



# Winstar Display Co., LTD

## 華凌光電股份有限公司



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### SPECIFICATION

CUSTOMER : \_\_\_\_\_

MODULE NO.: **WF43GTIAEDNNO#**

樣品編號: 2012102701

|                                                  |              |       |
|--------------------------------------------------|--------------|-------|
| <b>APPROVED BY:</b><br>( FOR CUSTOMER USE ONLY ) |              |       |
|                                                  | PCB VERSION: | DATA: |

| SALES BY            | APPROVED BY                                                                         | CHECKED BY                                                                                 | PREPARED BY                                                                                      |
|---------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
|                     |  |  11/27 |  2012.11.27 |
| <b>ISSUED DATE:</b> |                                                                                     |                                                                                            |                                                                                                  |



**DOC. FIRST ISSUE**

## VERSION

DATE \_\_\_\_\_

REVISED  
PAGE NO.

## SUMMARY

0

2012.11.9

First issue

# Contents

1. Module Classification Information
2. Summry
3. General Specification
4. Absolute Maximum Ratings
5. Electrical Characteristics
6. DC Characteristics
7. AC Characteristics
8. Optical Characteristics
9. Interface
10. Block Diagram
11. Reliability
12. Contour Drawing
13. Package specification

## 1. Module Classification Information

W   F   43   G   T   I   A   E   D   N   N   0   #  
 (1)   (2)   (3)   (4)   (5)   (6)   (7)   (8)   (9)   (10)   (11)   (12)   (13)

- ① Brand : WINSTAR DISPLAY CORPORATION
- ② Display Type : H→Character Type, G→Graphic Type F→TFT Type
- ③ Display Size : 4.3 ” TFT
- ④ Model serials no.
- ⑤ Backlight Type : F→CCFL, White T→LED, White
- ⑥ LCD Polarize I→Transmissive, W. T, 6:00  
Type/ Temperature L→Transmissive, W.T,12:00  
range/ Gray Scale  
Inversion Direction
- ⑦ A : TFT LCD G : TFT+FR  
B : TFT+FR+CONTROL BOARD H : TFT+D/V BOARD  
C : TFT+FR+A/D BOARD I : TFT+FR+D/V BOARD  
D : TFT+FR+A/D BOARD+CONTROL BOARD J : TFT+POWER BD  
E : TFT+FR+POWER BOARD  
F : TFT+CONTROL BOARD
- ⑧ Solution:  
A: 128160 B:320234 C:320240 D:480234 E:480272 F: 640480 G: 800480  
H:1024600 I:320480 J:240320 K:800600 L:240400 M :1024768
- ⑨ D: Digital L : LVDS
- ⑩ Interface : N : without control board A : 8Bit B : 16Bit
- ⑪ TS : N : Without TS T : resistive touch panel C : capacitive touch panel
- ⑫ Version
- ⑬ Special Code #:Fit in with ROHS directive regulations

## 2.SUMMARY

This technical specification applies to 4.3' color TFT-LCD panel. The 4.3' 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.

## 3.General Specification

| Item                           | Dimension                    | Unit |
|--------------------------------|------------------------------|------|
| Dot Matrix                     | 480 x RGBx272(TFT)           | dots |
| Module dimension               | 105.5(W) x 67.2(H) x 2.95(D) | mm   |
| Active area                    | 95.04 x 53.86                | mm   |
| Dot pitch                      | 0.066 x 0.198                | mm   |
| LCD type                       | TFT, Negative, Transmissive  |      |
| View Direction                 | 12 o'clock                   |      |
| Gray Scale Inversion Direction | 6 o'clock                    |      |
| Backlight Type                 | LED, Normally White          |      |

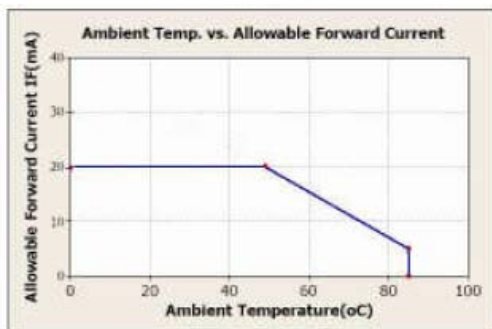
\*Color tone slight changed by temperature and driving voltage.

