RAYSTAR

曜凌光電股份有限公司

住址: 42878 台中市大雅区科雅路 25 號 5F　WEB: *http://www.Raystar-Optronics.com*
5F., No.25, Keya Rd., Daya Dist., Taichung　E-mail: sales@raystar-optronics.com
City 428, Taiwan　　　　　　　　　　　Tel:886-4-2565-0761　Fax：
　　　　　　　　　　　　　　　　　　　886-4-2565-0760

RFF700H-1IW-DAS

SPECIFICATION

CUSTOMER:

APPROVED BY	
PCB VERSION	
DATE	

FOR CUSTOMER USE ONLY

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY

ISSUED DATE:

Contents

1. Revision History

DATE	VERSION	REVISED PAGE NO.	Note
2013/03/22	1		First issue

2. General Specification

- Resolution: 800 x RGB x 480

- Module dimension: 165.0 x 104.8 x 6.6 mm

- Active Area : 152.4 x 91.44 mm

- Dot pitch: 0.0635 x 0.1905 mm

- LCD type: TFT, Negative, Transmissive

- View direction: 12 o'clock

- Gray Scale Inversion Direction: 6 o'clock

- Backlight Type: LED, Normally White

3. Module Coding System

R	F	F	70	0H	-	1	I	W	-	D	A	S
1	2	3	4	5	-	6	7	8	-	9	10	11

Item	Description		
1	R：Raystar Optronics Inc.		
2	Display Type：TFT Type		
3	Solution: A: 128x160　　B:320x234　　C:320x240　　D:480x234　　**F:800x480**		
4	Display Size：7.0" TFT		
5	Version Code.		
6	Model serials no.		
7	Polarizer Type, Temperature range, View direction	A：Reflective, N.T, 6:00	K：Transflective, W.T,12:00
		D：Reflective, N.T, 12:00	1：Transflective, U.T,6:00
		G：Reflective, W. T, 6:00	4：Transflective, U.T.12:00
		J：Reflective, W. T, 12:00	C：Transmissive, N.T,6:00
		0：Reflective, U. T, 6:00	F：Transmissive, N.T,12:00
		3：Reflective, U. T, 12:00	**I：Transmissive, W. T, 6:00**
		B：Transflective, N.T,6:00	L：Transmissive, W.T,12:00
		E：Transflective, N.T.12:00	2：Transmissive, U. T, 6:00
		H：Transflective, W.T,6:00	5：Transmissive, U.T,12:00
8	Backlight	N：Without backlight	Y：LED, Yellow Green
		P：EL, Blue green	A：LED, Amber
		T：EL, Green	**W：LED, White**
		D：EL, White	O：LED, Orange
		F：CCFL, White	G：LED, Green
9	Driver Method	**D: Digital**　　A: Analog	
10	Interface	N：without control board　　**A：8Bit**　　B：16Bit	
11	TS	N：Without TS　　**S：resistive touch panel** C：capacitive touch panel	

4. Interface Pin Function

Pin	Symbol	I/O	Function	Remark
1	GND		Power Ground	
2	VDD		Power Supply : +3.3V	
3	NC		No connect	
4	A0		display data	
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	CS		Chip select	
16	NC		No connect	
17	NC		No connect	
18	RST		Hardware reset	
19	NC		No connect	
20	NC		No connect	

