



RAYSTAR

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RFS520A-ELW-DBN

SPECIFICATION

CUSTOMER:

| | |
|-------------|--|
| APPROVED BY | |
| PCB VERSION | |
| DATE | |

FOR CUSTOMER USE ONLY

| SALES BY | APPROVED BY | CHECKED BY | PREPARED BY |
|----------|-------------|------------|-------------|
| | | | |

Release DATE:

Revision History

| VERSION | DATE | REVISED PAGE NO. | Note |
|---------|------------|------------------|-------------|
| 0 | 2016/06/15 | | First issue |

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1.Module Classification Information

| | | | | | | | | | | | | |
|----------|----------|----------|-----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|
| R | F | S | 52 | 0A | - | E | L | W | - | D | B | N |
| 1 | 2 | 3 | 4 | 5 | - | 6 | 7 | 8 | - | 9 | 10 | 11 |

| Item | Description | |
|------|---|--|
| 1 | R : Raystar Optronics Inc. | |
| 2 | Display Type : F→TFT Type, J→ Custom TFT | |
| 3 | Solution: A: 128x160 B:320x234 C:320x240 D:480x234 E:480x272 F:800x480 G:640x480 H:1024x600 I:320x480 J:240x320 K:1280x800 L:240x400 M:1024x768 N:128x128 O:480x800 P:640x320 Q:800x600 S:480x128 T:800x320 | |
| 4 | Display Size : 5.2" TFT | |
| 5 | Version Code. | |
| 6 | Model Type: A : TFT LCD E : TFT+FR+CONTROL BOARD J : TFT+FR+A/D BOARD N : TFT+FR+A/D BOARD+CONTROL BOARD S : TFT+FR+POWER BOARD (DC TO DC) 1 : TFT+CONTROL BOARD | 6 : TFT+FR H : TFT+D/V BOARD I : TFT+FR+D/V BOARD B : TFT+POWER BD |
| 7 | Polarizer Type, Temperature range, View direction | I→Transmissive, W. T, 6:00 ; C→Transmissive, N. T, 6:00 L→Transmissive, W.T,12:00 ; F→Transmissive, N.T,12:00 Y→Transmissive,W.T, IPS TFT ; A→Transmissive, N.T, IPS TFT Z→Transmissive, W.T, O-TFT R→Transmissive, Super W.T, O-TFT N→Transmissive, Super W.T, 6:00; Q→Transmissive, Super W.T, 12:00 V→Transmissive, Super W.T, VA TFT |
| 8 | Backlight | W : LED, White H : LED, High Light White F : CCFL, White |
| 9 | Driver Method | D: Digital A: Analog L : LVDS M:MIPI |
| 10 | Interface | N : without control board A : 8Bit B : 16Bit S:SPI Interface R: RS232 U:USB I: I2C |
| 11 | TS | N : Without TS S : resistive touch panel C : capacitive touch panel capacitive touch panel (G-F-F) G : capacitive touch panel(G-G) |

2.Summary

This technical specification applies to 5.2' color TFT-LCD panel. The 5.2' color TFT-LCD panel is designed for camcorder, digital camera application and other electronic products which require high quality flat panel displays. This module follows RoHS.

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3.General Specifications

- Size: 5.2 inch
- Dot Matrix: 480 x RGBx128 dots
- Module dimension: 180.0 x 65.0 x 8.8 mm
- Active area: 127.152 x 33.9072 mm
- Dot pitch: 0.0883 x 0.2649 mm
- LCD type: TFT, Normally White, Transmissive
- View Direction: 6o'clock
- Gray Scale Inversion Direction: 12 o'clock
- Backlight Type: LED,Normally White
- Driver IC: SSD1963
- Interface: Digital 8080 family MPU 8bit/16bit
- With /Without TP: Without TP
- Surface: Glare

*Color tone slight changed by temperature and driving voltage.

