# PRODUCT SPECIFICATION

**KADI Model:** KD101WXDSI01

**CUSTOMER Model:** -

**Description:** 10.1’ HDMI Display Module

**Version:** 2.0

| KADI | PREPARED BY | CHECKED BY | APPROVED BY |
|---|---|---|---|
| SIGNATURE | | | |
| DATE | 2025.7.30 | 2025.7.30 | 2025.7.30 |

| | SIGNATURE | DATE |
|---|---|---|
| CUSTOMER APPROVAL | | |

## Record of Revisions

| Version | Revise Date | Description | Page |
|---|---|---|---|
| 1.0 | 2024-7-30 | First Release | - |
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# Contents

# 1. General Specifications

## 1.1 LCM General Information

| Item | Specification | Unit |
|---|---|---|
| LCD Size | 10.1 | inch |
| Number of Pixels | 1280 (H) RGB x 800 (V) | pixels |
| Display Mode | Normally Black | - |
| Viewing Direction | Free | o' clock |
| Interface | MIPI DSI | - |
| Display Colors | 16.7M | colors |
| Outline Dimension | 231.66 (H) x 151.30 (V) x 12.93 (D) | mm |
| Active Area | 216.96 (H) x 135.60 (V) | mm |
| Pixel Pitch | 0.1695 (H) x 0.1695 (V) | mm |
| Operation Temperature | -20~70 | ℃ |
| Storage Temperature | -30~80 | ℃ |

Note1:Requirements on environmental protection RoHS compliant.

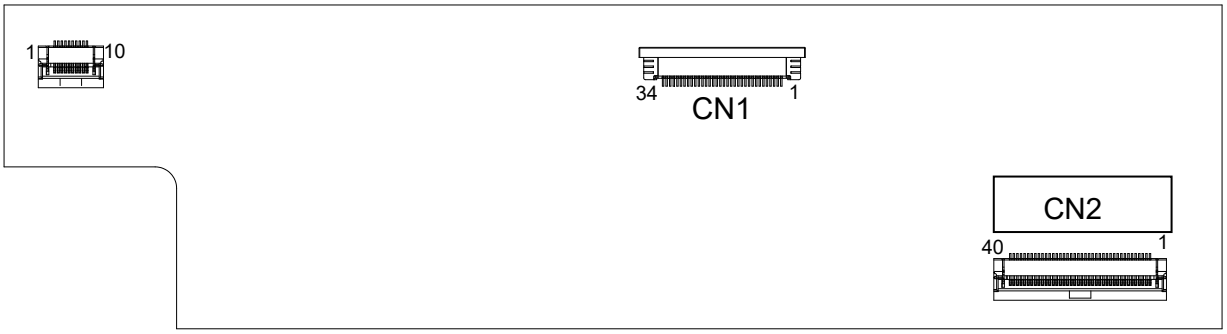
## 1.2 Touch Panel Information

| Item | Specification |
|---|---|
| Driver IC | ILI2511 |
| Interface | I2C |
| Touch Count Max | 10 Points |
| I2C slave address | 0x82 |
| Origin of coordinate | Top Left Corner |
| Bonding Type with LCM | Optical bonding |
| Surface hardness | 6H |

# 2. Interface

## 2.1 PCB overview

Picture below shows the connectors exact placement and their descriptions.




## 2.2 Connector Description

| Item | Type | Description |
|---|---|---|
| CN1 | MIPI Interface | 4-Lane MIPI (34P-0.5mm) |

## 2.3 CN1(MIPI Interface) 34PIN-0.5mm

| No. | Symbol | Description |
|---|---|---|
| 1 | GND | Ground |
| 2 | DSI_D0P | MIPI Negative data0 signal(+) |
| 3 | DSI_D0N | MIPI Positive data0 signal(-) |
| 4 | GND | Ground |
| 5 | DSI_D1P | MIPI Negative data1 signal(+) |
| 6 | DSI_D1N | MIPI Positive data1 signal(-) |
| 7 | GND | Ground |
| 8 | DSI_CLKP | MIPI Negative clock signal(+) |
| 9 | DSI_CLKN | MIPI Positive clock signal(-) |