5. Contour Drawing
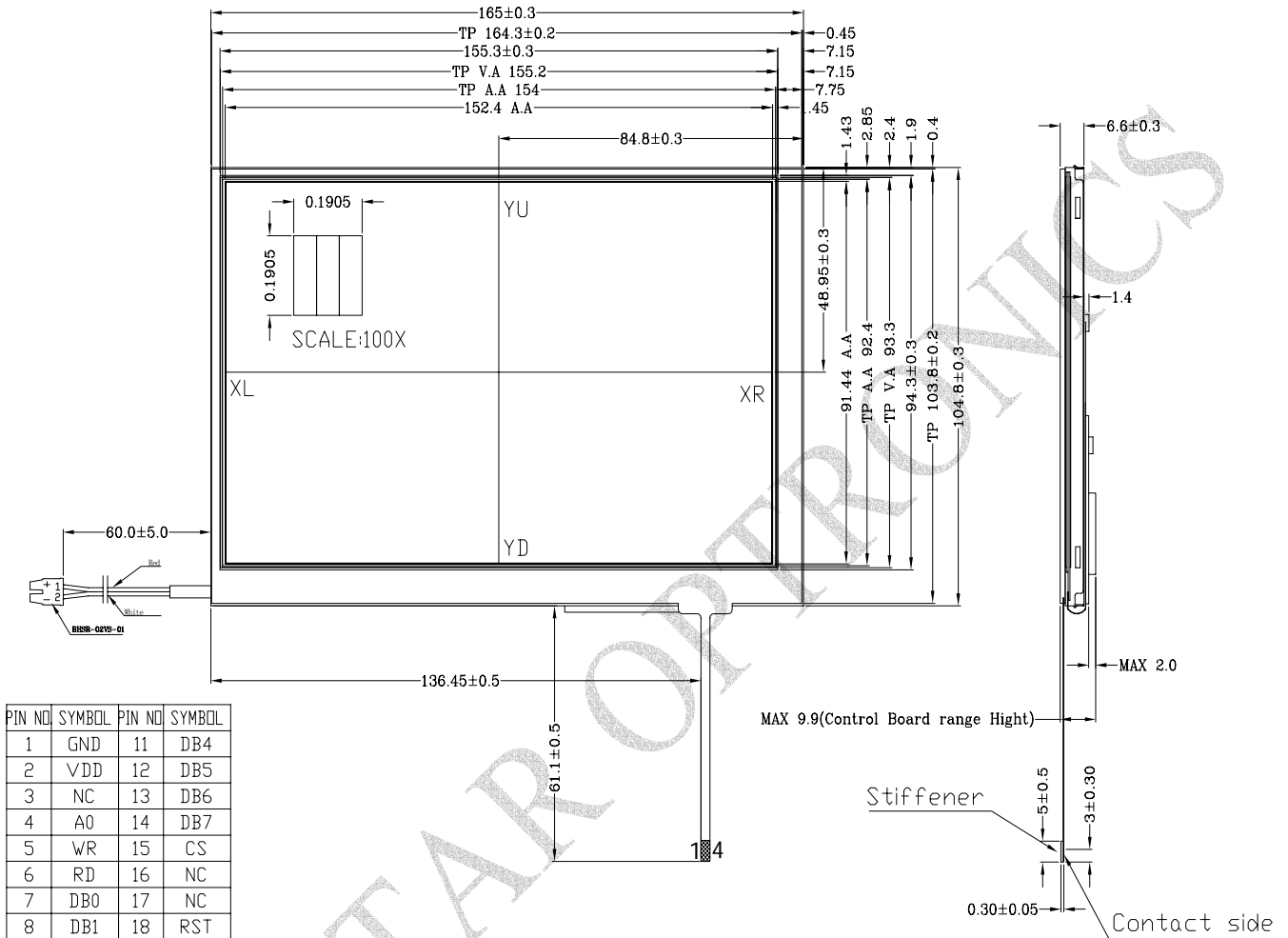
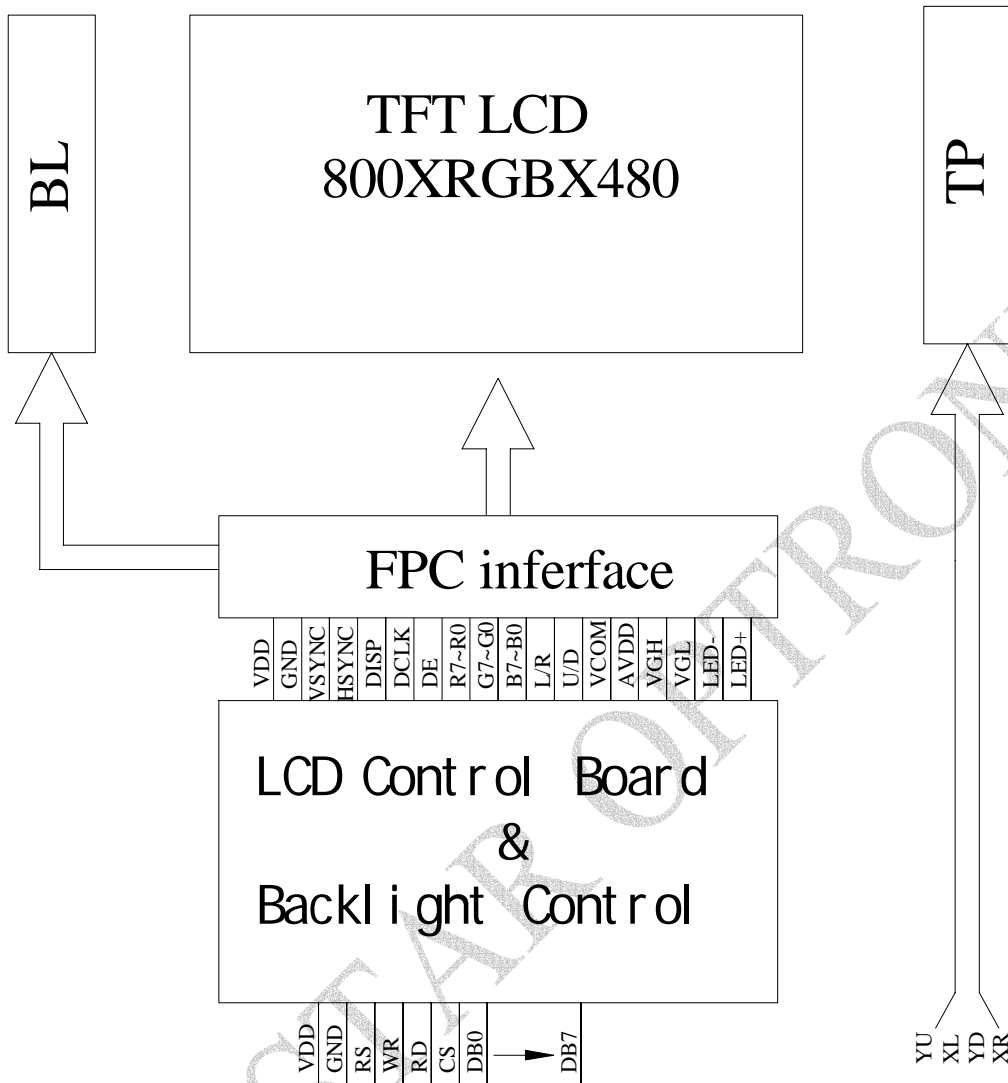| PIN NO	SYMBOL	PIN NO	SYMBOL
1	GND	11	DB4
2	VDD	12	DB5
3	NC	13	DB6
4	A0	14	DB7
5	WR	15	CS
6	RD	16	NC
7	DB0	17	NC
8	DB1	18	RST
9	DB2	19	NC
10	DB3	20	NC

1	YU	Top Film Terminal
2	XL	Bottom ITO Glass Terminal
3	YD	Top Film Terminal
4	XR	Bottom ITO Glass Terminal

The non-specified tolerance of dimension is ±0.3mm.

