![AMP DISPLAY logo - A Brighter Solution]

# AMP DISPLAY INC.

## SPECIFICATIONS

## 7.0-in COLOR TFT MODULE W/O TOUCH

| | |
|---|---|
| CUSTOMER: | |
| CUSTOMER PART NO. | |
| AMP DISPLAY PART NO. | A M 8 0 0 4 8 0 S T M Q W - B 0 |
| APPROVED BY: | |
| DATE: | |

☐   APPROVED FOR SPECIFICATIONS

☐   APPROVED FOR SPECIFICATION AND PROTOTYPES

## AMP DISPLAY INC

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# RECORD OF REVISION

| Revision Date | Page | Contents | Editor |
|---|---|---|---|
| 2009/09/03 | -- | New Release | Emil |
| 2009/09/09 | -- | Issued the official part No. to AM-800480STMQW-B0. | Emil |
| 2009/09/09 | 6 | Revised the Interface Definition. | Emil |
| 2009/09/25 | 19,20 | Update the Mechanical drawing. | Emil |
| 2009/09/25 | 5 | Update the electrical characteristic. | Emil |
| 2009/11/17 | 5 | Added the LED life time. | Eric |
| 2009/11/18 | 19 | Update the Mechanical drawing. | Eric |

# 1. INTRODUCTION

Ampire Display Module is a color active matrix TFT-LCD that uses amorphous silicon TFT as a switching device . This model is composed of a TFT-LCD panel and timing controller. This TFT-LCD has a high resolution (800(R.G.B) X 480) and can display up to 262,144 colors .

## 1-1. Features

- 7" WVGA (16:9 diagonal) configuration
- Input interface voltage : 3.3V
- Data enable mode

## 1-2. Applications

- Portable TV
- Car user DVD
- Industrial application
- HMI (Human machine interface)

# 2. PHYSICAL SPECIFICATIONS

| Item | Specifications | unit |
|---|---|---|
| Display resolution(dot) | 800RGB (W) x 480(H) | dots |
| Active area | 152.4 (W) x 91.44 (H) | mm |
| Pixel pitch | 0.1905 (W) x 0.1905 (H) | mm |
| Color configuration | R.G.B Vertical stripe | |
| Overall dimension | 165.0(W)x104.44(H)x9.16 max(T) | mm |
| Weight | 135 | g |
| Brightness | 350 nit(typ) | cd/m$^2$ |
| Contrast ratio | 400 : 1 | |
| Backlight unit | LED | |
| Display color | 262,144 | colors |

## 3. ABSOLUTE MAX. RATINGS

| ITEM | SYMBOL | MIN | MAX | UNIT |
|---|---|---|---|---|
| Power Supply Voltage for LCD | Vcc | -0.5 | 6.0 | V |
| Signal input voltage | DCLK DE R0~R5 G0~G5 B0~b5 | -0.5 | VCC+0.5 | V |
| Operation Temperature | Top | -20 | 70 | ℃ |
| Storage Temperature | Tstg | -30 | 80 | ℃ |

The following values are maximum operation conditions , If exceeded , it may cause faulty operation or damage
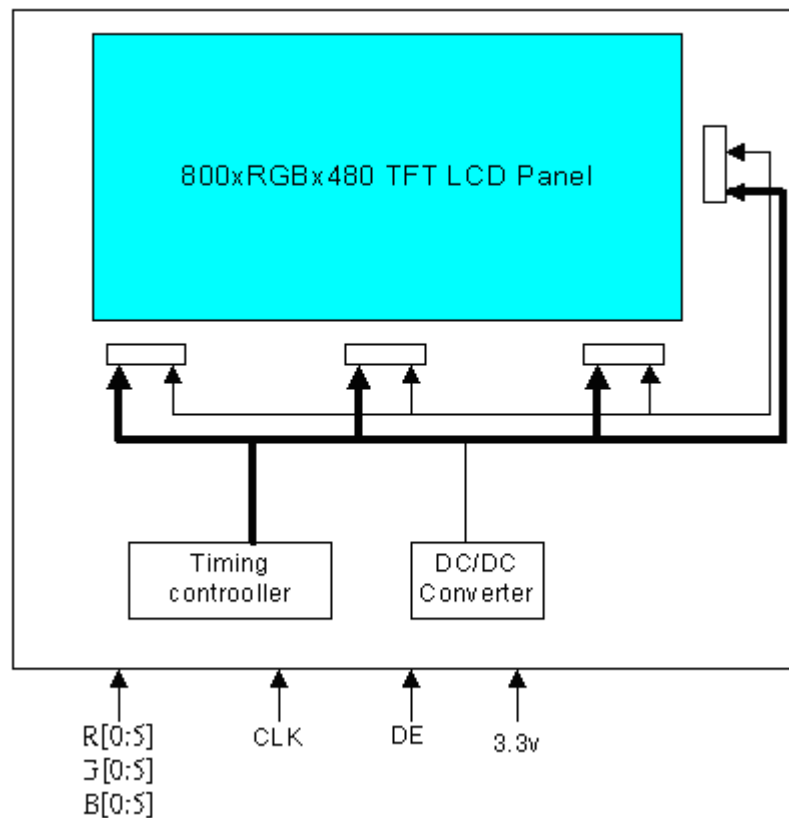
# 4. ELECTRICAL CHARACTERISTICS