4.Interface

4.1. LCM PIN Definition

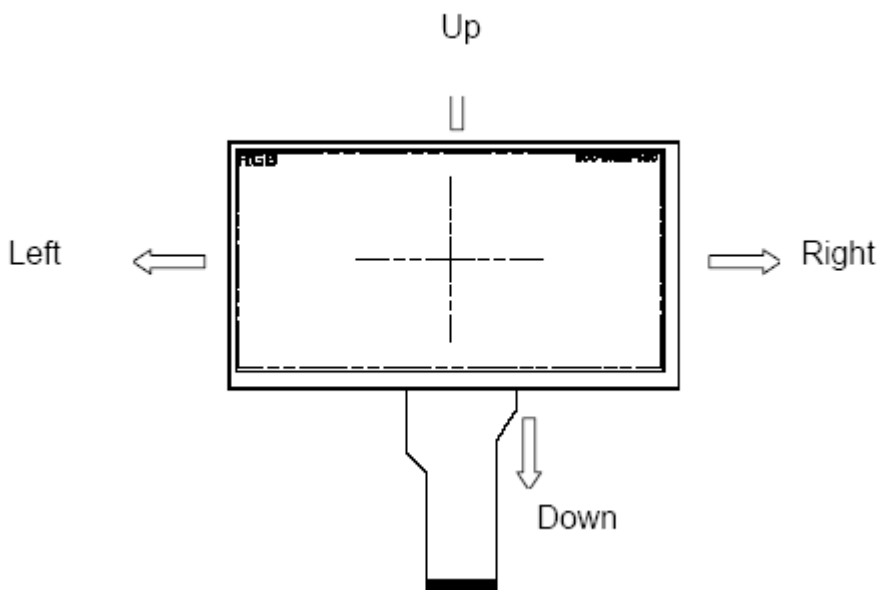
| Pin | Symbol | Function | Remark |
|-----|--------|--|---------|
| 1 | GND | System round pin of the IC. Connect to system ground. | |
| 2 | VDD | Power Supply : +3.3V | |
| 3 | BL_E | Backlight control signal , H: On \ L: Off | |
| 4 | C/D | Data/Command select | |
| 5 | WR | Write strobe signal | |
| 6 | RD | Read strobe signal | |
| 7 | DB0 | Data bus | |
| 8 | DB1 | Data bus | |
| 9 | DB2 | Data bus | |
| 10 | DB3 | Data bus | |
| 11 | DB4 | Data bus | |
| 12 | DB5 | Data bus | |
| 13 | DB6 | Data bus | |
| 14 | DB7 | Data bus | |
| 15 | DB8 | Data bus (When select 8bits mode, this pin is NC) | Note1 |
| 16 | DB9 | Data bus (When select 8bits mode, this pin is NC) | Note1 |
| 17 | DB10 | Data bus (When select 8bits mode, this pin is NC) | Note1 |
| 18 | DB11 | Data bus (When select 8bits mode, this pin is NC) | Note1 |
| 19 | DB12 | Data bus (When select 8bits mode, this pin is NC) | Note1 |
| 20 | DB13 | Data bus (When select 8bits mode, this pin is NC) | Note1 |
| 21 | DB14 | Data bus (When select 8bits mode, this pin is NC) | Note1 |
| 22 | DB15 | Data bus (When select 8bits mode, this pin is NC) | Note1 |
| 23 | NC | No connect | |
| 24 | NC | No connect | |
| 25 | CS | Chip select | |
| 26 | RESET | Hardware reset | |
| 27 | LR | Right /Left selection; Default R/L=High | Note2,3 |
| 28 | UD | Up/down selection; Default U/D=High | Note2,3 |
| 29 | NC | No connection | |
| 30 | NC | No connection | |
| 31 | NC | No connection | |
| 32 | NC | No connection | |
| 33 | VLED- | VLED- for B/L LED inverter (GND) | |
| 34 | VLED- | VLED- for B/L LED inverter (GND) | |
| 35 | VLED+ | VLED+ for B/L LED inverter (+5V) | |
| 36 | VLED+ | VLED+ for B/L LED inverter (+5V) | |

Note1: When select 8bit mode, DB0~DB7 be used, DB8~DB15 no connect
 When select 16bit mode, DB0~DB15 be used

Note 2: Selection of scanning mode

| Setting of scan control input | | Scanning direction |
|-------------------------------|-----|---------------------------|
| UD | LR | |
| GND | VDD | Down to up, left to right |
| VDD | GND | Up to down, right to left |
| GND | GND | Down to up, right to left |
| VDD | VDD | Up to down, left to right |

Note 3: Definition of scanning direction. Refer to the figure as below:



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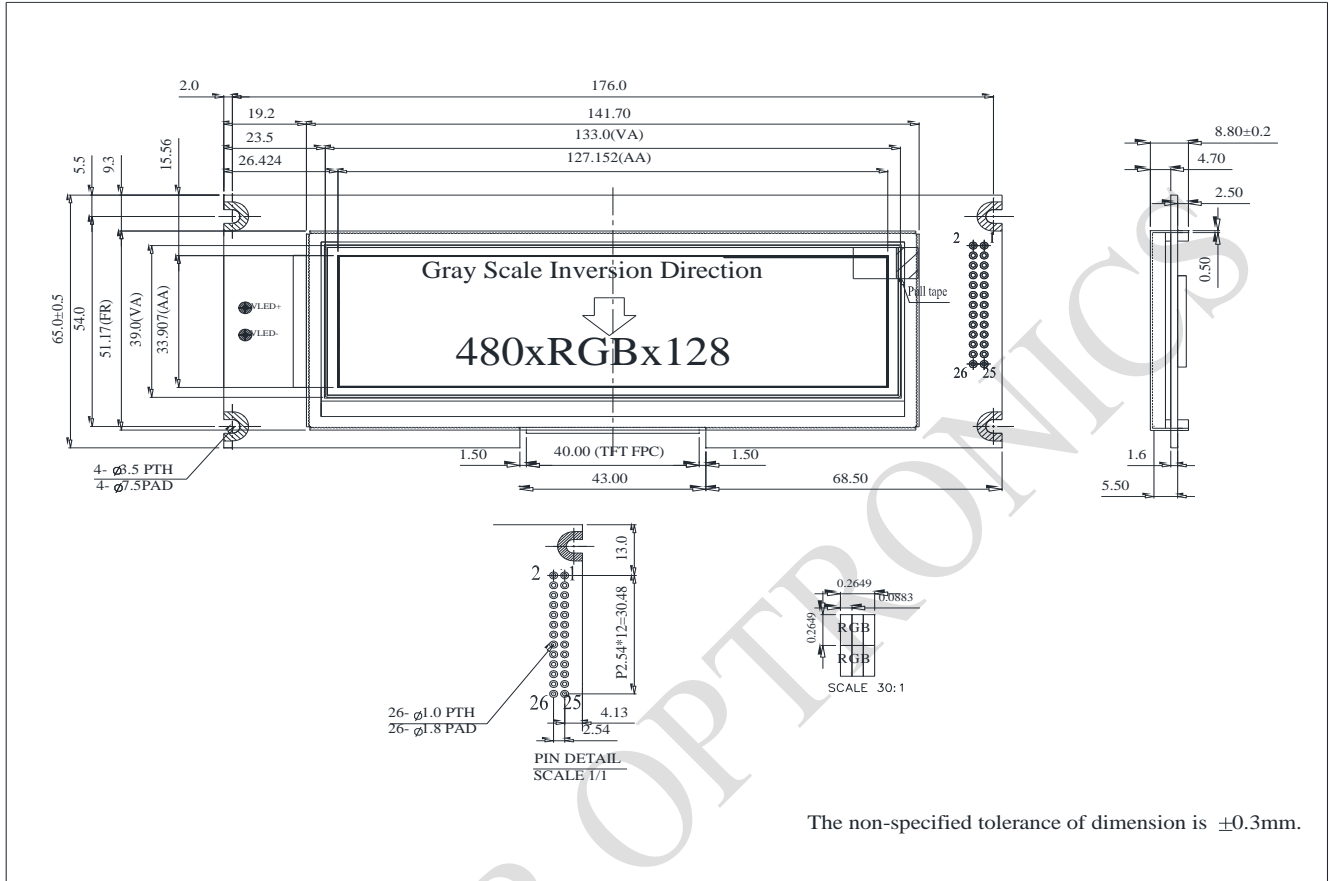
4.2. LCM PIN Definition (CON1)