## 4.Absolute Maximum Ratings

| Item                  | Symbol          | Min | Typ | Max | Unit |
|-----------------------|-----------------|-----|-----|-----|------|
| Operating Temperature | T <sub>OP</sub> | -20 | —   | +70 | °C   |
| Storage Temperature   | T <sub>ST</sub> | -30 | —   | +80 | °C   |

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

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



## 5. Electrical Characteristics

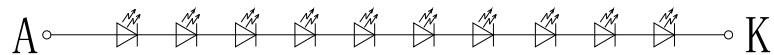
### 5.1. Operating conditions:

| Item                      | Symbol | Condition | Min | Typ | Max | Unit |
|---------------------------|--------|-----------|-----|-----|-----|------|
| Supply Voltage For Logic  | VCC    | —         | 3.1 | 3.3 | 3.5 | V    |
| Digital operation current | Icc    | -         |     | 17  | 25  | mA   |

### 5.2 LED driving conditions

| Parameter         | Symbol | Min. | Typ.   | Max. | Unit | Remark     |
|-------------------|--------|------|--------|------|------|------------|
| LED current       |        | -    | 20     | -    | mA   |            |
| Power Consumption |        |      | 640    | 680  | mW   |            |
| LED voltage       | VBL+   | 30   | 32     | 34   | V    | Note 1     |
| LED Life Time     |        | -    | 50,000 | -    | Hr   | Note 2,3,4 |

Note 1 : There are 1 Groups LED



Note 2 : Ta = 25 °C

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

Note 4 : The single LED lamp case

## 6. DC Characteristics

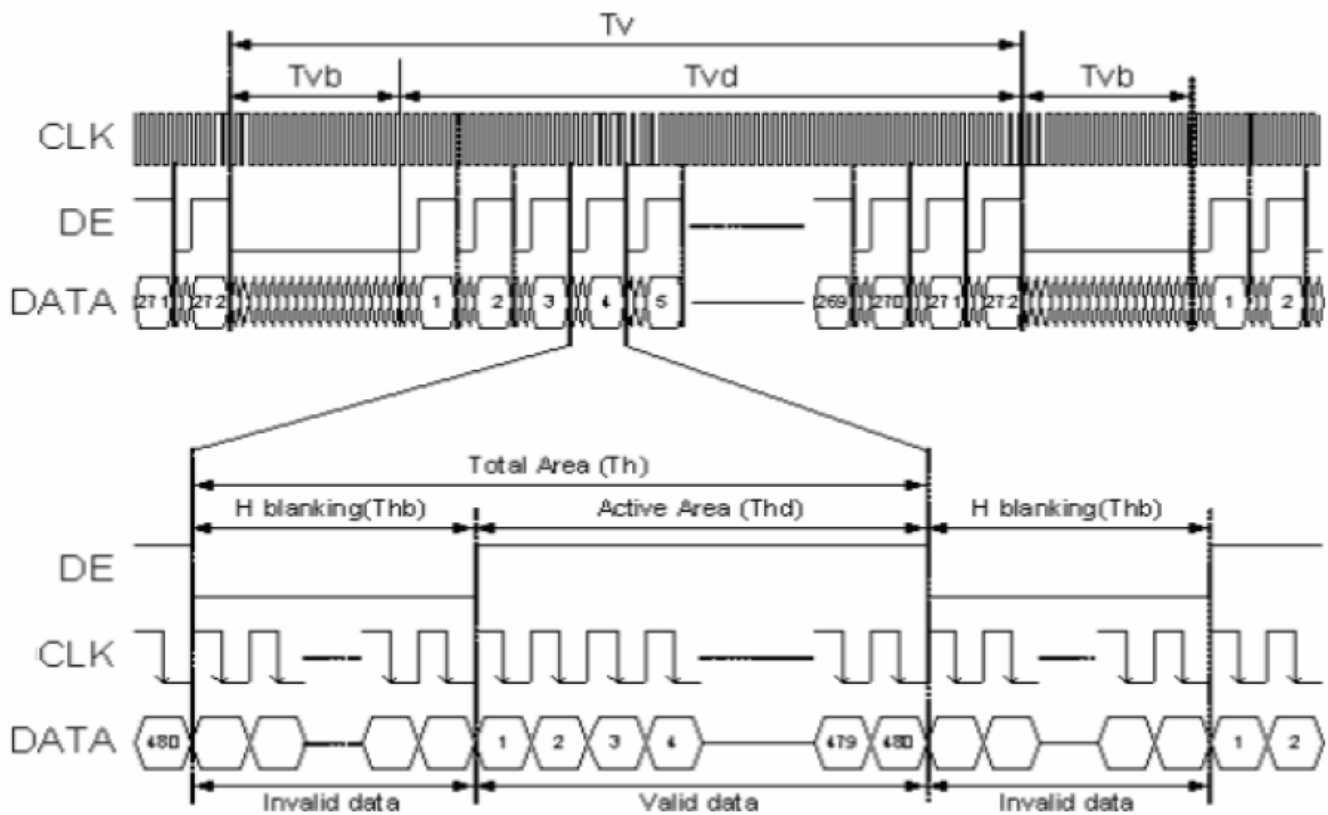
| Parameter                 | Symbol          | Rating  |      |         | Unit | Condition |
|---------------------------|-----------------|---------|------|---------|------|-----------|
|                           |                 | Min.    | Typ. | Max.    |      |           |
| Low level input voltage   | V <sub>IL</sub> | 0       | -    | 0.3 VCC | V    |           |
| Hight level input voltage | V <sub>IH</sub> | 0.7 VCC | -    | VCC     | V    |           |