## 4-1 TFT LCD Module voltage

| ITEM | | SYMBOL | MIN | TYP | MAX | UNIT | CONDITION |
|---|---|---|---|---|---|---|---|
| Power Supply Voltage For LCD | | Vcc | 3.0 | 3.3 | 3.6 | V | |
| Power Supply Current For LCD | | Icc | - | 150 | 250 | mA | VCC=3.3V |
| Power Supply Voltage For LED | | VLED | 4.5 | 5.0 | 5.5 | V | |
| Power Supply Current For LED | | ILED | - | 380 | - | mA | VLED=5V VADJ=3.3V (duty 100%) |
| | | | - | 650 | - | | VLED=3.3V VADJ=3.3V (duty 100%) |
| LED Backlight Voltage | | $V_{BL}$ | - | 9.9 | - | V | IBL=160mA |
| LED Backlight Current | | $I_{BL}$ | - | 160 | - | mA | VLED=5V VADJ=3.3V (duty 100%) |
| ADJ Input Voltage | | $V_{ADJ}$ | - | 3.3 | 5 | V | duty=100% |
| LED Life time | | - | 10k | 20k | - | Hrs | |
| Logic Input Voltage | Input Voltage | $V_{IN}$ | 0 | - | Vcc | V | |
| | Threshold Voltage(High) | $V_{TH}$ | 3.0 | - | Vcc | V | |
| | Threshold Voltage(Low) | $V_{TL}$ | GND | - | 0.5 | V | |

Note 1:

VCC –dip codition:
1) When 2.7 V≦VCC＜3.0V，td≦10ms.
2) VCC＞3.0V，VCC-dip condition should be same as VCC-turn-on condition.
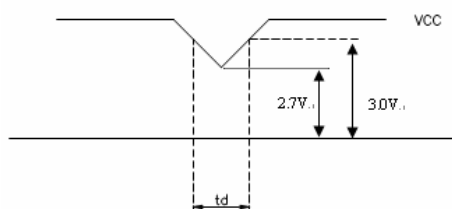


Note 2:The constant current source is needed for white LED back-light driving.
When LCM is operated over 60℃ ambient temperature, the $I_{BL}$ of the LED
back-light should be adjusted to 145mA max
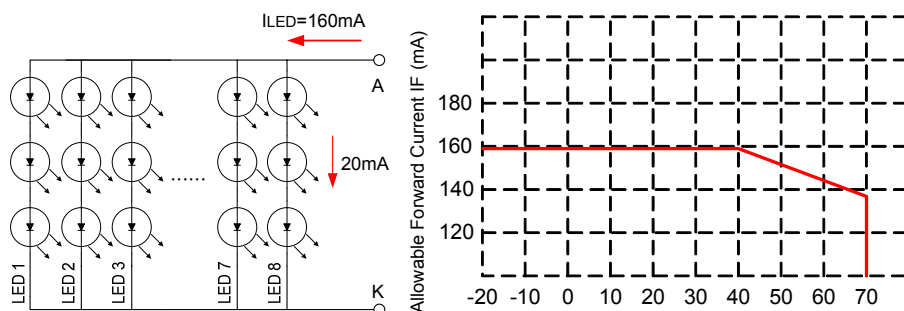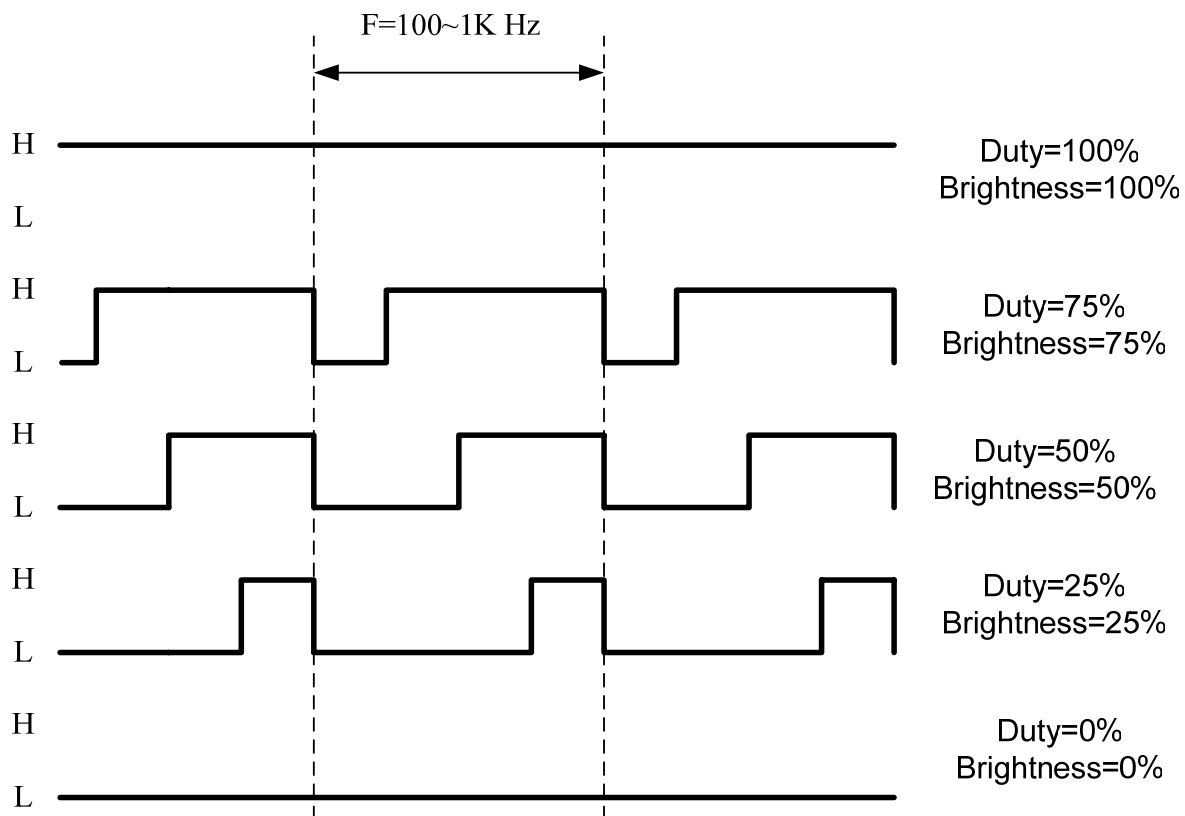