| Pin | Symbol | Function | Remark |
|-----|--------|--|--------|
| 1 | FG | Frame Grand | |
| 2 | GND | System round pin of the IC. Connect to system ground. | |
| 3 | VDD | Power Supply : +3.3V | |
| 4 | BLE | Backlight control signal , H: On \ L: Off | |
| 5 | WR | Write strobe signal | |
| 6 | RD | Read strobe signal | |
| 7 | CS | Chip select | |
| 8 | C/D | Data/Command select | |
| 9 | NC | No connect | |
| 10 | RESET | Hardware reset | |
| 11 | DB0 | Data bus | |
| 12 | DB1 | Data bus | |
| 13 | DB2 | Data bus | |
| 14 | DB3 | Data bus | |
| 15 | DB4 | Data bus | |
| 16 | DB5 | Data bus | |
| 17 | DB6 | Data bus | |
| 18 | DB7 | Data bus | |
| 19 | NC | No connect | |
| 20 | NC | No connect | |
| 21 | VLED+ | VLED+ for B/L LED inverter (+5V) | Note3 |
| 22 | VLED- | VLED- for B/L LED inverter (GND) | Note3 |
| 23 | NC | No connect | |
| 24 | NC | No connect | |
| 25 | NC | No connect | |
| 26 | GND | Hardware reset | |

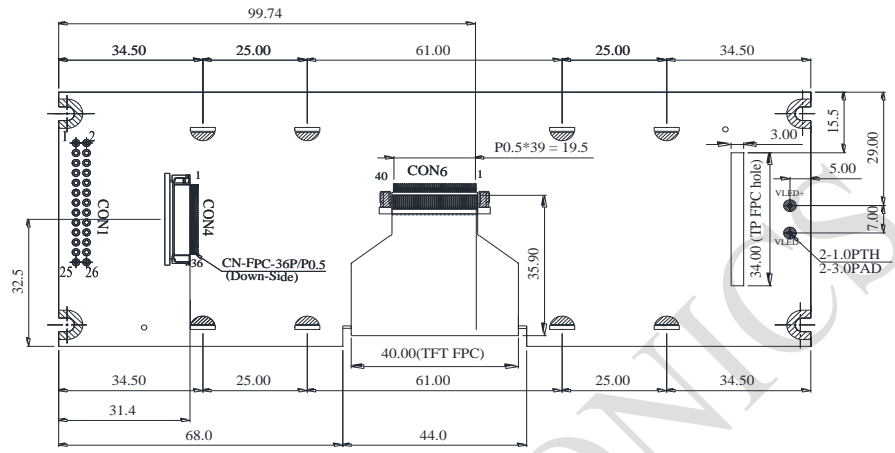
Note3:

When PCB right side CON1 select Pin1~Pin20, Pin21~Pin22 no connect, +5V can input on PCB left side VLED+/- PAD