## 7. AC Characteristics

Parallel DE mode RGB input timing table

| Signal                    | Symbol | Min | Typ | Max | Unit |
|---------------------------|--------|-----|-----|-----|------|
| CLK frequency             | Tcl    | 7   | 9   | 12  | MHz  |
| DEV period time           | Tv     | 277 | 288 | 400 | H    |
| DEV display area          | Tvd    | 272 |     |     | H    |
| DEV blanking              | Tvb    | 5   | 16  | 128 | H    |
| DEH period time           | Th     | 520 | 525 | 800 | CLK  |
| DEH display area          | Thd    | 480 |     |     | CLK  |
| DEH blanking              | Thb    | 40  | 45  | 320 | CLK  |
| CLK cycle time            | Tclk   | 83  | 110 | 143 | ns   |
| Clock width of high level | Tcwh   | 40  | 50  | 60  | %    |
| Clock width of low level  | Tcwl   | 40  | 50  | 60  | %    |
| Clock rising time         | trck   |     | -   | 9   | ns   |
| Clock falling time        | tfck   |     | -   | 9   | ns   |
| Data Setup Time           | tdesu  | 10  | -   | -   | ns   |
| Data Hold Time            | tdahd  | 10  | -   | -   | ns   |
| DE Setup Time             | tdesu  | 10  | -   | -   | ns   |
| DE Hold Time              | tdehd  | 10  | -   | -   | ns   |

### 7.1 Timing Diagram





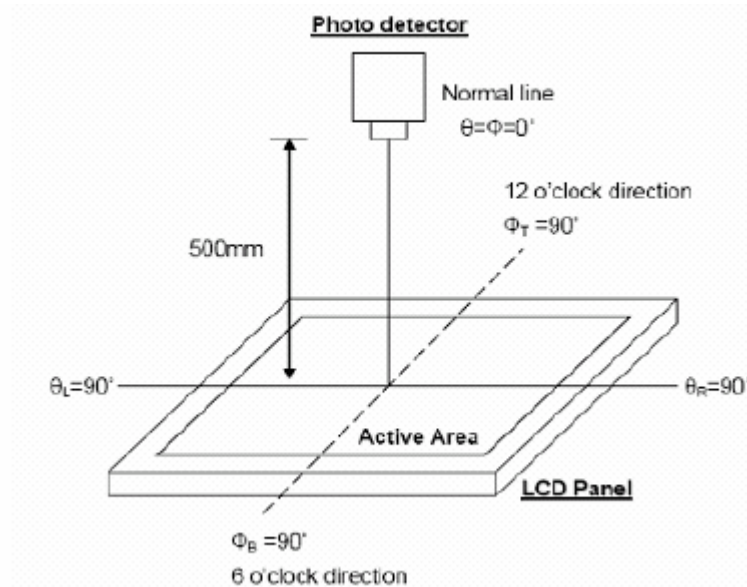


Fig. 8-2 Optical measurement system setup

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%.