Component Side

60.5±0.5

114.24

112.24

1.0

Component Side

60 31 30 1

40 1

26.55

31.2

40

CON1

(48.7)

94.0±0.15

RoHS

CON3

1

32

43.77

47.77±0.5

25.45

27.45

21.12

1.0

45.0±0.15

(0.48)

(6.02)

(0.99)

Red

White

Flexible tube

BHSR-02VS-01

1 +
2 −

A:4:1

3.00±0.30

2-R0.20

0.50±0.1*2

W-0.25±0.05*4

P-0.50*(4-1)=1.50±0.10*3

2.50±0.1

Detail A Scale 2:1

A

K

3*8 24LED
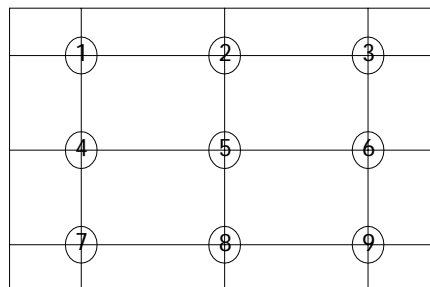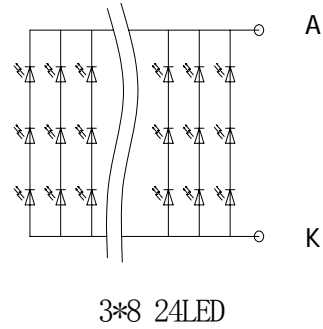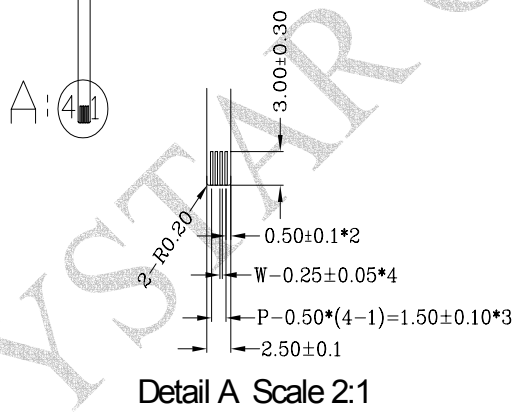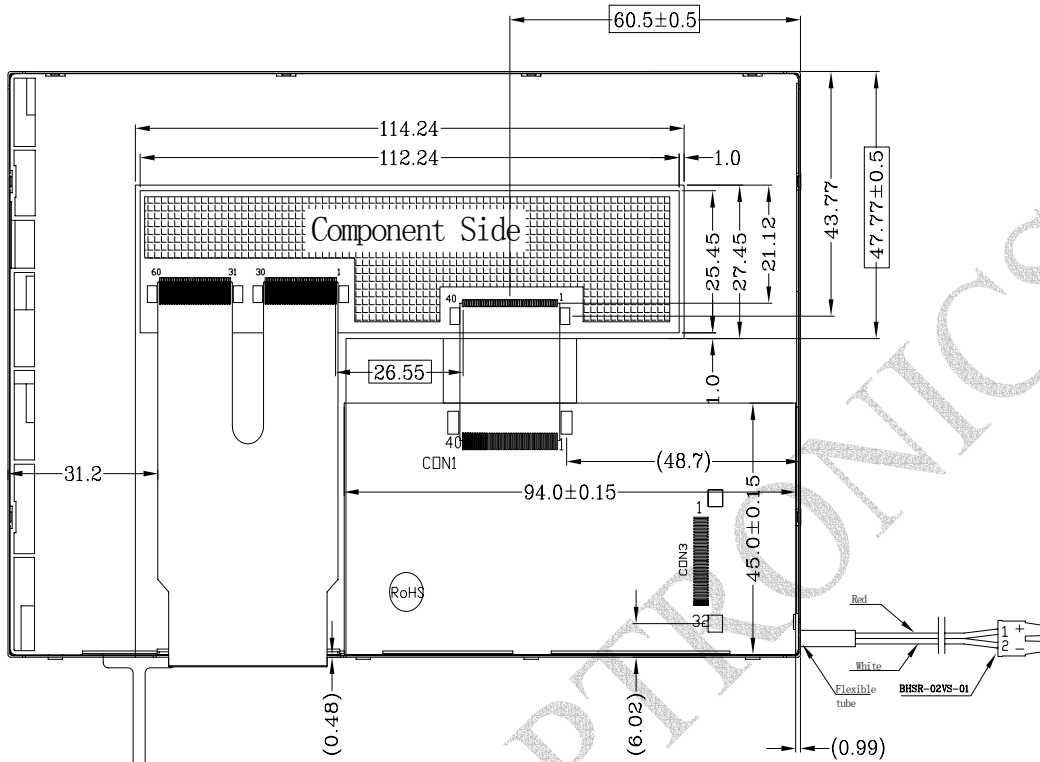
6. Block Diagram

7.Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	℃
Storage Temperature	T_{ST}	-30	—	+80	℃

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

1. Temp. $\leqq 60^{0}$C, 90% RH MAX. Temp. $>$ 60^{0}C , Absolute humidity shall be less than 90% RH at 60^{0}C
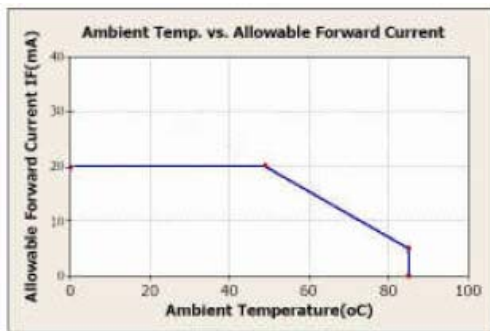
8.Electrical Characteristics