LED Light Bar Circuit

## 5. INTERFACE

| Pin no | Symbol | Function |
|--------|--------|----------|
| 1 | LGND | LED Driver Ground |
| 2 | LGND | LED Driver Ground |
| 3 | ADJ | Adjust for LED Brightness |
| 4 | VLED | Power supply for LED (5V) |
| 5 | VLED | Power supply for LED (5V) |
| 6 | VLED | Power supply for LED (5V) |
| 7 | VCC | Power supply for LCD (3.3V) |
| 8 | VCC | Power supply for LCD (3.3V) |
| 9 | DE | Data Enable Timing Signal |
| 10 | SK/XL | **For Touch panel used; (Keep NC).** |
| 11 | DO/XR | |
| 12 | DI/YB | |
| 13 | B5 | Blue data (MSB) |
| 14 | B4 | Blue data |
| 15 | B3 | Blue data |
| 16 | GND | Ground |
| 17 | B2 | Blue data |
| 18 | B1 | Blue data |
| 19 | B0 | Blue data (LSB) |
| 20 | GND | Ground |
| 21 | G5 | Green data (MSB) |
| 22 | G4 | Green data |
| 23 | G3 | Green data |
| 24 | GND | Ground |
| 25 | G2 | Green data |
| 26 | G1 | Green data |
| 27 | G0 | Green data (LSB) |
| 28 | GND | Ground |
| 29 | R5 | Red data (MSB) |
| 30 | R4 | Red data |
| 31 | R3 | Red data |
| 32 | GND | Ground |
| 33 | R2 | Red data |
| 34 | R1 | Red data |
| 35 | R0 | Red data (LSB) |
| 36 | TPCS/YU | **For Touch panel used; (Keep NC).** |
| 37 | IRQ | |
| 38 | DCLK | Data Clock |
| 39 | GND | Ground |
| 40 | GND | Ground |

NOTE :
Pin3: ADJ is PWM signal input. It is for brightness control.

| ITEM | SYMBOL | MIN | TYP | MAX | UNIT |
|---|---|---|---|---|---|
| ADJ signal frequency | $f_{PWM}$ | 100 | -- | 1K | Hz |
| ADJ signal logic level High | VIH | 2V | -- | VLED (5.0V) | V |
| ADJ signal logic level Low | VIL | 0 | -- | 0.5 | V |

F=100~1K Hz

| | |
|---|---|
| H ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ L | Duty=100% Brightness=100% |
| H ⎍⎍⎍ L | Duty=75% Brightness=75% |
| H ⎍⎍⎍ L | Duty=50% Brightness=50% |
| H ⎍⎍⎍ L | Duty=25% Brightness=25% |
| H ⎯⎯⎯⎯⎯⎯⎯⎯⎯⎯ L | Duty=0% Brightness=0% |

## 6. OPTICAL CHARACTERISTICS

| Item | | Symbol | Condition | Min. | Typ. | Max. | Unit | Note |
|---|---|---|---|---|---|---|---|---|
| Viewing Angle | Front | θ f | CR≧10 | 50 | 60 | -- | deg. | (1)(2)(3) |
| | Back | θ b | | 60 | 70 | -- | | |
| | Left | θ l | | 60 | 70 | -- | | |
| | Right | θ r | | 60 | 70 | -- | | |
| Contrast ratio | | CR | Θ=Φ=0° | 250 | 400 | -- | -- | (1)(3) |
| Response Time | | $T_r$ | | -- | 5 | 10 | ms | (1)(4) |
| | | $T_f$ | | -- | 11 | 16 | ms | (1)(4) |
| Color chromaticity | White | Wx | Θ=Φ=0° | 0.249 | 0.299 | 0.349 | -- | (1) |
| | | Wy | | 0.278 | 0.328 | 0.378 | | |
| | Red | Rx | | 0.522 | 0.572 | 0.622 | | |
| | | Ry | | 0.308 | 0.358 | 0.408 | | |
| | Green | Gx | | 0..291 | 0.341 | 0.391 | | |
| | | Gy | | 0.534 | 0.584 | 0.634 | | |
| | Blue | Bx | | 0.082 | 0.132 | 0.182 | | |
| | | By | | 0.083 | 0.133 | 0.183 | | |
| Luminance | | L | Θ=Φ=0° | 300 | 350 | -- | cd/m² | (1)(5) |
| Luminance Uniformity | | ΔL | Θ=Φ=0° | 70 | -- | -- | % | (1)(5)(6) |

Note 1: Ta=25°C. To be measured on the center area of panel after 10 minutes operation.

Note 2: Definition of Viewing Angle
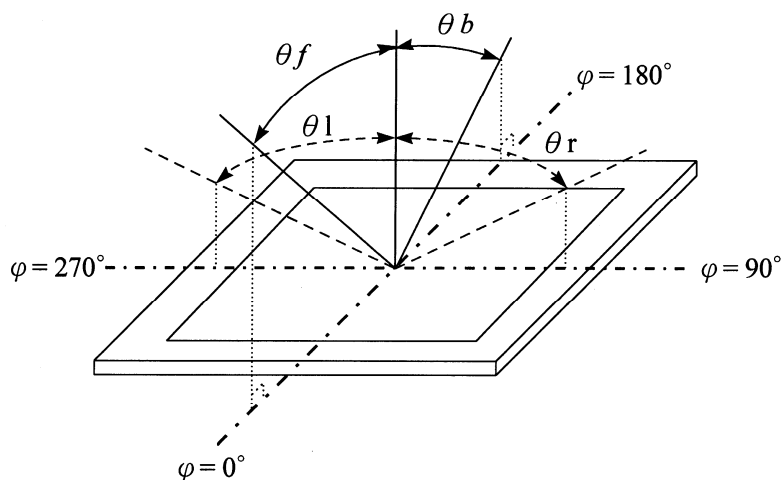
Note 3: Definition of contrast ratio:

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 4: Definition of response time:

The output signals of photo detector are measured when the input signals are changed from "black" to "white"(falling time) and from "white" to "black" (rising time) respectively. The response time is defined as the time interval between the 10% and 90% of amplitudes. Refer to figure as below.
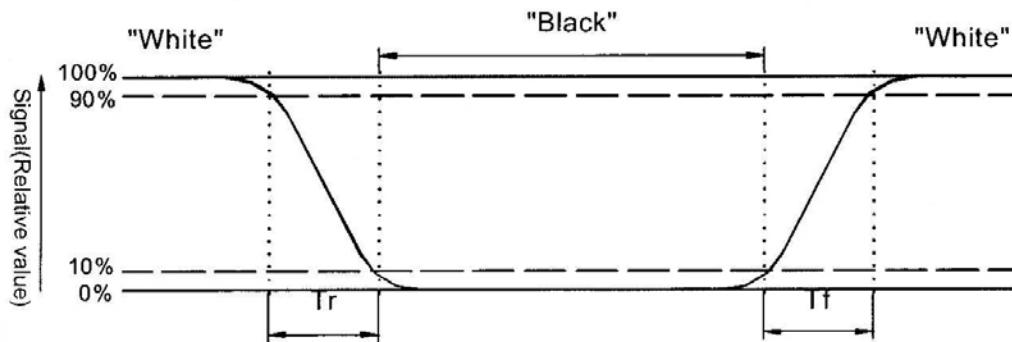


Note 5 : Luminance is measured at point 5 of the display.
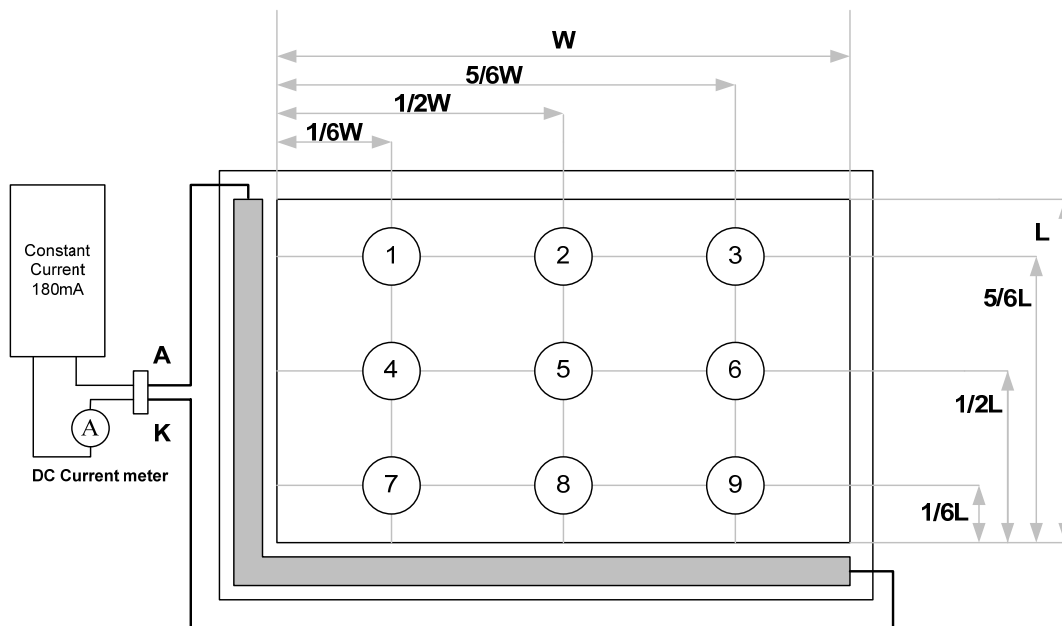