| | | |
|---|---|---|
| 10 | GND | Ground |
| 11 | DSI_D2P | MIPI Negative data2 signal(+) |
| 12 | DSI_D2N | MIPI Positive data2 signal(-) |
| 13 | GND | Ground |
| 14 | DSI_D3P | MIPI Negative data3 signal(+) |
| 15 | DSI_D3N | MIPI Positive data3 signal(-) |
| 16 | GND | Ground |
| 17 | PWR_DN | NC |
| 18 | PWM | PWM dimming control |
| 19 | INT | Interrupt signal for CTP |
| 20 | I2C_SCL | I2C clock input for CTP |
| 21 | I2C_SDA | I2C data input and output for CTP |
| 22 | RESET | Reset Pin for CTP |
| 23 | NC | No connection |
| 24 | VREF | NC |
| 25 | NC | No connection |
| 26 | 5V | Power supply 5V |
| 27 | 5V | Power supply 5V |
| 28 | 5V | Power supply 5V |
| 29 | 5V | Power supply 5V |
| 30 | GND | Ground |
| 31 | NC | No connection |
| 32 | NC | No connection |
| 33 | NC | No connection |
| 34 | NC | No connection |

# 3. Elecrical Characteristics

### 3.1 Absolute Maximum Ratings

| Item | Symbol | Min. | Max. | Unit | Note |
|---|---|---|---|---|---|
| Supply voltage for module | $V_{DD}$ | 5 | 5.5 | V | Note 1 |
| PWM input voltage | $V_{PWM}$ | 1.2 | 3.3 | V | |

Note 1:Exceeding maximum values may cause improper operation or permanent damage to the unit.

# 4. Interface Characteristic

For 1280RGBx800

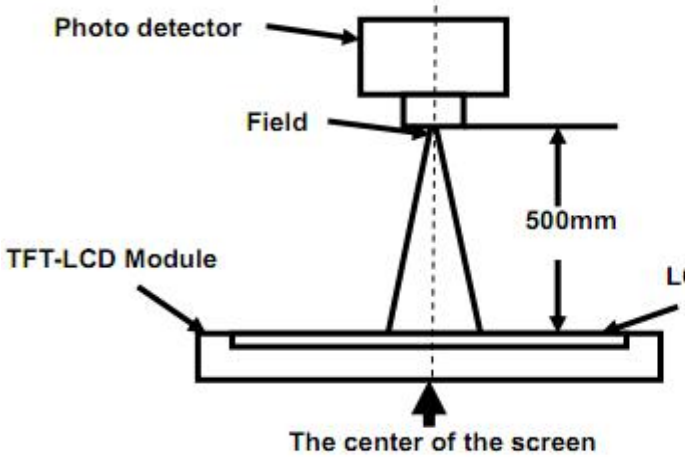
| Parameter | | Symbol | Value | | | Unit |
|---|---|---|---|---|---|---|
| | | | Min. | Typ. | Max. | |
| DCLK frequency @Frame rate=60Hz (LVDS) | | $F_{DCLK}$ | 66.3 | 72.4 | 78.9 | MHz |
| HSYNC period time | | $T_H$ | 1380 | 1440 | 1500 | DCLK |
| Horizontal display area | | $T_{HD}$ | | 1280 | | DCLK |
| HSYNC pulse width | Min. | $T_{HPW}$ | | 1 | | |
| | Typ. | | | - | | |
| | Max. | | | 40 | | |
| HSYNC back porch(with pulse width) | | $T_{HBP}$ | 88 | 88 | 88 | DCLK |
| HSYNC front porch | | $T_{HFP}$ | 12 | 72 | 132 | DCLK |
| VSYNC period time | | $T_V$ | 824 | 838 | 872 | H |
| Vertical display area | | $T_{VD}$ | | 800 | | H |
| VSYNC pulse width | Min. | $T_{VPW}$ | | 1 | | H |
| | Typ. | | | - | | |
| | Max. | | | 20 | | |
| VSYNC back porch(with pulse width) | | $T_{VBP}$ | 23 | 23 | 23 | H |
| VSYNC front porch | | $T_{VFP}$ | 1 | 15 | 49 | H |