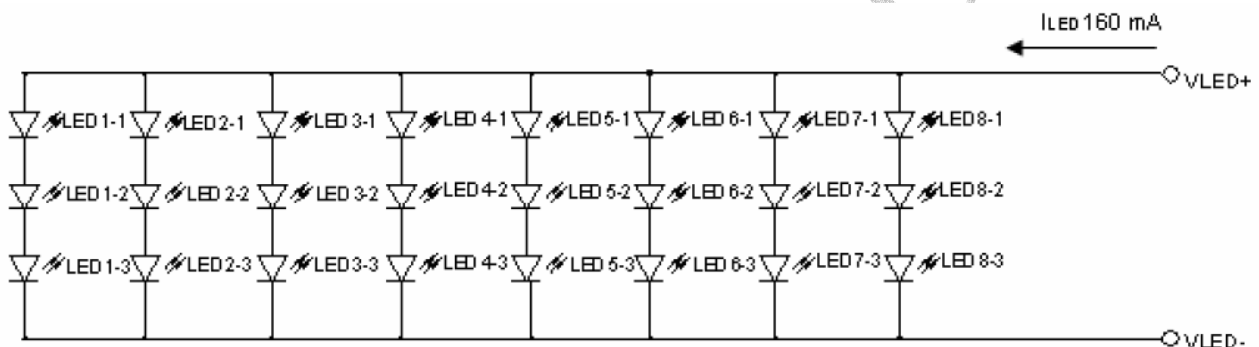## 8.1. Operating conditions:

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	VCC	—	3.0	3.3	3.6	V

8.2 LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED current		-	160	-	mA	
Power Consumption			1552	1680	mW	
LED voltage	VBL+	9.0	-	10.5	V	Note 1
LED Life Time		-	50,000	-	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED

Note 2 : Ta = 25 ℃

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

Note 4 : The single LED lamp case

9. DC Characteristics

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

10. Interface Timing

10.1.1   8080 Mode

The 8080 mode MCU interface consist of CS#, D/C#, RD#, WR#, D[23:0] and TE signals (Please refer to Table 6-1 for pin multiplexed with 6800 mode). 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#.

10.1.2   8080 Mode Write Cycle

Symbol	Parameter	Min	Typ	Max	Unit
t_{cyc}	Reference Clock Cycle Time	9	-	-	ns
t_{PWCSL}	Pulse width CS# low	1	-	-	t_{CYC}
t_{PWCSH}	Pulse width CS# high	1	-	-	t_{CYC}
t_{FDRD}	First Read Data Delay	5	-	-	t_{CYC}
t_{AS}	Address Setup Time	1	-	-	ns
t_{AH}	Address Hold Time	1	-	-	ns
t_{DSW}	Data Setup Time	4	-	-	ns
t_{DHW}	Data Hold Time	1	-	-	ns
t_{DSR}	Data Access Time	-	-	5	ns
t_{DHR}	Output Hold time	1	-	-	ns
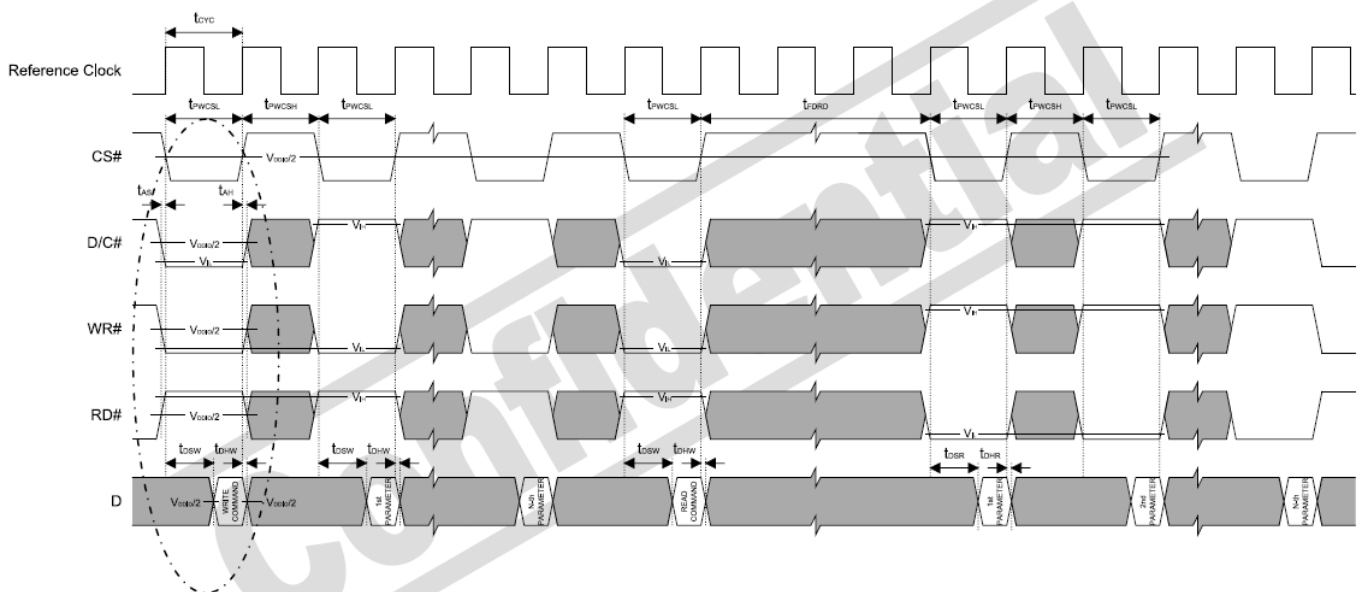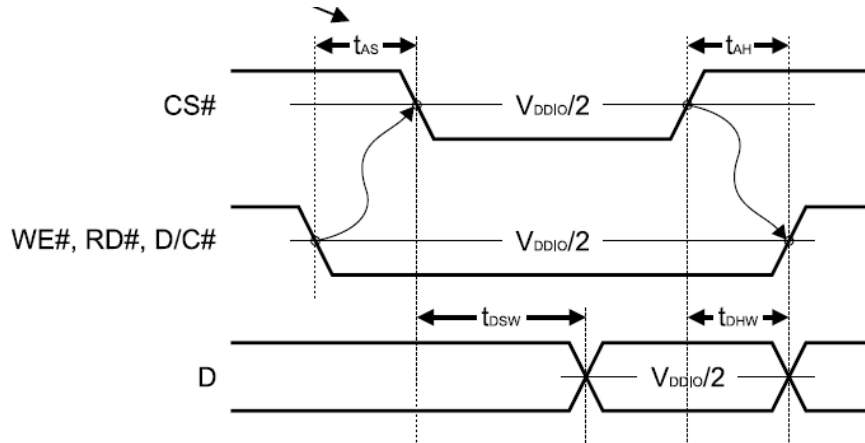
10.1.3 Pixel Data Format