5. Contour Drawing



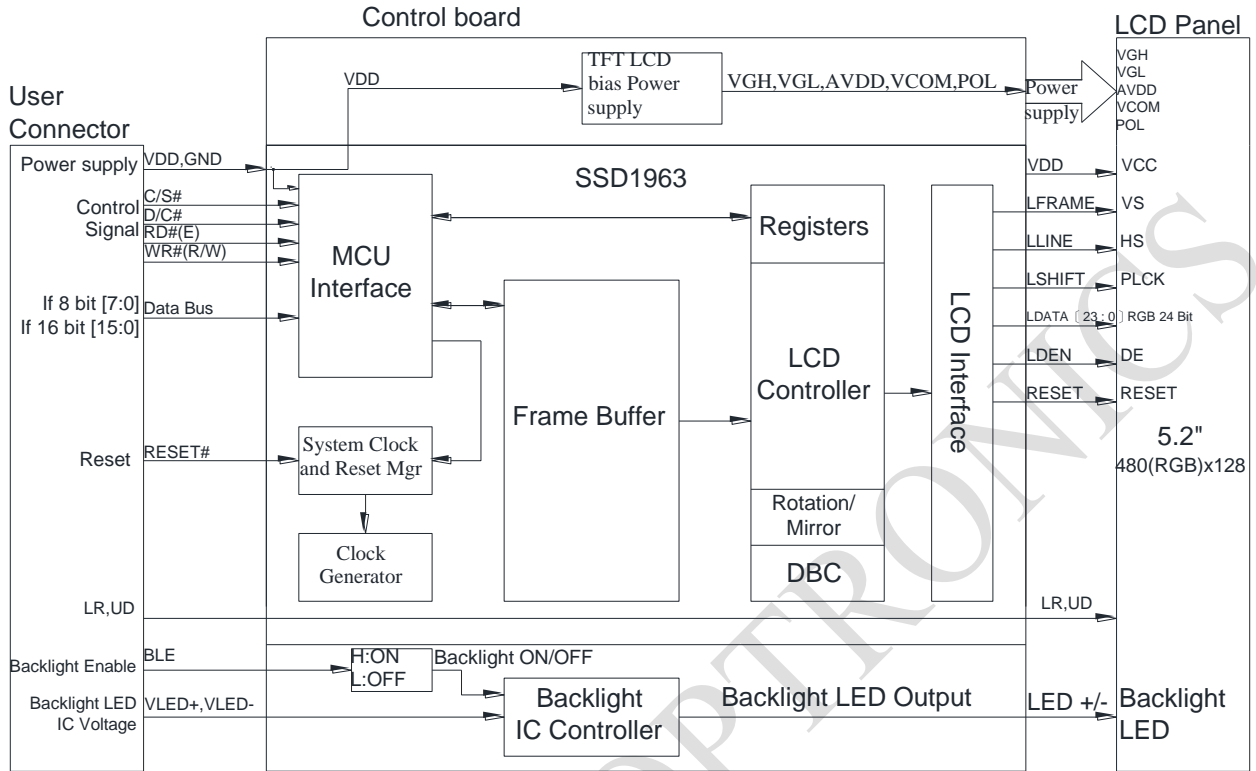
| CON1 | | CON4 | |
|---------|--------|---------|--------|
| PIN NO. | SYMBOL | PIN NO. | SYMBOL |
| 1 | FG | 1 | GND |
| 2 | GND | 2 | VDD |
| 3 | VDD | 3 | BL_E |
| 4 | BLE | 4 | C/D |
| 5 | WR | 5 | WR |
| 6 | RD | 6 | RD |
| 7 | CS | 7 | DB0 |
| 8 | C/D | 8 | DB1 |
| 9 | NC | 9 | DB2 |
| 10 | RESET | 10 | DB3 |
| 11 | DB0 | 11 | DB4 |
| 12 | DB1 | 12 | DB5 |
| 13 | DB2 | 13 | DB6 |
| 14 | DB3 | 14 | DB7 |
| 15 | DB4 | 15 | DB8 |
| 16 | DB5 | 16 | DB9 |
| 17 | DB6 | 17 | DB10 |
| 18 | DB7 | 18 | DB11 |
| 19 | NC | 19 | DB12 |
| 20 | NC | 20 | DB13 |
| 21 | VLED+ | 21 | DB14 |
| 22 | VLED- | 22 | DB15 |
| 23 | NC | 23 | NC |
| 24 | NC | 24 | NC |
| 25 | NC | 25 | CS |
| 26 | GND | 26 | RESET |
| | | 27 | LR |
| | | 28 | UD |
| | | 29 | NC |
| | | 30 | NC |
| | | 31 | NC |
| | | 32 | NC |
| | | 33 | VLED- |
| | | 34 | VLED- |
| | | 35 | VLED+ |
| | | 36 | VLED+ |



The non-specified tolerance of dimension is $\pm 0.3\text{mm}$.

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6. Block Diagram

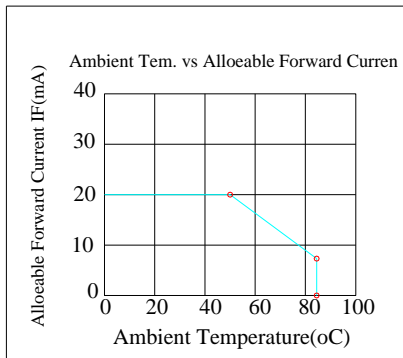


7. Absolute Maximum Ratings

| Item | Symbol | Min | Typ | Max | Unit |
|-----------------------|--------|-----|-----|-----|------|
| Operating Temperature | TOP | -20 | — | +70 | °C |
| Storage Temperature | TST | -30 | — | +80 | °C |

Note: Device is subject to be damaged permanently if stresses beyond those absolute maximum ratings listed above

- Temp. $\leq 60^{\circ}\text{C}$, 90% RH MAX. Temp. $> 60^{\circ}\text{C}$, Absolute humidity shall be less than 90% RH at 60°C



8. Electrical Characteristics

8.1. Operating conditions: (CON3.Pin1=GND, Pin2=VDD)

| Item | Symbol | Condition | Min | Typ | Max | Unit | Remark |
|------------------------|--------|-----------|-----|-----|-----|------|--------|
| Supply Voltage For LCM | VDD | — | 3.0 | 3.1 | 3.3 | V | - |
| Supply Current For LCM | IDD | — | — | 200 | — | mA | Note1 |

Note 1 : This value is test for VDD =3.3V , Ta=25°C only

8.2. Backlight driving conditions (CON3.Pin33,34=VLED-, Pin35,36=VLED+)

| Parameter | Symbol | Min. | Typ. | Max. | Unit | Remark |
|----------------------------------|---------|------|--------|------|------|------------|
| Operation Current For LED Driver | VLED=5V | - | 250 | - | mA | Note 1,2 |
| Supply Voltage For LED Driver | VLED+ | - | 5 | - | V | Note 1,2 |
| LED Life Time | | - | 50,000 | - | Hr | Note 2,3,4 |