# 5. Optical Specifications

| Item | Symbol | Condition | Min. | Typ. | Max. | Unit | Note |
|---|---|---|---|---|---|---|---|
| Viewing Angle (CR≥10) B/L ON | $\theta_T$ | Φ=90°(12 o'clock) | 70 | 80 | - | deg | Note2 |
| | $\theta_B$ | Φ=270°(6 o'clock) | 70 | 80 | - | deg | Note2 |
| | $\theta_L$ | Φ=180°(9 o'clock) | 70 | 80 | - | deg | Note2 |
| | $\theta_R$ | Φ=0°(3 o'clock) | 70 | 80 | - | deg | Note2 |
| Response Time | $T_{ON}$ | Normal θ=Φ=0° | - | 12 | 17 | msec | Note4 |
| | $T_{OFF}$ | | - | 12 | 17 | msec | Note4 |
| Contrast Ratio | CR | | 800 | 1000 | - | - | Note1 Note3 |
| Color Chromaticity | $W_X$ | | 0.272 | 0.322 | 0.372 | - | Note1 Note5 |
| | $W_Y$ | | 0.294 | 0.344 | 0.394 | - | Note1 Note5 |
| Luminance | L | | 700 | 800 | - | cd/m² | Note1 Note7 |
| Luminance Uniformity | $Y_U$ | | 75 | 80 | - | % | Note1 Note6 |
| NTSC | - | | 45 | 50 | - | % | - |

Note 1:Definition of optical measurement system

The optical characteristics should be measured in dark room. After 5 minutes operation, the optical properties are measured at the center point of the LCD screen. All input terminals LCD panel must be ground when measuring the center area of the panel.




| Item | Photo detector | Field |
|---|---|---|
| Contrast Ratio | SR-3A | 1° |
| Luminance | | |
| Chromaticity | | |
| Lum Uniformity | | |
| Response Time | BM-7A | 2° |

**Fig 1**

Note 2: Definition of viewing angle range and measurement system.
viewing angle is measured at the center point of the LCD by CONOSCOPE(ergo-80).