Interface	Cycle	D[23]	D[22]	D[21]	D[20]	D[19]	D[18]	D[17]	D[16]	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]
24 bits	1st	R7	R6	R5	R4	R3	R2	R1	R0	G7	G6	G5	G4	G3	G2	G1	G0	B7	B6	B5	B4	B3	B2	B1	B0
18 bits	1st							R5	R4	R3	R2	R1	R0	G5	G4	G3	G2	G1	G0	B5	B4	B3	B2	B1	B0
16 bits (565 format)	1st									R5	R4	R3	R2	R1	G5	G4	G3	G2	G1	G0	B5	B4	B3	B2	B1
16 bits	1st									R5	R4	R3	R2	R1	R0	X	X	G5	G4	G3	G2	G1	G0	X	X
	2nd									B5	B4	B3	B2	B1	B0	X	X	R5	R4	R3	R2	R1	R0	X	X
	3rd									G5	G4	G3	G2	G1	G0	X	X	B5	B4	B3	B2	B1	B0	X	X
9 bits	1st																R5	R4	R3	R2	R1	R0	G5	G4	G3
	2nd																G2	G1	G0	B5	B4	B3	B2	B1	B0
8 bits	1st																	R5	R4	R3	R2	R1	R0	X	X
	2nd																	G5	G4	G3	G2	G1	G0	X	X
	3rd																	B5	B4	B3	B2	B1	B0	X	X

X: Don't Care

11. Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr	θ=0°、Φ=0°	-	5	10	.ms	Note 3
		Tf		-	11	16	.ms	
Contrast ratio		CR	At optimized viewing angle	250	400	-	-	Note 4
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.22	0.27	0.32		Note 2,5,6
		Wy		0.23	0.28	0.33		
Viewing angle	Hor.	ΘR	CR≧10	65	70		Deg.	Note 1
		ΘL		65	70			
	Ver.	ΦT		55	60			
		ΦB		55	60			
Brightness		-	-	240	-	350	cd/m^2	Center of display

Ta=25±2℃, I$_L$=20mA

Note 1: Definition of viewing angle range
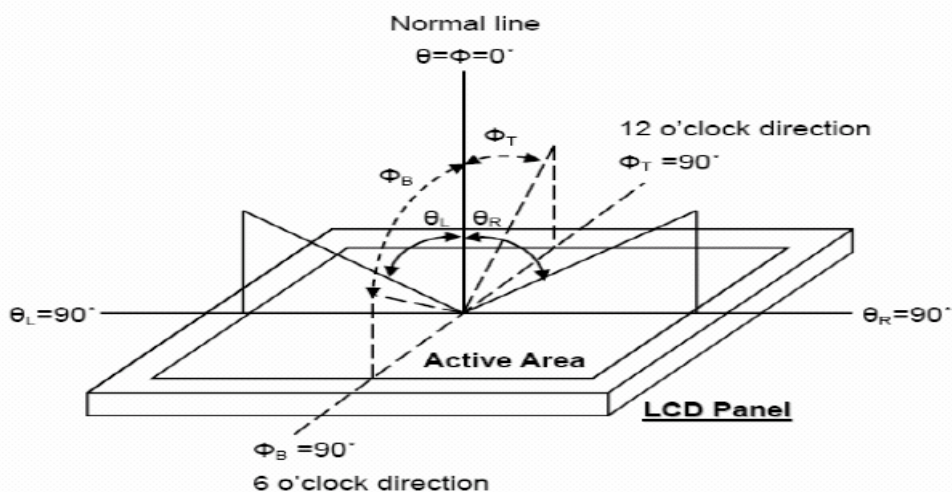
Fig. 11-1 Definition of viewing angle

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-7 luminance meter 1.0° field of view at a distance of 50cm and normal direction.
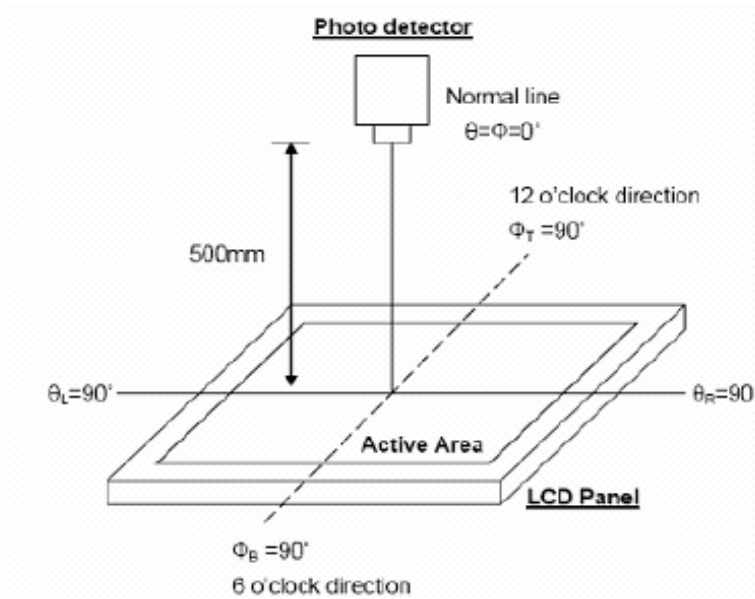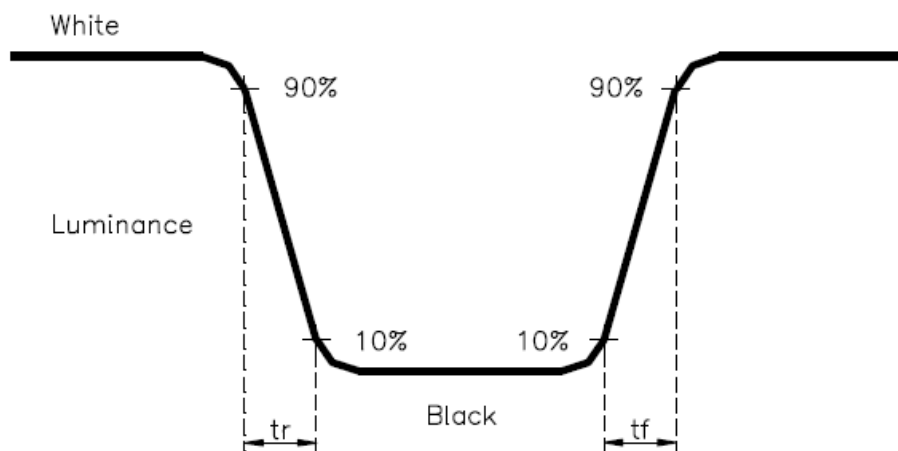
Fig. 11-2 Optical measurement system setup