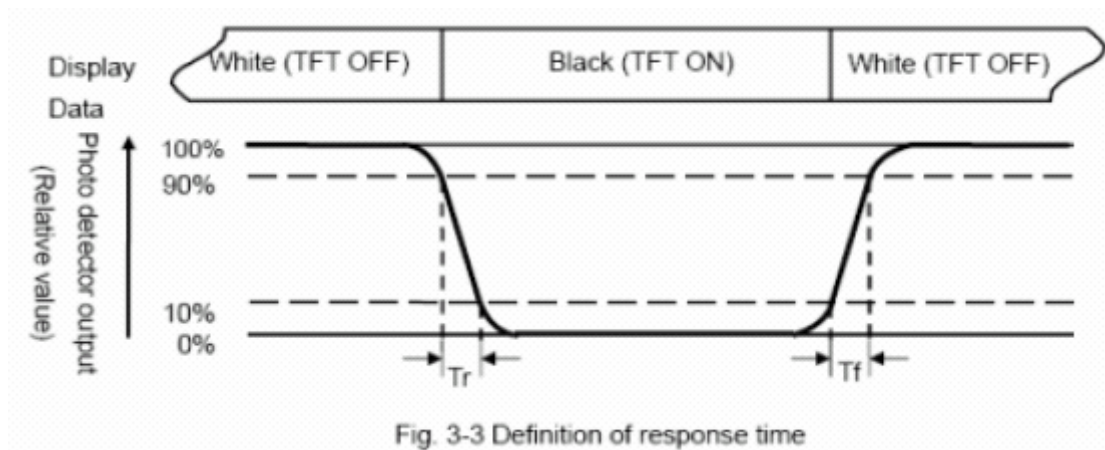


Fig. 3-3 Definition of response time

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: Definition of color chromaticity (CIE1931)

Color coordinates measured at center point of LCD.

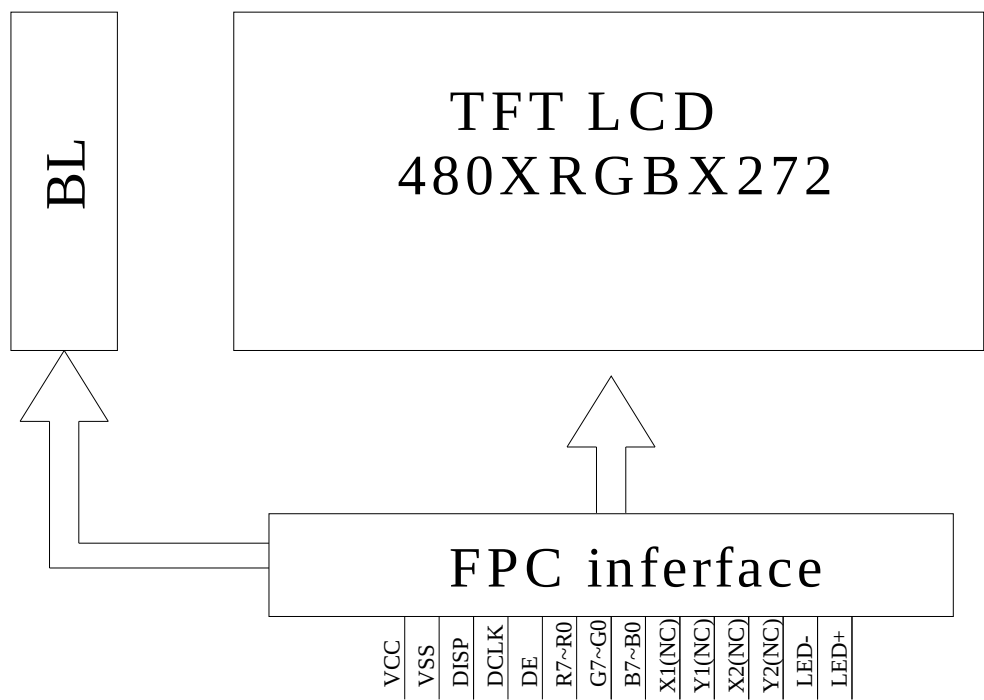
Note 6: All input terminals LCD panel must be ground while measuring the center area of the panel.