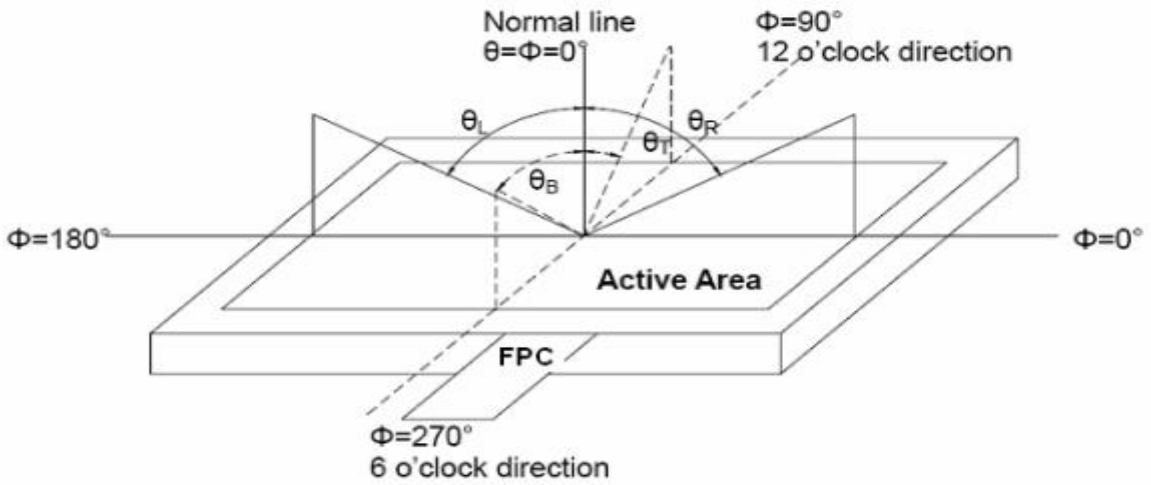


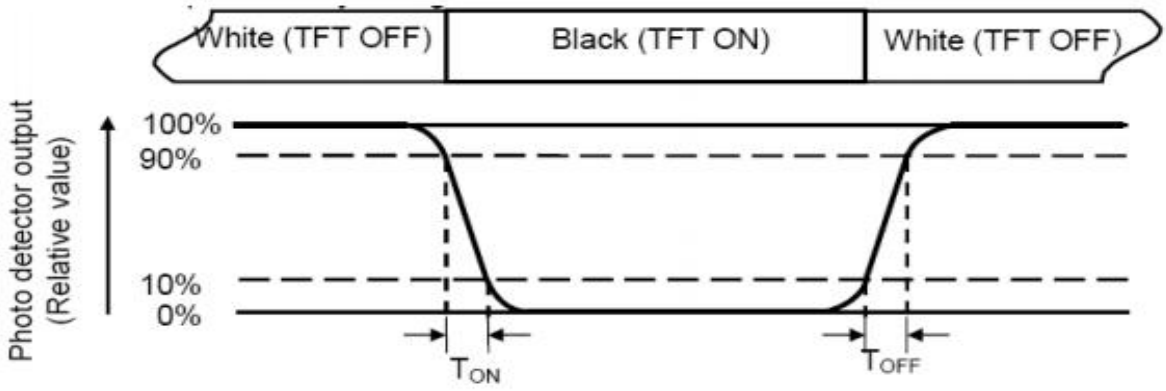

**Fig 2 Definition of viewing angle**

Note 3: Definition of contrast ratio

$$CR = \frac{\text{Luminance with all pixels white}}{\text{Luminance with all pixels black}}$$

Note 4: Definition of Response time

The response time is defined as the LCD optical switching time interval between “White” state and “Black” state. Rise time (TON) is the time between photo detector output intensity changed from 90% to 10%. And fall time (TOFF) is the time between photo detector output intensity changed from 10% to 90%.




Note 5: Definition of color chromaticity (CIE1931)

Color coordinates measured at center point of LCD.

Note 6: Definition of Luminance Uniformity

The luminance uniformity in surface luminance is determined by measuring luminance at each test position 1 through n, and then dividing the maximum luminance of n points luminance by minimum luminance of n points luminance.For more information see FIG.3-a/b

Note 7:Surface luminance is the luminance with all pixels displaying white.

Lv = Average Surface Luminance with all white pixels(P1,P2,P3, .....,Pn)

For more information see FIG.3-a/b

Note 8:Size : S≤5”(see Figure a) A : 5 mm B : 5 mm. H,V : Active area

Light spot size ⌀ =5mm(BM-5) or ⌀=7.7mm (BM-7)50cm distance or test spot position : see Figure a.

measurement instrument : TOPCON’s luminance meter SR-3A or BM-7 or compatible (see Figure 1).

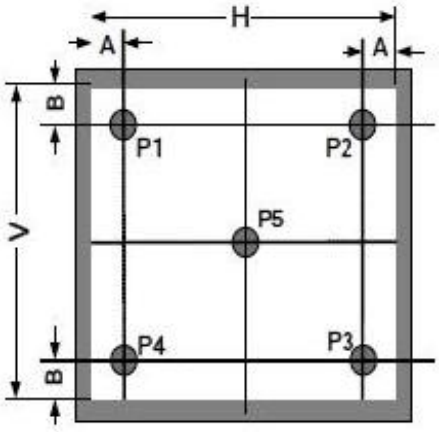



**Fig. 3-a Definition of points**

5”＜S≤12.3”(see Figure b) . H,V : Active area
Light spot size ∅=5mm(BM-5) or ∅=7.7mm (BM-7)50cm distance or compatible distance from the LCD surface to detector lens. test spot position : see Figure b.
measurement instrument : TOPCON’s luminance meter SR-3A or BM-7 or compatible (see Figure 1).