Note 6 : Definition of Luminance Uniformity

ΔL = [ L(min.) of 9 points / L(max.) of 9 points] X 100%

## 7. INPUT SIGNAL ( DE ONLY MODE )

| Parameter | Symbol | Rating | | | Unit |
|---|---|---|---|---|---|
| | | Min. | Typ. | Max. | |
| Data setup time | Tdsu | 6 | - | - | ns |
| Data hold time | Tdhd | 6 | - | - | Tcph |
| DE setup time | Tesu | 6 | - | - | Tcph |
| CLK frequency | F$_{CPH}$ | | 33.26 | | MHz |
| CLK period | T$_{CPH}$ | | 30.06 | | ns |
| CLK pulse duty | T$_{CWH}$ | 40 | 50 | 60 | % |
| DE period | T$_{DEH}$+T$_{DEL}$ | 1000 | 1056 | 1200 | T$_{CPH}$ |
| DE pulse width | T$_{DEH}$ | - | 800 | - | T$_{CPH}$ |
| DE frame blanking | T$_{DEB}$ | 10 | 45 | 110 | T$_{DEH}$+T$_{DEL}$ |
| DE frame width | T$_{DE}$ | | 480 | - | T$_{DEH}$+T$_{DEL}$ |
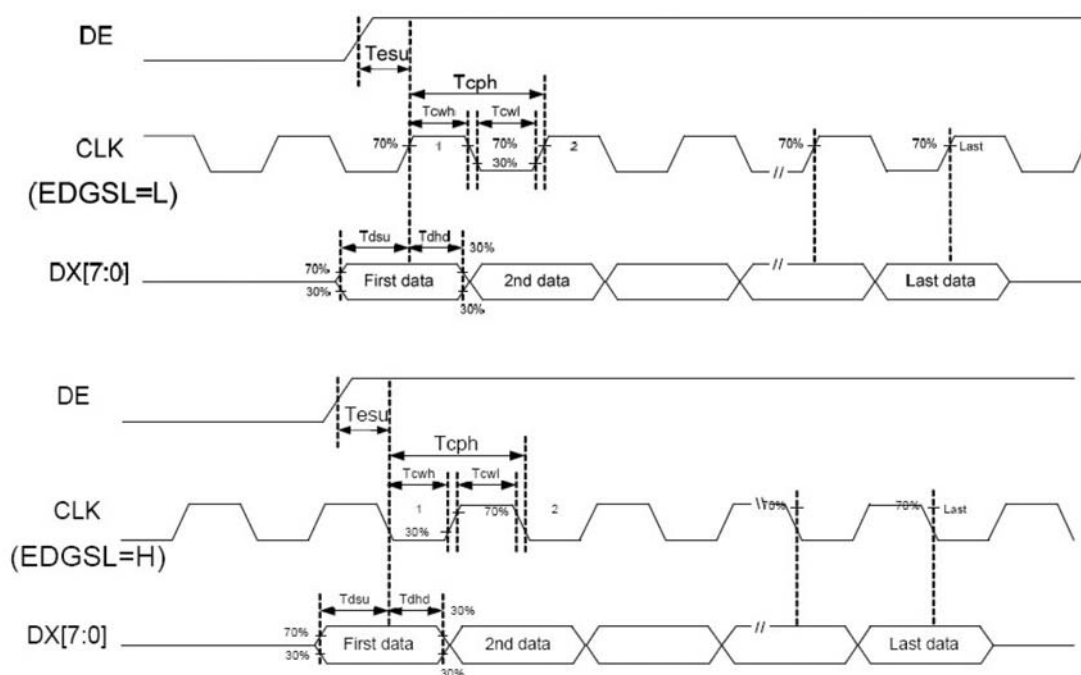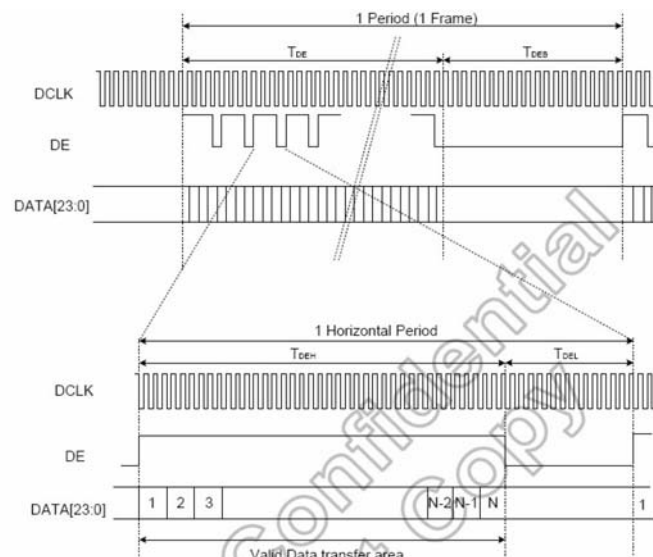
## Power Sequence
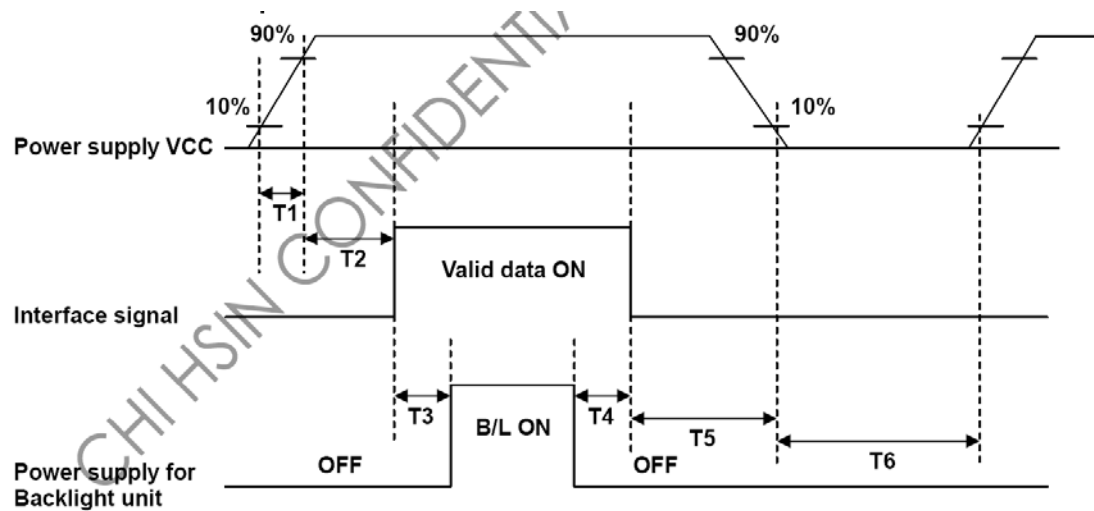


| Parameter | SPEC. | | | Unit |
|---|---|---|---|---|
| | Min. | Typ. | Max. | |
| T1 | 1 | | 2 | ms |
| T2 | 0 | 60 | | ms |
| T3 | 200 | | | ms |
| T4 | 200 | | | ms |
| T5 | 1 | | | ms |
| T6 | 1000 | | | ms |

# 9. QUALITY AND RELIABILITY

## 9.1 TEST CONDITIONS

Tests should be conducted under the following conditions :
Ambient temperature : 25 $\pm$ 5°C
Humidity : 60 $\pm$ 25% RH.

## 9.2 SAMPLING PLAN

Sampling method shall be in accordance with MIL-STD-105E , level II, normal single sampling plan .

## 9.3 ACCEPTABLE QUALITY LEVEL

A major defect is defined as one that could cause failure to or materially reduce the usability of the unit for its intended purpose. A minor defect is one that does not materially reduce the usability of the unit for its intended purpose or is an infringement from established standards and has no significant bearing on its effective use or operation.

## 9.4 APPEARANCE

An appearance test should be conducted by human sight at approximately 30 cm distance from the LCD module under florescent light. The inspection area of LCD panel shall be within the range of following limits.