## 9. Interface

### 9.1. LCM PIN Definition

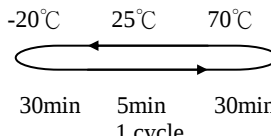
| Pin | Symbol | I/O | Function                        | Remark |
|-----|--------|-----|---------------------------------|--------|
| 1   | LED-   | P   | Power for LED backlight cathode |        |
| 1   | LED+   | P   | Power for LED backlight anode   |        |
| 3   | GND    | P   | Power ground                    |        |
| 4   | VDD    | P   | Power voltage                   |        |
| 5   | R0     | I   | Red data (LSB)                  |        |
| 6   | R1     | I   | Red data                        |        |
| 7   | R2     | I   | Red data                        |        |
| 8   | R3     | I   | Red data                        |        |
| 9   | R4     | I   | Red data                        |        |
| 10  | R5     | I   | Red data                        |        |
| 11  | R6     | I   | Red data                        |        |
| 12  | R7     | I   | Red data (MSB)                  |        |
| 13  | G0     | I   | Green data (LSB)                |        |
| 14  | G1     | I   | Green data                      |        |
| 15  | G2     | I   | Green data                      |        |
| 16  | G3     | I   | Green data                      |        |
| 17  | G4     | I   | Green data                      |        |
| 18  | G5     | I   | Green data                      |        |
| 19  | G6     | I   | Green data                      |        |
| 20  | G7     | I   | Green data (MSB)                |        |
| 21  | B0     | I   | Blue data (LSB)                 |        |
| 22  | B1     | I   | Blue data                       |        |
| 23  | B2     | I   | Blue data                       |        |
| 24  | B3     | I   | Blue data                       |        |
| 25  | B4     | I   | Blue data                       |        |
| 26  | B5     | I   | Blue data                       |        |
| 27  | B6     | I   | Blue data                       |        |
| 28  | B7     | I   | Blue data (MSB)                 |        |
| 29  | GND    | P   | Power ground                    |        |
| 30  | CLK    | I   | Pixel clock                     |        |
| 31  | DISP   | I   | Display on/off                  |        |
| 32  | NC     | -   | No connection                   |        |
| 33  | NC     | -   | No connection                   |        |
| 34  | DE     | I   | Data Enable                     |        |
| 35  | NC     | -   | No connection                   |        |
| 36  | GND    | P   | Power ground                    |        |
| 37  | NC     | -   | No connection                   |        |
| 38  | NC     | -   | No connection                   |        |
| 39  | NC     | -   | No connection                   |        |
| 40  | NC     | -   | No connection                   |        |

