emissions. To prevent these malfunctions, design and assemble ICs so that they are shielded from light emissions.

(8) Crosstalk occurs because of characteristics of the LCD. In general, crosstalk occurs when the regularized display is maintained. Also, crosstalk is affected by the LC drive voltage. Design the contents of the display, considering crosstalk.

### 12.5 Other

(1) Do not disassemble or take the LC module into pieces. The LC modules once disassembled or taken into pieces are not the guarantee articles.

(2) Do not keep the LCD at the same display pattern continually. The residual image will happen and it will damage the LCD. Please use screen saver.

(3) AMIPRE will provide one year warrantee for all products and three months warrantee for all repairing products.

## 13. Outline Dimension

| No | Pin | | No | Pin |
|----|-----|---|----|-----|
| 1 | GND | | 24 | B3 |
| 2 | GND | | 25 | B4 |
| 3 | VCC | | 26 | B5 |
| 4 | VCC | | 27 | B6 |
| 5 | R0 | | 28 | B7 |
| 6 | R1 | | 29 | GND |
| 7 | R2 | | 30 | DCLK |
| 8 | R3 | | 31 | DISP |
| 9 | R4 | | 32 | HD |
| 10 | R5 | | 33 | VD |
| 11 | R6 | | 34 | DENA |
| 12 | R7 | | 35 | XR |
| 13 | G0 | | 36 | YD |
| 14 | G1 | | 37 | XL |
| 15 | G2 | | 38 | YU |
| 16 | G3 | | 39 | SC |
| 17 | G4 | | 40 | GND |
| 18 | G5 | | 41 | GND |
| 19 | G6 | | 42 | LED_K |
| 20 | G7 | | 43 | LED_A |
| 21 | B0 | | 44 | LED_K |
| 22 | B1 | | 45 | LED_A |
| 23 | B2 | | | |

Note:
1. Unless indicated, Tolerance "±0.3"
2. UV Glue For OLB Protection.
3. LCD 800x480 (R.G.B) TFT LCD => 5.0" TFT LCD

Back view

Remove Tape

Tape (12.0x6.0x0.06T)

118.5±0.3 (Bezel)

45
23.0±0.1  19.5±0.3
1

59.1±0.3          77.1±0.3 (Bezel)

4.35±0.3
3.15±0.3

Stiffener L=5.5
0.3±0.05
Contact L=3.5
Component area (88.0x22.5) T=13Max.
T=1.3Max.

| | | TOLERANCE GRADE(±) | | | DIM. | | | |
|---|---|---|---|---|---|---|---|---|
| | | | A | B | MM | | | |
| | | | | | IN NO. | | | |
| | | | | | | | | |

| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |
| 12 | | | | |

| 1 | 800480N3 | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| 5 | | | | |
| 6 | | | | |

DRN. SNOW
DATE 01-28-19'
CHK. DATE
APPD. DATE
PARTS NO. LCM-1 800480N3-T

TITLE 800480N3-T (5.0") IPS
DWG. NO. *190T124MA
SHEET 1 OF 1

AMPIRE 晶采光電科技

REV REVISION RECORD | DATE | NAME
0 NEW RELEASE | 10-五-l日 SNOW