ZONE A active area

ZONE B viewing area
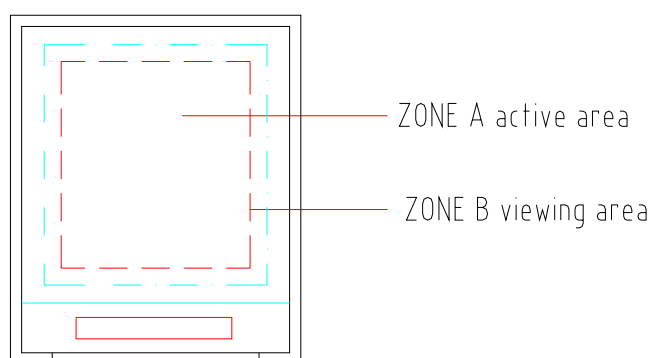
## 9.5 Incoming Inspection Standard

| Defect Type | | | Limit | | | | | | Note |
|---|---|---|---|---|---|---|---|---|---|
| Visual Defect | Internal | Spot | φ<0.15mm | | Ignore | | | | (1) |
| | | | 0.15mm≦φ≦0.5mm | | N≦4 | | | | |
| | | | 0.5mm<φ | | N=0 | | | | |
| | | Fiber | 0.1mm<W≦0.5mm, L≦1.5mm | | N≦4 | | | | (1) |
| | | | 1.0mm<W, 1.5mm<L | | N=0 | | | | |
| | | Polarizer Bubble | φ<0.15mm | | Ignore | | | | (1) |
| | | | 0.15mm≦φ≦0.5mm | | N≦4 | | | | |
| | | | 0.5mm<φ | | N=0 | | | | |
| | | Mura | It' OK if mura is slight visible through 6%ND filter | | | | | | |
| Electrical Defect | Bright Dot | | A Grade | | | B Grade | | | (3) |
| | | | C Area | O Area | Total | C Area | O Area | Total | |
| | | | N≦0 | N≦2 | N≦2 | N≦2 | N≦3 | N≦5 | (2) |
| | Dark Dot | | N≦2 | N≦4 | N≦4 | N≦3 | N≦5 | N≦8 | |
| | Total Dot | | N≦4 | | | N≦5 | N≦6 | N≦8 | (2) |
| | Two Adjacent Dot | | N≦0 | N≦1 pair | N≦1 pair | N≦1 pair | N≦1 pair | N≦1 pair | (4) |
| | Three or More Adjacent Dot | | Not Allowed | | | | | | |
| | Line Defect | | Not Allowed | | | | | | |

(1) One pixel consists of 3 sub-pixels, including R,G, and B dot.(Sub-pixel = Dot)

(2) LITTLE BRIGHT DOT acceptable under 6% ND-Filter

**[Note1]** W : Width[mm], L : Length[mm], N : Number, φ: Average Diameter



$\phi = (a+b)/2$

1. (White, black) Spot
2. Polarizer Bubble

1. fiber
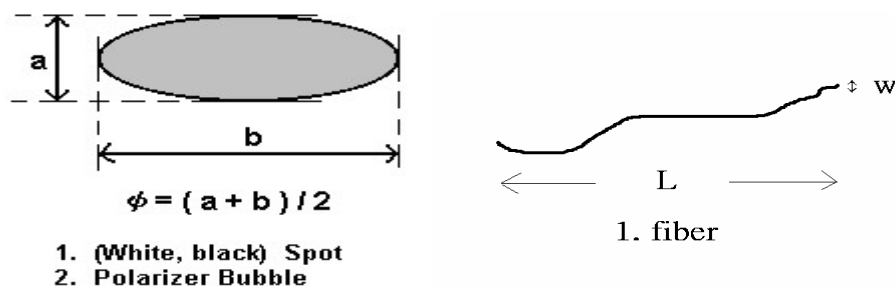
**[Note2]** Bright dot is defined through 6% transmission ND Filter as following.
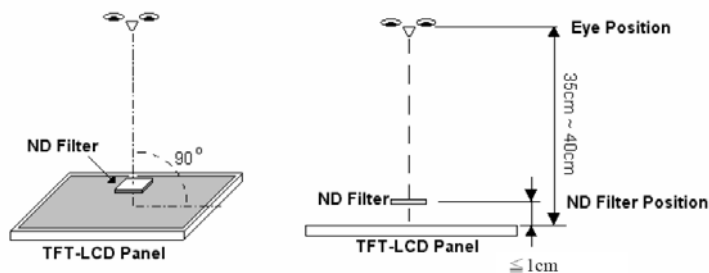


**[Note3]**
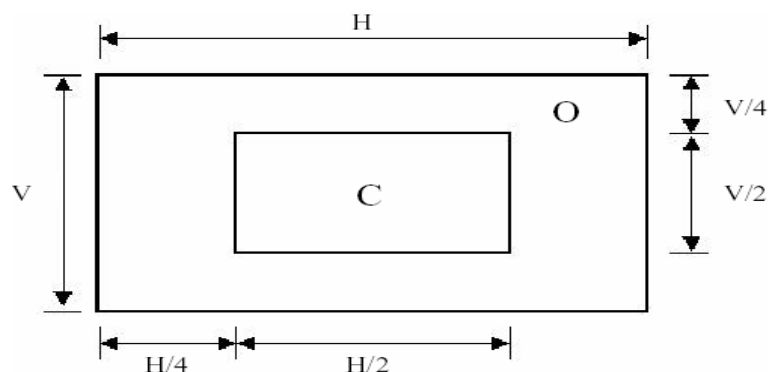


**C Area: Center of display area**

**C Area: Outer of display area**

**[Note4]**

Judge defect dot and adjacent dot as following. Allow below (as A, B, C and D status) adjacent defect dots, including bright and dart adjacent dot. And they will be counted 2 defect dots in total quantity.
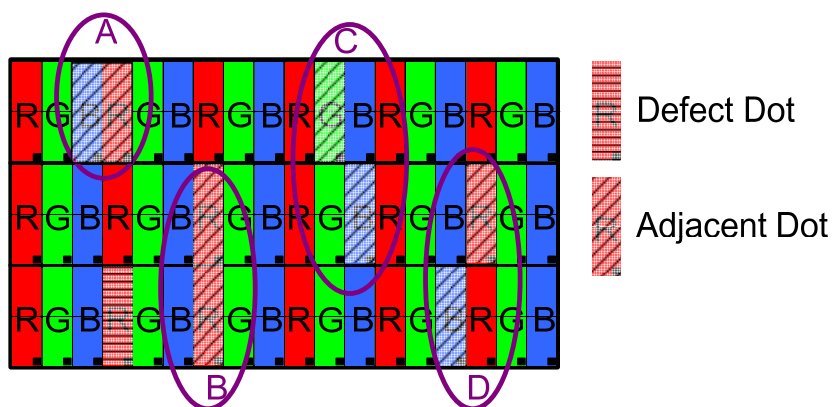


(1) The defects that are not defined above and considered to be problem shall be reviewed and discussed by both parties.