**10. BLOCK DIAGRAM**



# 11.Reliability

## Content of Reliability Test (Wide temperature, -20℃~70℃)

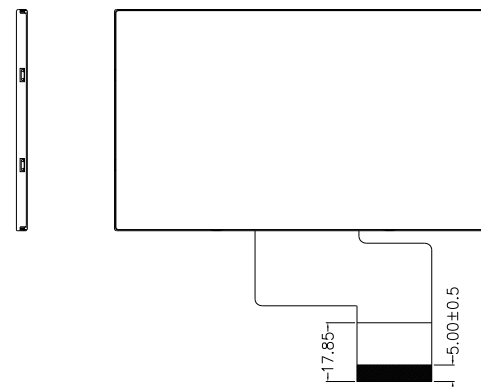
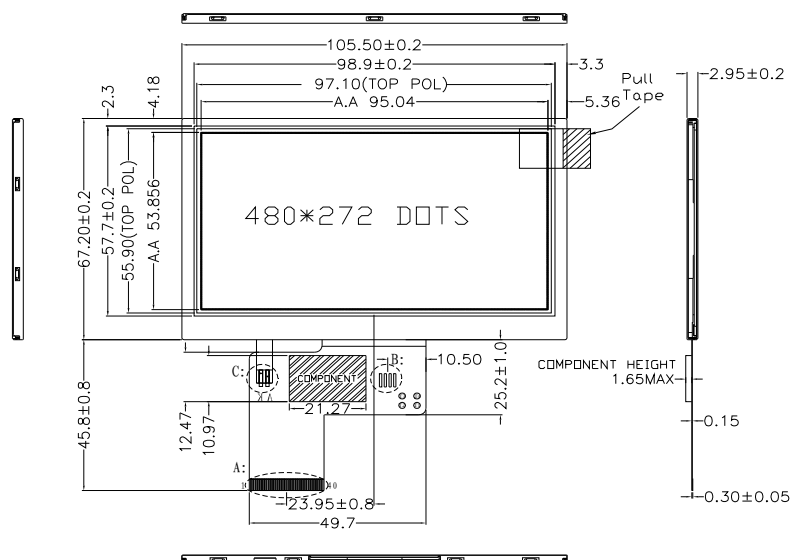
| Environmental Test                   |                                                                                                                                                                                                                                                                                  |                                                                                                                                                  |      |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Test Item                            | Content of Test                                                                                                                                                                                                                                                                  | Test Condition                                                                                                                                   | Note |
| High Temperature storage             | Endurance test applying the high storage temperature for a long time.                                                                                                                                                                                                            | 80℃<br>200hrs                                                                                                                                    | 2    |
| Low Temperature storage              | Endurance test applying the high storage temperature for a long time.                                                                                                                                                                                                            | -30℃<br>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℃<br>200hrs                                                                                                                                    | —    |
| Low Temperature Operation            | Endurance test applying the electric stress under low temperature for a long time.                                                                                                                                                                                               | -20℃<br>200hrs                                                                                                                                   | 1    |
| High Temperature/ Humidity Operation | The module should be allowed to stand at 60℃,90%RH max For 96hrs under no-load condition excluding the polarizer, Then taking it out and drying it at normal temperature.                                                                                                        | 60℃,90%RH<br>96hrs                                                                                                                               | 1,2  |
| Thermal shock resistance             | The sample should be allowed stand the following 10 cycles of operation<br><br><div style="text-align: center;">  <p>-20℃    25℃    70℃</p> <p>30min    5min    30min</p> <p>1 cycle</p> </div> | -20℃/70℃<br>10 cycles                                                                                                                            | —    |
| Vibration test                       | Endurance test applying the vibration during transportation and using.                                                                                                                                                                                                           | Total fixed amplitude : 3<br>15mm<br>Vibration Frequency :<br>10~55Hz<br>One cycle 60 seconds to 3<br>directions of X,Y,Z for<br>Each 15 minutes | 3    |
| Static electricity test              | Endurance test applying the electric stress to the terminal.                                                                                                                                                                                                                     | VS=800V,RS=1.5kΩ<br>CS=100pF<br>1 time                                                                                                           | —    |

**Note1: No dew condensation to be observed.**

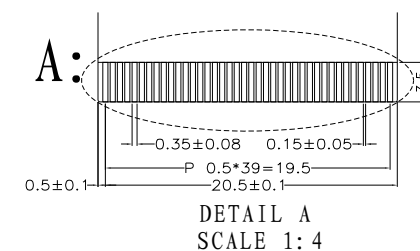
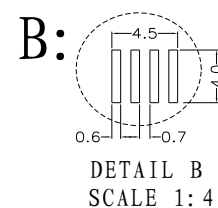
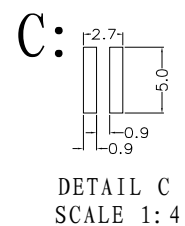
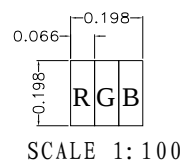
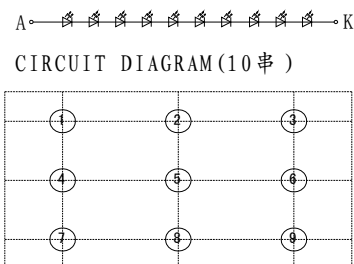
**Note2: The function test shall be conducted after 4 hours storage at the normal Temperature and humidity after remove from the test chamber.**