Note 3: Definition of Response time:

Definition of response time : The response time is defined as the time interval between the 10% and 90% amplitudes.

Note 4: Definition of contrast ratio:

The contrast ratio is defined as the following expression.

$$\text{Contrast ratio (CR)} = \frac{\text{Luminance measured when LCD on the "White" state}}{\text{Luminance measured when LCD on the "Black" state}}$$
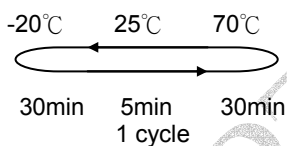
Note 5: Definition of color chromaticity (CIE1931)

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.

12.Reliability

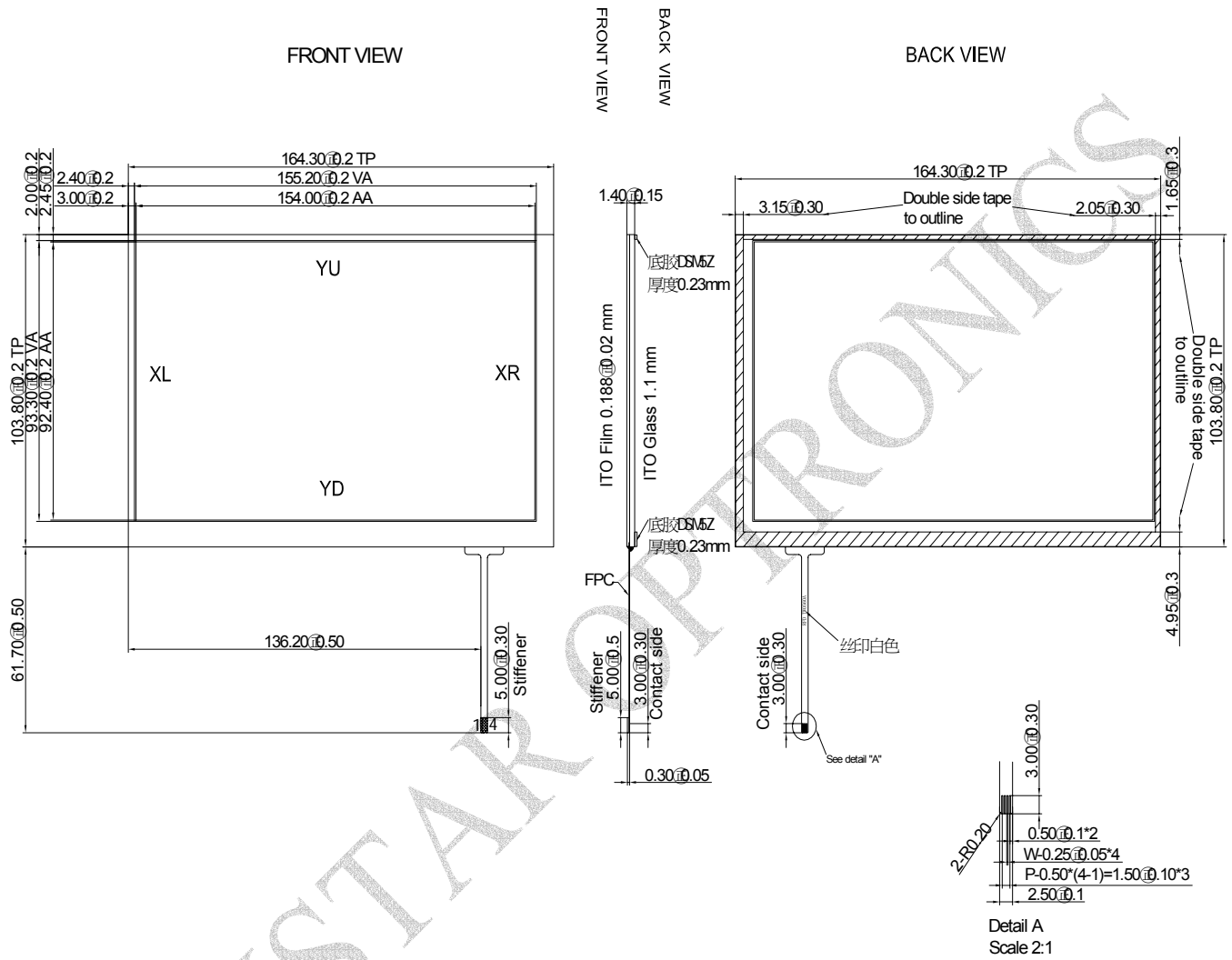## Content of Reliability Test (Wide temperature, -20℃~70℃)

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℃ 200hrs	2
Low Temperature storage	Endurance test applying the low storage temperature for a long time.	-30℃ 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℃ 200hrs	——
Low Temperature Operation	Endurance test applying the electric stress under low temperature for a long time.	-20℃ 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 96hrs	1,2
Thermal shock resistance	The sample should be allowed stand the following 10 cycles of operation -20℃ 25℃ 70℃ 30min 5min 30min 1 cycle	-20℃/70℃ 10 cycles	——
Vibration test	Endurance test applying the vibration during transportation and using.	Total fixed amplitude : 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=800V,RS=1.5kΩ CS=100pF 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: The packing have to including into the vibration testing.