(2) Defects on the Black Matrix, out of Display area, are not considered as a defect or counted.

## 9.6 RELIABILITY TEST CONDITIONS

| Test Item | Test Conditions | Note |
|---|---|---|
| High Temperature Operation | 70±3°C , t=96 hrs | |
| Low Temperature Operation | -20±3°C , t=96 hrs | |
| High Temperature Storage | 80±3°C , t=96 hrs | 1,2 |
| Low Temperature Storage | -30±3°C , t=96 hrs | 1,2 |
| Thermal Shock Test | -30°C ~   25°C ~   80°C<br>30 m in.    5 min.   30 min. ( 1 cycle )<br>Total 5 cycle | 1,2 |
| Humidity Test | 40 °C, Humidity 90%, 96 hrs | 1,2 |
| Vibration Test (Packing) | Sweep frequency : 10 ~ 55 ~ 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 inspected after 1 hour storage in normal conditions

(15-35°C , 45-65%RH).

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 the initial value.

# 10. USE PRECAUTIONS

## 10-1 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.

(1) 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.


## 10-2 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


## 10-3 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.

**10-4 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.


**10-5 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) The residual image may exist if the same display pattern is shown for hours. This residual image, however, disappears when another display pattern is shown or the drive is interrupted and left for a while. But this is not a problem on reliability.

(3) AMIPRE will provide one year warrantee for all products and three months warrantee for all repairing products..
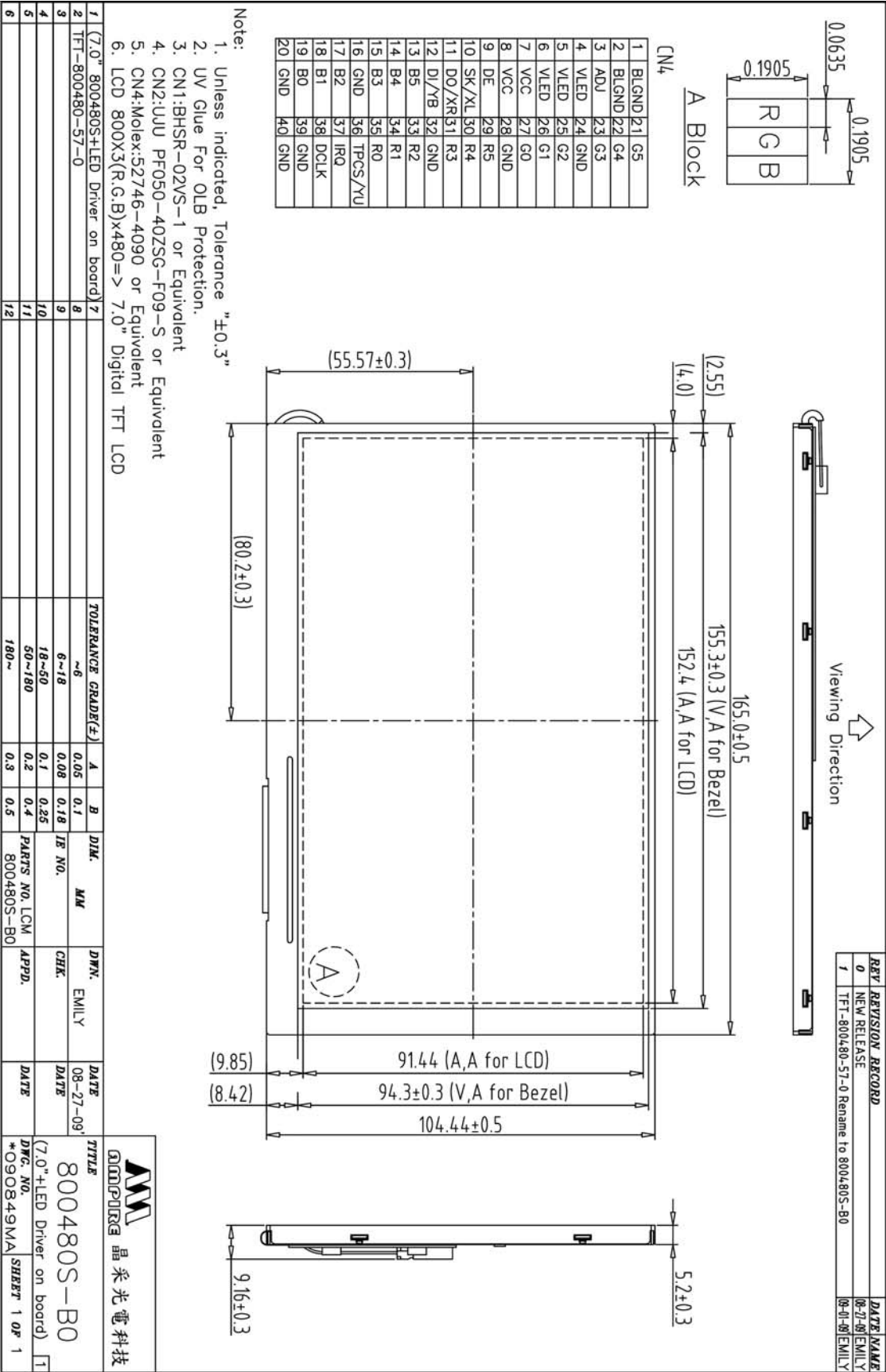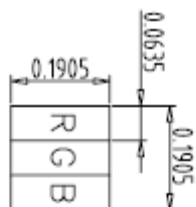
**CN4 / A Block**