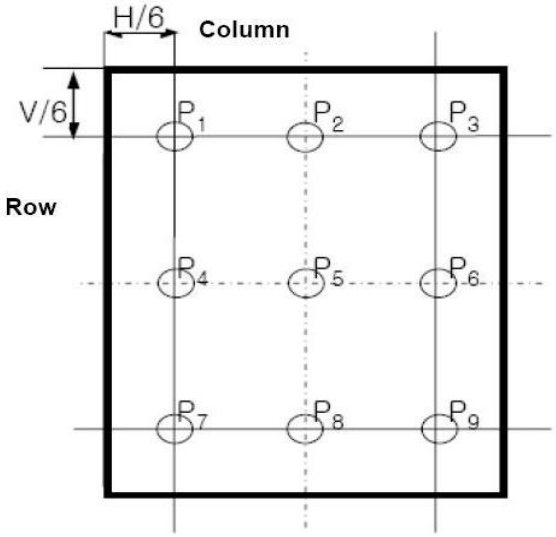



**Fig. 3-b Definition of points**

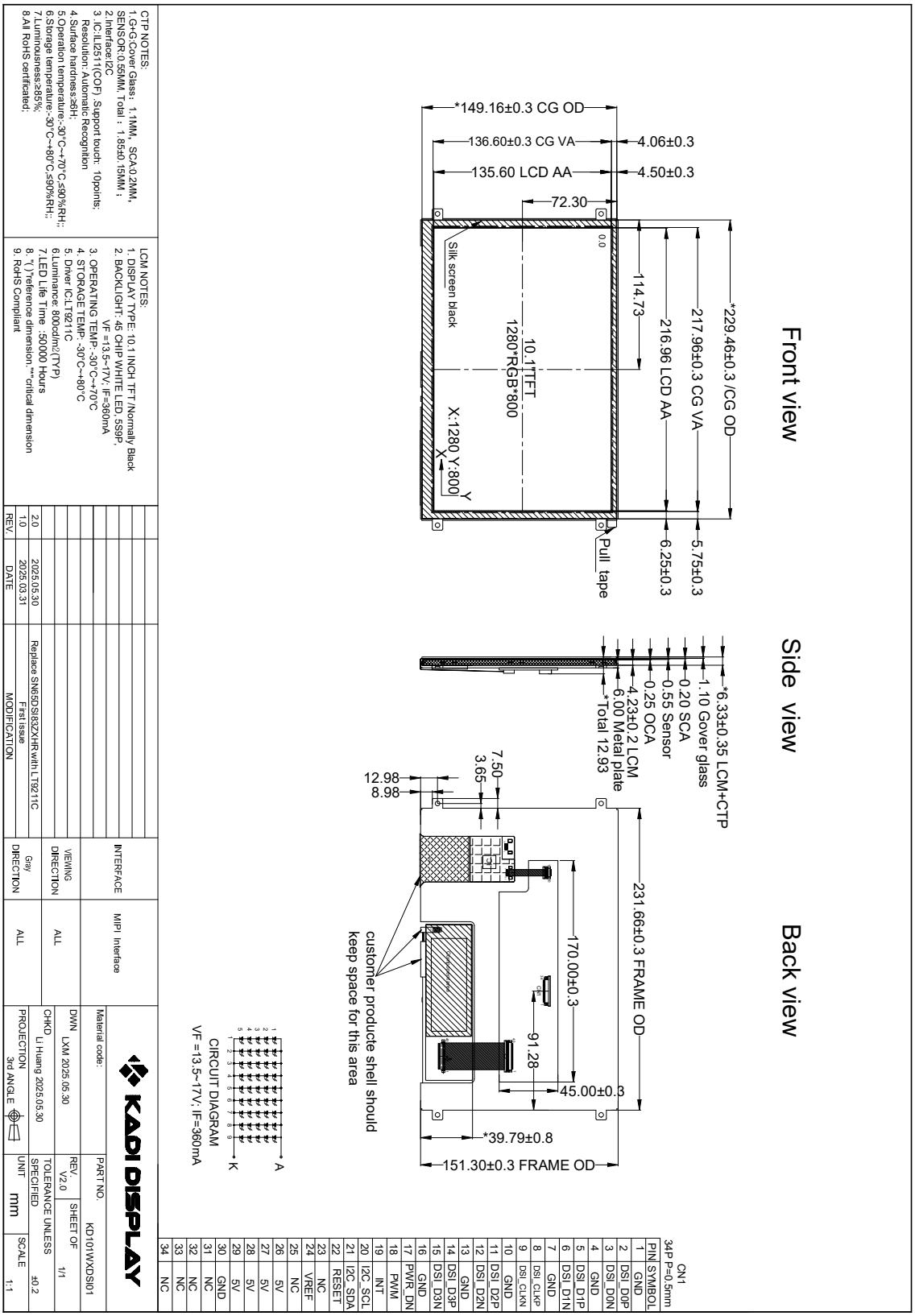
# 6. Reliability Test Items

| Test Item | Test Conditions | |
|---|---|---|
| High Temperature Storage | Ta= +70℃ | 120hrs |
| Low Temperature Storage | Ta= -20℃ | 120hrs |
| High Temperature Operation | Ta= +80℃ | 120hrs |
| Low Temperature Operation | Ta= -30℃ | 120hrs |
| High Temperature and Humidity Storage | Ta= +60℃, 90% RH | 120hrs |
| Thermal Shock (Non-operation) | -30℃/30 min ~ +80℃/30 min for 20 cycles<br>Start with cold temperature<br>end with high temperature | |
| Electro Static Discharge | Contact = ± 4 kV, class B<br>Air = ± 8 kV, class B<br>R=330Ω,C=150pF | |
| Vibration | Sweep: 10Hz~55Hz~10Hz<br>Stroke: 1.5mm<br>2 hrs for each direction of X .Y. Z. | |
| Mechanical Shock | 60G 6ms,±X,±Y,±Z<br>3 times for each direction | |
| Package Drop Test | Height: 60 cm<br>1 corner, 3 edges, 6 surfaces | |

Notes: The test result shall be evaluated after the sample has been left at room temperature and humidity for 2 hours without load. No condensation shall be accepted. The sample will not be accepted if appear these defects:

1). Air bubble in the LCD
2). Seal leak or Glass crack
3). Non display or abnormal display
4). Brightness reduction >50%

# 7. Mechanical Drawing



# 8. Precautions for Use of LCD modules

## 8.1 Handling Precautions

8.1.1. The display panel is made of glass. Do not subject it to a mechanical shock by dropping it from a high place, etc.

8.1.2. If the display panel is damaged and the liquid crystal substance inside it leaks out, be sure not to get any in your mouth, if the substance comes into contact with your skin or clothes, promptly wash it off using soap and water.

8.1.3. Do not apply excessive force to the display surface or the adjoining areas since this may cause the color tone to vary.