13. Touch panel Information

FRONT VIEW

FRONT VIEW

BACK VIEW

BACK VIEW

164.30±0.2 TP
155.20±0.2 VA
154.00±0.2 AA

2.00±0.2
2.45±0.2
2.40±0.2
3.00±0.2

YU

XL   XR

YD

103.80±0.2 TP
93.30±0.2 VA
92.40±0.2 AA

61.70±0.50

136.20±0.50

5.00±0.30
Stiffener

1×4

1.40±0.15

ITO Film 0.188±0.02 mm

ITO Glass 1.1 mm

底胶 DM5Z
厚度 0.23mm

底胶 DM5Z
厚度 0.23mm

FPC

Stiffener
5.00±0.5

3.00±0.30
Contact side

0.30±0.05

Contact side

丝印白色

See detail "A"

164.30±0.2 TP
Double side tape
to outline

3.15±0.30   2.05±0.30

1.65±0.3

Double side tape
to outline

103.80±0.2 TP

4.95±0.3

3.00±0.30

2-R0.20

0.50±0.1*2
W-0.25±0.05*4
P-0.50*(4-1)=1.50±0.10*3
2.50±0.1

Detail A
Scale 2:1

1. TOUCH PANEL PIN ASSIGNMENT

1	YU	Top Film Terminal
2	XL	Bottom ITO Glass Terminal
3	YD	Top Film Terminal
4	XR	Bottom ITO Glass Terminal

2. MATERIAL CHARACTERISTICS

Property	Requirement
Surface treatment	Anti-Glare(雾面)
Approach made	Film+ITO Glass(1.10)
Light transmission	78%
Operation Temperature	-10~+60⊥
Storage Temperature	-20~+70⊥

3. ELECTRICAL CHARACTERISTICS

Property	Requirement
Type	Analog resistive 4 wire
Linearity	Max1.5%
X(2.4) resistance	200~1200Ω
Y(1.3) resistance	100~800Ω
Insulation resistance	20MΩ　(DC 25V)

4.A.A.:Active Area

5.V.A.:View Area

6.Tolerance no specified: ±0.3mm

14. Package specification

LCM Model	RFF700H-1IW-DAS	LCM 包裝規格書	Approve	Check	Contact
Drawing NO.		LCM Packaging Specifications	DATE	初版	版次 Ver
			2013/03/22	2013/03/22	0

1.包裝材料規格表（Packaging Material）**:(per carton)**

NO.	Item	Model	Dimensions	Quantity
1	成品（**LCM**）	**RFF700H-1IW-DAS**	**165 x 104.8 x 6.6**	**TBD**
2	**TRAY 盤 (2)**	**TBD**	**TBD**	**TBD**
3	**BP01 內盒(3)Product Box**	PK3R1XXXXXXXXXX0001	**332 x 280 x 100**	**TBD**
4	泡棉**(4)Foam**	-----	**283 x 230 x 8**	**TBD**
5	外紙箱**(5)Carton**	PK4Q1XXXXXXXXXX0000	**565 x 340 x 320**	**TBD**
6				
7				
8				
9				

2.單箱數量規格表**(Packaging Specifications and Quantity) :**
(1)LCM quantity per box : no per tray   TBD   x no of tray   TBD   =   TBD
(2)Total LCM quantity in carton : quantity per box   TBD   x no of boxes   TBD   =   TBD

特   記   事   項 **(REMARK)**

1. Label Specifications :

```
MOOEL:
LOT NO :
QUANTITY:
CHECK:
```

Use empty tray
空 盤

+

Put products into the tray

(1) POF

(2) Tray

Tray stacking

(4)泡棉Foam

(3)Product Box

(5) Caton

P.O NO.:
ITEM NO.:
Q'TY: PCS
N.W: KGS
G.W: KGS
C/N.
RAYSTAR

14. Initial Code For Reference

```
void Initial_code()
{
        TBD
}
```

Inspection Provision

1.Purpose

The RAYSTAR inspection provision provides outgoing inspection provision and its expected quality level based on our outgoing inspection of RAYSTAR LCD produces.

2.Applicable Scope

The RAYSTAR inspection provision is applicable to the arrangement in regard to outgoing inspection and quality assurance after outgoing.

3.Technical Terms
3-1 RAYSTAR Technical Terms

4.Outgoing Inspection
4-1 Inspection Method

MIL-STD-105E Level Ⅱ Regular inspection

4-2 Inspection Standard

		Item	AQL(%)	Remarks
Major Defect	Dots	Opens Shorts Erroneous operation	0.4	Faults which substantially lower the practicality and the initial purpose difficult to achieve
	Solder appearance	Shorts Loose		
	Cracks	Display surface cracks		

			AQL(%)	Remarks
	Dimensions	External from Dimensions	0.4	
Minor Defect	Inside the glass	Black spots	0.65	Faults which appear to pose almost no obstacle to the practicality, effective use, and operation
	Polarizing plate	Scratches, foreign Matter, air bubbles, and peeling		
	Dots	Pinhole, deformation		
	Color tone	Color unevenness		
	Solder appearance	Cold solder Solder projections		

4-3 Inspection Provisions

*Viewing Area Definition

Fig. 1
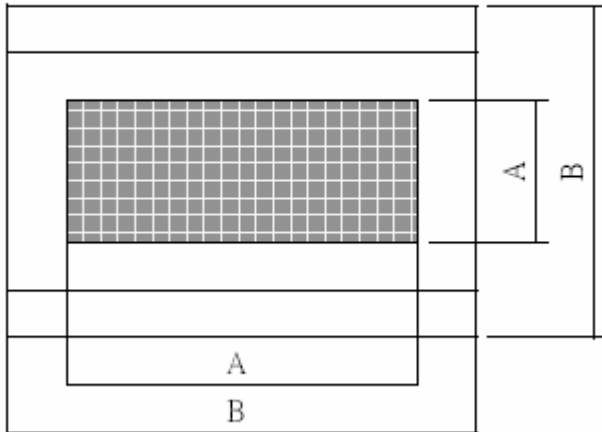
A : Zone Viewing Area

B : Zone Glass Plate Outline

*Inspection place to be 500 to 1000 lux illuminance uniformly without glaring.