**Note3: Vibration test will be conducted to the product itself without putting it in a container.**

## 12. Contour Drawing



| PIN NO. | SYMBOL |
|---------|--------|
| 1       | LED-   |
| 2       | LED+   |
| 3       | GND    |
| 4       | VDD    |
| 5       | R0     |
| 6       | R1     |
| 7       | R2     |
| 8       | R3     |
| 9       | R4     |
| 10      | R5     |
| 11      | R6     |
| 12      | R7     |
| 13      | G0     |
| 14      | G1     |
| 15      | G2     |
| 16      | G3     |
| 17      | G4     |
| 18      | G5     |
| 19      | G6     |
| 20      | G7     |
| 21      | B0     |
| 22      | B1     |
| 23      | B2     |
| 24      | B3     |
| 25      | B4     |
| 26      | B5     |
| 27      | B6     |
| 28      | B7     |
| 29      | GND    |
| 30      | CLK    |
| 31      | DISP   |
| 32      | NC     |
| 33      | NC     |
| 34      | DE     |
| 35      | NC     |
| 36      | GND    |
| 37      | NC     |
| 38      | NC     |
| 39      | NC     |
| 40      | NC     |

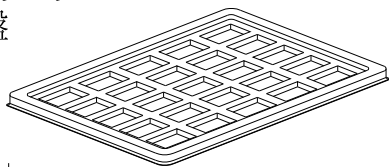


The non-specified tolerance of dimension is  $\pm 0.3\text{mm}$ .

# 13. Package specification

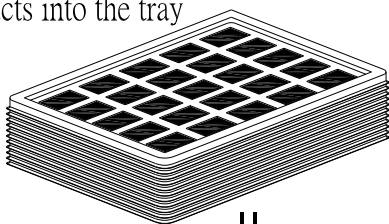
|                                                                                                            |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
|------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------|----------------------------------------------------------------------------|-------------|--|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------|---------|--|--|--|------|----|--------|----------|----------|---|
| <table><tr><td>LCM Model</td><td>WF43GTIAEDNN0#</td></tr><tr><td>Drawing NO.</td><td></td></tr></table>    |                       | LCM Model                                 | WF43GTIAEDNN0#                                                             | Drawing NO. |  | <div>LCM 包裝規格書</div> <div>LCM Packaging Specifications</div> | <table><tr><td>Approve</td><td>Check</td><td>Contact</td></tr><tr><td></td><td></td><td></td></tr><tr><td>DATE</td><td>初版</td><td>版次 Ver</td></tr><tr><td>12'11/15</td><td>12'11/15</td><td>0</td></tr></table> | Approve | Check | Contact |  |  |  | DATE | 初版 | 版次 Ver | 12'11/15 | 12'11/15 | 0 |
| LCM Model                                                                                                  | WF43GTIAEDNN0#        |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| Drawing NO.                                                                                                |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| Approve                                                                                                    | Check                 | Contact                                   |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
|                                                                                                            |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| DATE                                                                                                       | 初版                    | 版次 Ver                                    |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 12'11/15                                                                                                   | 12'11/15              | 0                                         |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 1.包裝材料規格表（Packaging Material）:(per carton)                                                                 |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| NO.                                                                                                        | Item                  | Model                                     | Dimensions                                                                 | Quantity    |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 1                                                                                                          | 成品（LCM）               | WF43GTIAEDNN0#                            | 105.5 x 67.2 x 2.95                                                        | 396         |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 2                                                                                                          | TRAY 盤 (2)            | PKCA1XXXXXXXXXXXX0233                     | 315 x 265 x 13.5                                                           | 66          |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 3                                                                                                          | BP01 內盒(3)Product Box | PK3R1XXXXXXXXXXXX0001                     | 332 x 280 x 100                                                            | 6           |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 4                                                                                                          | 泡棉(4)Foam             | -----                                     | 283 x 230 x 8                                                              | 6           |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 5                                                                                                          | 外紙箱(5)Carton          | PK4Q1XXXXXXXXXXXX0000                     | 565 x 340 x 320                                                            | 1           |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 6                                                                                                          |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 7                                                                                                          |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 8                                                                                                          |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 9                                                                                                          |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 2.單箱數量規格表(Packaging Specifications and Quantity) :                                                         |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| (1)LCM quantity per box : no per tray                      6        x no of tray            11    =    66  |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| (2)Total LCM quantity in carton : quantity per box        66        x no of boxes            6    =    396 |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 特      記      事      項 (REMARK)                                                                            |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| 1. Label Specifications :<br><table><tr><td>MOOEL:<br/>LOT NO :<br/>QUANTITY:<br/>CHECK:</td></tr></table> |                       | MOOEL:<br>LOT NO :<br>QUANTITY:<br>CHECK: | 2.Rotate tray 180 degrees and place on top of stack. (TRAY 盤相疊時,需旋轉 180 度) |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |
| MOOEL:<br>LOT NO :<br>QUANTITY:<br>CHECK:                                                                  |                       |                                           |                                                                            |             |  |                                                              |                                                                                                                                                                                                                 |         |       |         |  |  |  |      |    |        |          |          |   |