Note 1 : Base on VLED= 5V for the back light driver IC specification

Note 2 : Ta = 25 °C

Note 3 : Brightness to be decreased to 50% of the initial value

Note 4 : The single LED lamp case

9.DC CHARATERISTICS

| Parameter | Symbol | Rating | | | Unit | Condition |
|--------------------------|----------|--------|-----|--------|------|-----------|
| | | Min | Typ | Max | | |
| Low level input voltage | V_{IL} | 0 | - | 0.3VDD | V | |
| High level input voltage | V_{IH} | 0.7VDD | - | VDD | V | |

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10. Interface timing

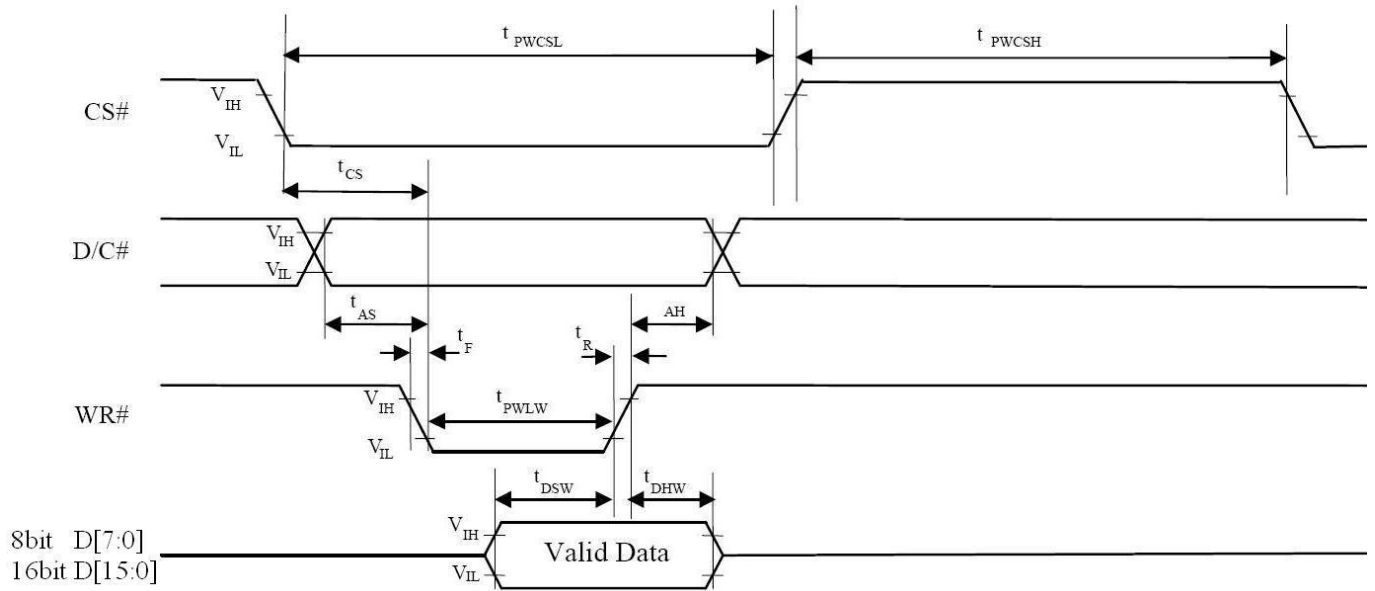
10.1. 8080 Mode 8bit/16bit

The 8080 mode MCU interface consist of CS#, D/C#, RD#, WR#, Data Bus signals. This interface use WR# to define a write cycle and RD# for read cycle. If the WR# goes low when the CS# signal is low, the data or command will be latched into the system at the rising edge of WR#. Similarly, the read cycle will start when RD# goes low and end at the rising edge of RD#.