8.1.4. The polarizer covering the display surface of the LCD module is soft and easily scratched. Handle this polarizer carefully.

8.1.5. If the display surface is contaminated, breathe on the surface and gently wipe it with a soft dry cloth. If still not completely clear, moisten cloth with one of the following solvents:

- Isopropyl alcohol
- Ethyl alcohol

Solvents other than those mentioned above may damage the polarizer. Especially, do not use the following:

- Water
- Ketene
- Aromatic solvents

8.1.6. Do not attempt to disassemble the LCD Module.

8.1.7. If the logic circuit power is off, do not apply the input signals.

8.1.8. To prevent destruction of the elements by static electricity, be careful to maintain an optimum work environment.

8.1.8.1. Be sure to ground the body when handling the LCD Modules.

8.1.8.2. Tools required for assembly, such as soldering irons, must be properly ground.

8.1.8.3. To reduce the amount of static electricity generated, do not conduct assembly and other work under dry conditions.

8.1.8.4. The LCD Module is coated with a film to protect the display surface. Be care when peeling off this protective film since static electricity may be generated.

## 8.2 Storage Precautions

8.2.1.When storing the LCD modules,avoid exposure to direct sunlight or to the light of fluorescent lamps.

8.2.2.The LCD modules should be stored under the storage temperature range if the LCD modules will be stored for a long time,the recommend condition is :

Temperature : 0℃ ~40℃ Relatively humidity: ≤80%

8.2.3.The LCD modules should be stored in the room without acid, alkali and harmful gas.

## 8.3 Transportation Precautions

The LCD modules should be no falling and violent shocking during transportation, and also should avoid excessive press, water, damp and sunshine.

# 9. Block Diagram