Use empty tray  
空盤

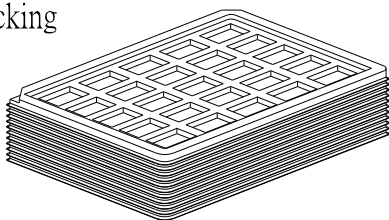


+

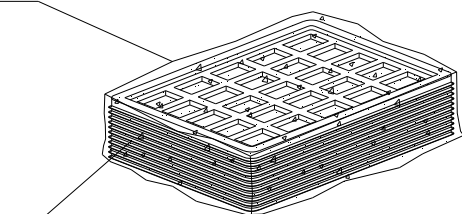
Put products into the tray



Tray stacking



(1) POF

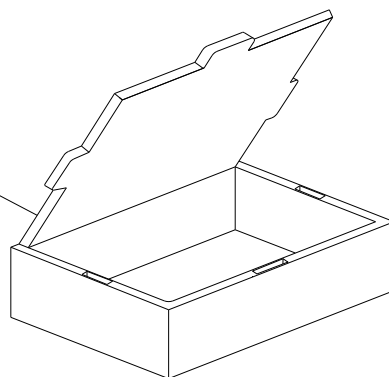


(2) Tray

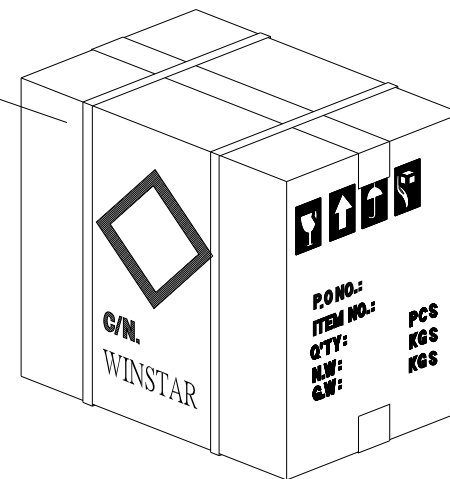
(4) 泡棉Foam



(3) Product Box



(5) Caton





winstar

## LCM Sample Estimate Feedback Sheet

Module Number : \_\_\_\_\_

Page: 1

### 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 <<



5、Electronic Characteristics of Module :

- |                              |                               |                                     |
|------------------------------|-------------------------------|-------------------------------------|
| 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、Summary :

Sales signature : \_\_\_\_\_

Customer Signature : \_\_\_\_\_

Date : \_\_\_\_ / \_\_\_\_ / \_\_\_\_