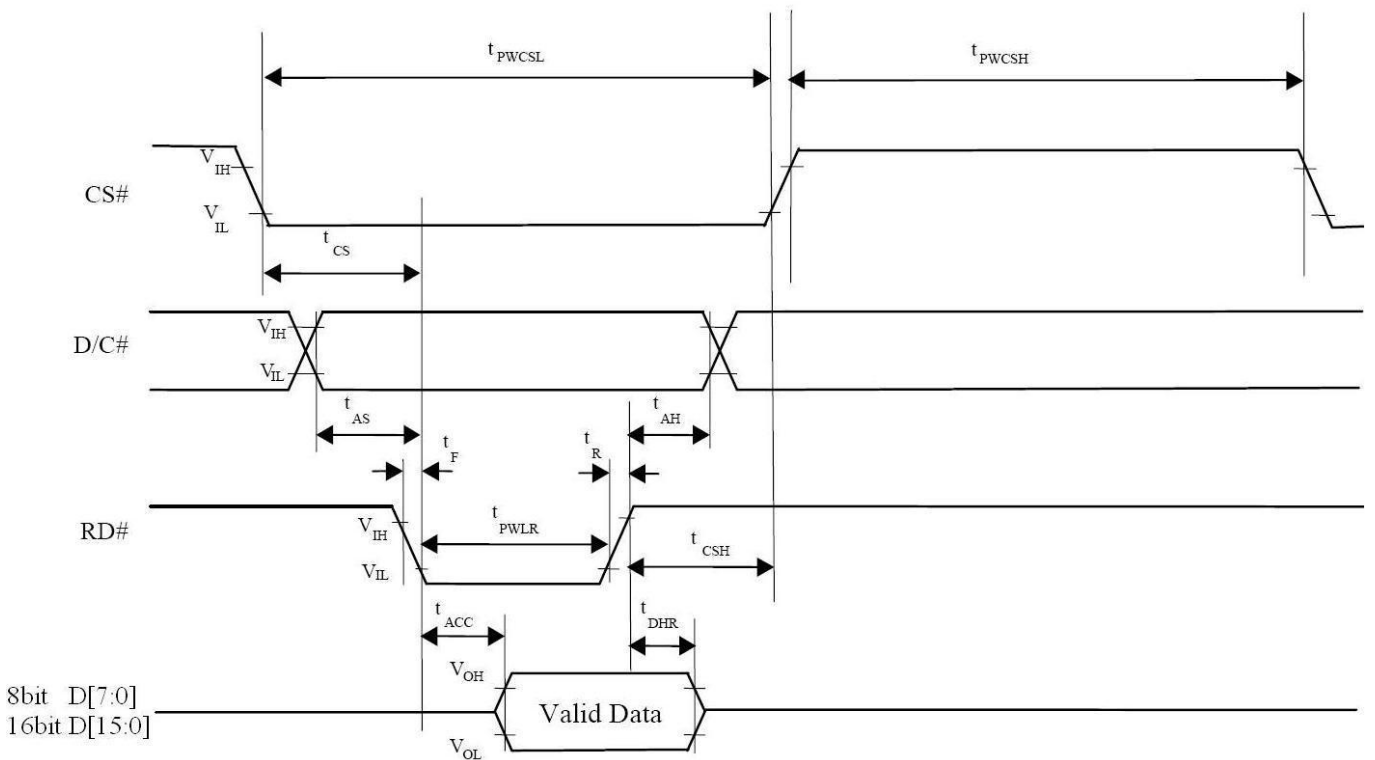
10.2. 8080 Mode Write Cycle

| Symbol | Parameter | Min | Typ | Max | Unit |
|--------|---|----------------|---------------------------------------|-----|------|
| fMCLK | System Clock Frequency | 1 | - | 110 | MHz |
| tMCLK | System Clock Period | 1/ fMCLK | - | - | ns |
| tPWCSH | Control Pulse High Width Write Read | 13 30 | 1.5* tMCLK 3.5* tMCLK | - | ns |
| tPWCSL | Control Pulse Low Width Write (next write cycle) Write (next read cycle) Read | 13 80 80 | 1.5* tMCLK 9* tMCLK 9* tMCLK | - | ns |
| tAS | Address Setup Time | 1 | - | - | ns |
| tAH | Address Hold Time | 2 | - | - | ns |
| tDSW | Write Data Setup Time | 4 | - | - | ns |
| tDHW | Write Data Hold Time | 1 | - | - | ns |
| tPWLW | Write Low Time | 12 | - | - | ns |
| tDHR | Read Data Hold Time | 1 | - | - | ns |
| tACC | Access Time | 32 | - | - | ns |
| tPWLR | Read Low Time | 36 | - | - | ns |
| tR | Rise Time | - | - | 0.5 | ns |
| tF | Fall Time | - | - | 0.5 | ns |
| tCS | Chip select setup time | 2 | - | - | ns |
| tCSH | Chip select hold time to read signal | 3 | - | - | ns |

10.3. Parallel 8080-series Interface Timing Diagram(Write Cycle)



10.4. Parallel 8080-series Interface Timing Diagram(Read Cycle)



10.5. Pixel Data Format

| Interface | Cycle | D[15] | D[14] | D[13] | D[12] | D[11] | D[10] | D[9] | D[8] | D[7] | D[6] | D[5] | D[4] | D[3] | D[2] | D[1] | D[0] |
|----------------------|-----------------|-------|-------|-------|-------|-------|-------|------|------|------|------|------|------|------|------|------|------|
| 16 bits (565 format) | 1 st | R5 | R4 | R3 | R2 | R1 | G5 | G4 | G3 | G2 | G1 | G0 | B5 | B4 | B3 | B2 | B1 |
| 16 bits | 1 st | R7 | R6 | R5 | R4 | R3 | R2 | R1 | R0 | G7 | G6 | G5 | G4 | G3 | G2 | G1 | G0 |
| | 2 nd | B7 | B6 | B5 | B4 | B3 | B2 | B1 | B0 | R7 | R6 | R5 | R4 | R3 | R2 | R1 | R0 |
| | 3 rd | G7 | G6 | G5 | G4 | G3 | G2 | G1 | G0 | B7 | B6 | B5 | B4 | B3 | B2 | B1 | B0 |
| 8 bits | 1 st | | | | | | | | | R7 | R6 | R5 | R4 | R3 | R2 | R1 | R0 |
| | 2 nd | | | | | | | | | G7 | G6 | G5 | G4 | G3 | G2 | G1 | G0 |
| | 3 rd | | | | | | | | | B7 | B6 | B5 | B4 | B3 | B2 | B1 | B0 |

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11. Optical Characteristics

| Item | Symbol | Condition. | Min | Typ. | Max. | Unit | Remark |
|---|--------|-----------------------------------|-----------------------------|-------|-------|-------------------|-------------------|
| Response time | Tr+ Tf | $\theta=0^\circ$ 、 $\Phi=0^\circ$ | - | 35 | - | .ms | Note 3 |
| Contrast ratio | CR | At optimized viewing angle | 300 | 500 | - | - | Note 4 |
| Color Chromaticity | White | Wx | $\theta=0^\circ$ 、 $\Phi=0$ | 0.294 | 0.314 | 0.334 | Note 2,5 |
| | | Wy | | 0.325 | 0.345 | 0.365 | |
| Viewing angle (Gray Scale Inversion Direction) | Hor. | Θ_R | CR ≥ 10 | 55 | 65 | - | Deg. |
| | | Θ_L | | 55 | 65 | - | |
| | Ver. | Φ_T | | 55 | 65 | - | |
| | | Φ_B | | 45 | 55 | - | |
| Brightness | - | - | 400 | 500 | - | cd/m ² | Center of display |