| No. | Signal | No. | Signal |
|---|---|---|---|
| 1 | BLGND | 21 | G5 |
| 2 | BLGND | 22 | G4 |
| 3 | ADJ | 23 | G3 |
| 4 | VLED | 24 | GND |
| 5 | VLED | 25 | G2 |
| 6 | VLED | 26 | G1 |
| 7 | VCC | 27 | G0 |
| 8 | VCC | 28 | GND |
| 9 | DE | 29 | R5 |
| 10 | SK/XL | 30 | R4 |
| 11 | DO/XR | 31 | R3 |
| 12 | DI/YB | 32 | GND |
| 13 | B5 | 33 | R2 |
| 14 | B4 | 34 | R1 |
| 15 | B3 | 35 | R0 |
| 16 | GND | 36 | TPCS/YU |
| 17 | B2 | 37 | IRQ |
| 18 | B1 | 38 | DCLK |
| 19 | B0 | 39 | GND |
| 20 | GND | 40 | GND |

Note:
1. Unless indicated, Tolerance "±0.3"
2. UV Glue For OLB Protection.
3. CN1:BHSR-02VS-1 or Equivalent
4. CN2:UJU PF050-40ZSG-F09-S or Equivalent
5. CN4:Molex:52746-4090 or Equivalent
6. LCD 800X3(R.G.B)x480=> 7.0" Digital TFT LCD

| | | |
|---|---|---|
| 1 | (7.0" 800480S+LED Driver on board) | 7 |
| 2 | TFT-800480-57-0 | 8 |
| 3 | | 9 |
| 4 | | 10 |
| 5 | | 11 |
| 6 | | 12 |

**TOLERANCE GRADE(±)**

| DIM. MM | A | B |
|---|---|---|
| ~6 | 0.05 | 0.1 |
| 6~18 | 0.08 | 0.18 |
| 18~50 | 0.1 | 0.25 |
| 50~180 | 0.2 | 0.4 |
| 180~ | 0.3 | 0.5 |

Dimensions (drawing):
- 0.0635
- 0.1905, 0.1905
- (55.57±0.3)
- (2.55)
- (4.0)
- (80.2±0.3)
- 155.3±0.3 (V,A for Bezel)
- 152.4 (A,A for LCD)
- 165.0±0.5
- Viewing Direction
- (9.85)
- (8.42)
- 91.44 (A,A for LCD)
- 94.3±0.3 (V,A for Bezel)
- 104.44±0.5
- 5.2±0.3
- 9.16±0.3

**PARTS NO. LCM 800480S-B0**

IF NO. : 800480S-B0

DWN. EMILY   DATE 08-27-09'

CHK.   DATE

APPD.   DATE

**CN4**

**A Block**

| | | |
|---|---|---|
| R | | |
| G | | |
| B | | |

0.0635
0.1905
0.1905

| 1 | BLGND | 21 | G5 |
|---|---|---|---|
| 2 | BLGND | 22 | G4 |
| 3 | ADJ | 23 | G3 |
| 4 | VLED | 24 | GND |
| 5 | VLED | 25 | G2 |
| 6 | VLED | 26 | G1 |
| 7 | VLED | 27 | G0 |
| 8 | VCC | 28 | GND |
| 9 | DE | 29 | R5 |
| 10 | SK/XL | 30 | R4 |
| 11 | DO/XR | 31 | R3 |
| 12 | DI/YB | 32 | GND |
| 13 | B5 | 33 | R2 |
| 14 | B4 | 34 | R1 |
| 15 | B3 | 35 | R0 |
| 16 | GND | 36 | TPCS/YU |
| 17 | B2 | 37 | IRQ |
| 18 | B1 | 38 | DCLK |
| 19 | B0 | 39 | GND |
| 20 | GND | 40 | GND |

Note:
1. Unless indicated, Tolerance "±0.3"
2. UV Glue For OLB Protection.
3. CN1:BHSR-02VS-1 or Equivalent
4. CN2:UJU PF050-40ZSG-F09-S or Equivalent
5. CN4:Molex:52746-4090 or Equivalent
6. LCD 800X3(R.G.B)x480=> 7.0" Digital TFT LCD

Back View

165.0±0.5
(97.5±0.5)
(61.0±0.5)
90.0±0.3 (PCB)
(61.0±1.0)
CN4
CN2
CN3
43.3±0.5
(20.0)
(6.25±1.0)
(10.0±1.0)
(15.0±1.0)
(6.0±1.0)
45.0±0.3 (PCB)
(10.14±1.0)

| TOLERANCE GRADE(±) | | A | B | DIM. |
|---|---|---|---|---|
| ~6 | | 0.05 | 0.1 | |
| 6~18 | | 0.08 | 0.18 | IF NO. |
| 18~50 | | 0.1 | 0.25 | MM |
| 50~180 | | 0.2 | 0.4 | PARTS NO.LCM-1 |
| 180~ | | 0.3 | 0.5 | 800480S-B0 |

| | | DWN. | DATE |
|---|---|---|---|
| | | EMLY | 08-27-09 |
| | CHK. | | DATE |
| | APPD. | | DATE |

| 1 | (7.0" 800480S+LED Driver on board) | 7 | 8 |
|---|---|---|---|
| 2 | TFT-800480-57-0 | | 9 |
| 3 | | | 10 |
| 4 | | | 11 |
| 5 | | | 12 |
| 6 | | | |

00000PU商標 晶采光電科技

TITLE 800480S-B0
(7.0"+LED Driver on board)
DWG. NO. *09085OMA SHEET 1 OF 1