Ta=25±2°C, VLED /ILED = 3.3V /250mA

Note 1: Definition of viewing angle range

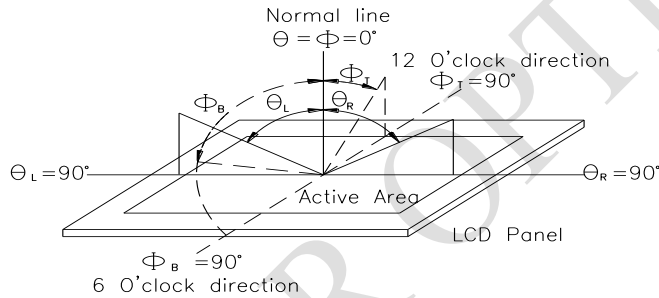


Fig.11.1. Definition of viewing angle

Note 2: Test equipment setup:

After stabilizing and leaving the panel alone at a driven temperature for 10 minutes, the measurement should be executed. Measurement should be executed in a stable, windless, and dark room. Optical specifications are measured by Topcon BM-7orBM-5 luminance meter 1.0° field of view at a distance of 50cm and normal direction.

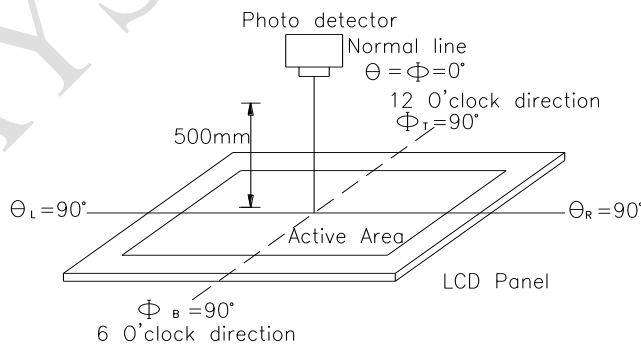
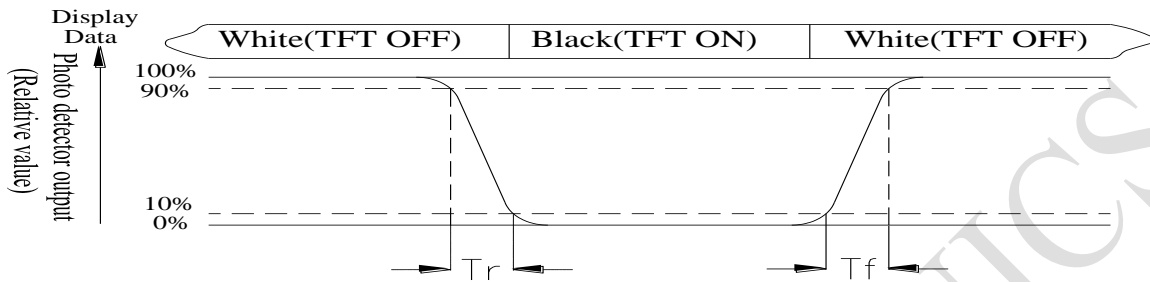


Fig. 11.2. Optical measurement system setup

Note 3: Definition of Response time:

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



Note 4: Definition of contrast ratio:

The contrast ratio is defined as the following expression.

$$\text{Contrast ratio (CR)} = \frac{\text{Luminance measured when LCD on the "White" state}}{\text{Luminance measured when LCD on the "Black" state}}$$

Note 5: White $V_i = V_{i50} \pm 1.5V$

Black $V_i = V_{i50} \pm 2.0V$

“±” means that the analog input signal swings in phase with VCOM signal.

“±” means that the analog input signal swings out of phase with VCOM signal.

The 100% transmission is defined as the transmission of LCD panel when all the input terminals of module are electrically opened.

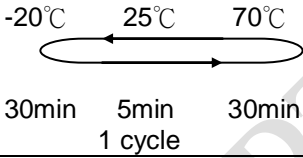
Note 6: Definition of color chromaticity (CIE 1931)

Color coordinates measured at the center point of LCD

Note 7: Measured at the center area of the panel when all the input terminals of LCD panel are electrically opened.

12. Reliability

Content of Reliability Test (Wide temperature, -20°C ~70°C)

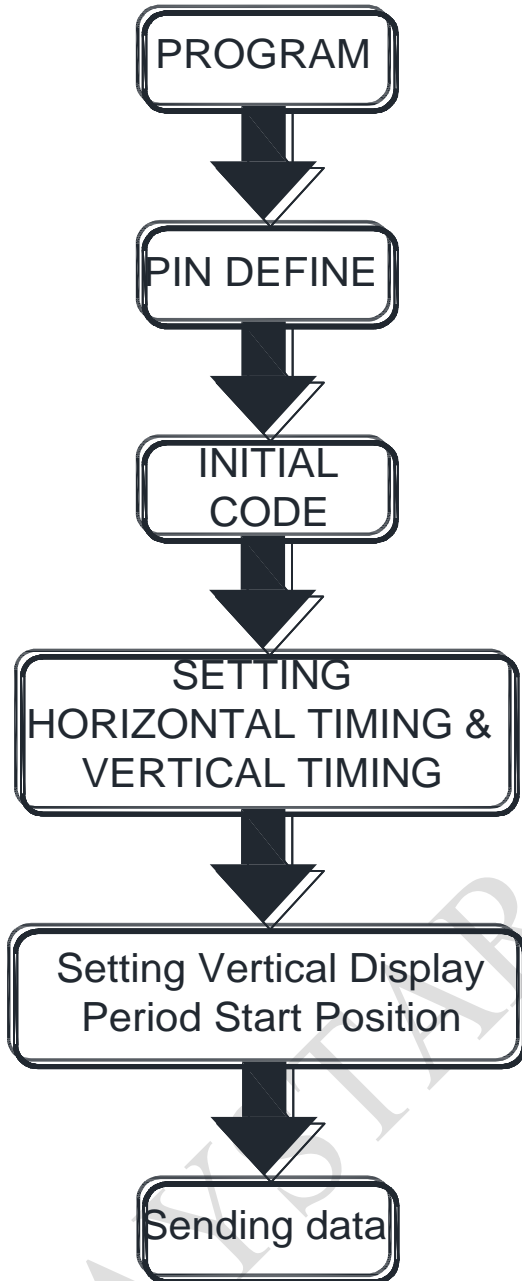
| Environmental Test | | | |
|--------------------------------------|--|---|------|
| Test Item | Content of Test | Test Condition | Note |
| High Temperature storage | Endurance test applying the high storage temperature for a long time. | 80°C 200hrs | 2 |
| Low Temperature storage | Endurance test applying the low storage temperature for a long time. | -30°C 200hrs | 1,2 |
| High Temperature Operation | Endurance test applying the electric stress (Voltage & Current) and the thermal stress to the element for a long time. | 70°C 200hrs | — |
| Low Temperature Operation | Endurance test applying the electric stress under low temperature for a long time. | -20°C 200hrs | 1 |
| High Temperature/ Humidity Operation | The module should be allowed to stand at 60°C, 90%RH max | 60°C, 90%RH 96hrs | 1,2 |
| Thermal shock resistance | The sample should be allowed stand the following 10 cycles of operation <div style="text-align: center;">  <p>-20°C 25°C 70°C</p> <p>30min 5min 30min</p> <p>1 cycle</p> </div> | -20°C/70°C 10 cycles | — |
| Vibration test | Endurance test applying the vibration during transportation and using. | Total fixed amplitude : 3 15mm Vibration Frequency : 10~55Hz One cycle 60 seconds to 3 directions of X,Y,Z for Each 15 minutes | 3 |
| Static electricity test | Endurance test applying the electric stress to the terminal. | VS=±600V(contact) ,±800v(air), RS=330Ω CS=150pF 10 times | — |

Note1: No dew condensation to be observed.

Note2: The function test shall be conducted after 4 hours storage at the normal Temperature and humidity after remove from the test chamber.

Note3: The packing have to including into the vibration testing.

13. Display start address setting



Ex.

One horizontal line=0x0213

VS period time=0x0124

HS Blanking=0x2b

VS Blanking=0x10

HS Front Porch=0x05

VS Front Porch=0x08

Suggestion :

Vertical Display Period

Start Position=0x44

Note :

For different Controller ICs, the value of vertical display period start position need to be adjusted accordingly.

LCM Sample Estimate Feedback Sheet

Module Number : _____

1 、 Panel Specification :

| | | |
|----------------------------|-------------------------------|-------------------------------------|
| 1. Panel Type : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 2. View Direction : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 3. Numbers of Dots : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 4. View Area : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 5. Active Area : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 6. Operating Temperature : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 7. Storage Temperature : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 8. Others : | _____ | |

2 、 Mechanical Specification :

| | | |
|-----------------------------|-------------------------------|-------------------------------------|
| 1. PCB Size : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 2. Frame Size : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 3. Material of Frame : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 4. Connector Position : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 5. Fix Hole Position : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 6. Backlight Position : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 7. Thickness of PCB : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 8. Height of Frame to PCB : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 9. Height of Module : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 10. Others : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |

3 、 Relative Hole Size :

| | | |
|-----------------------------|-------------------------------|-------------------------------------|
| 1. Pitch of Connector : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 2. Hole size of Connector : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 3. Mounting Hole size : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 4. Mounting Hole Type : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 5. Others : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |

4 、 Backlight Specification :

| | | |
|---|-------------------------------|-------------------------------------|
| 1. B/L Type : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 2. B/L Color : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 3. B/L Driving Voltage (Reference for LED Type) : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 4. B/L Driving Current : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 5. Brightness of B/L : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 6. B/L Solder Method : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 7. Others : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |

>> **Go to page 2** <<

| | | |
|---|-------------------------------|-------------------------------------|
| Module Number : _____ | | |
| 5 · <u>Electronic Characteristics of Module</u> : | | |
| 1.Input Voltage : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 2.Supply Current : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 3.Driving Voltage for LCD : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 4.Contrast for LCD : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 5.B/L Driving Method : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 6.Negative Voltage Output : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 7.Interface Function : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 8.LCD Uniformity : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 9.ESD test : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 10.Others : | <input type="checkbox"/> Pass | <input type="checkbox"/> NG , _____ |
| 6 · <u>Summary</u> : | | |
| <p style="text-align: right;">Sales signature : _____</p> <p style="text-align: right;">Customer Signature : _____ <u>Date</u> : / / _____</p> | | |

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