The distance between luminous source(daylight fluorescent lamp and cool white fluorescent lamp)

and sample to be 30 cm to 50 cm.

*Test and measurement are performed under the following conditions, unless otherwise specified.

Temperature   20 ± 15℃

Humidity   65 ± 20%R.H.

Pressure   860~1060hPa(mmbar)

In case of doubtful judgment, it is performed under the following conditions.

Temperature   20 ± 2℃

Humidity   65 ±5%R.H.

Pressure   860~1060hPa(mmbar)

5.Specification for quality check

5-1-1 Electrical characteristics :

NO.	Item	Criterion
1	Non operational	Fail
2	Miss operating	Fail
3	Contrast irregular	Fail
4	Response time	Within Specified value

5-1-2 Components soldering :

Should be no defective soldering such as shorting, loose terminal cold solder, peeling of printed circuit board pattern, improper mounting position, etc.

5-2 Inspection Standard for TFT panel

5-2-1 The environmental condition of inspection :

The environmental condition and visual inspection shall be conducted as below.

(1) Ambient temperature : 25±5℃

(2) Humidity : 25~75% RH

(3) External appearance inspection shall be conducted by using a single 20W fluorescent lamp or equivalent illumination.

(4) Visual inspection on the operation condition for cosmetic shall be conducted at the distance 30cm or more between the LCD panels and eyes of inspector. The viewing angle shall be 90 degreeto the front surface of display panel.

(5) Ambient Illumination : 300~500 Lux for external appearance inspection.

(6) Ambient Illumination : 100~200 Lux for light on inspection.

5-2-2 Inspection Criteria

(1) Definition of dot defect induced from the panel inside

a) The definition of dot : The size of a defective dot over 1/2 of whole dot is regarded as one defective dot

b) Bright dot : Dots appear bright and unchanged in size in which LCD panel is displaying under black pattern.

c) Dark dot : Dots appear dark and unchanged in size in which LCD panel is displaying under pure red, green, blue pattern.
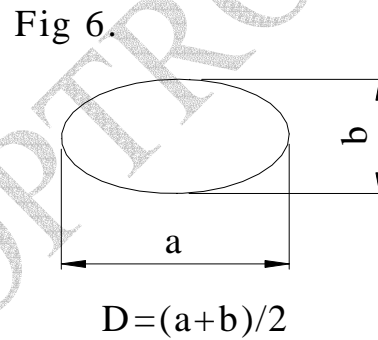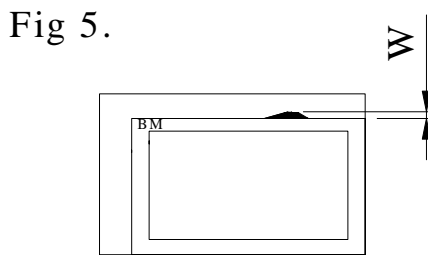
d) 2 dot adjacent = 1 pair = 2 dots

Picture :

2 dot adjacent   2 dot adjacent (vertical)   2 dot adjacent (slant)
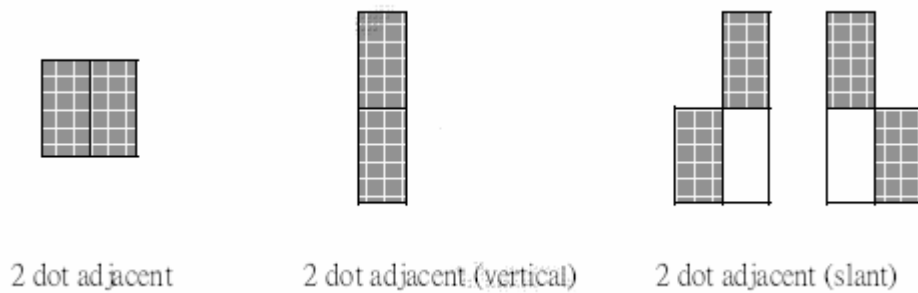
(2) Display Inspection

NO.	Item			Acceptable Count
1	Dot defect	Bright Dot	Random	$N \leq 2$
			2 dots adjacent	$N \leq 0$
		Dark Dot	Random	$N \leq 3$
			2 dots adjacent	$N \leq 1$
		Total bright and dark dot		$N \leq 4$
	Functional failure (V-line/ H-line/Cross line etc.)			Not allowable
	Mura	It's OK if mura is slight visible through 6% ND filter. (Judged by limit sample if it is necessary)		
2	Newton ring (touch panel)	Orbicular of interference fringes is not allowed in the optimum contrast within the active area under viewing angle.		

(3) Appearance inspection

NO.	Item	Standards
1	Panel Crack	Not allow. It is shown in Fig.1.
2	Broken CF Non -lead Side of TFT	The broken in the area of W > 2mm is ignored, L is ignored. It is shown in Fig.2.
3	Broken Lead Side of TFT	FPC lead, electrical line or alignment mark can't be damaged. It is shown in Fig.3.
4	Broken Corner of TFT at Lead Side	FPC lead. electrical line or alignment mark can't be damaged. It is shown in Fig.4.
5	Burr of TFT / CF Edge	The distance of burr from the edge of TFT / CF, $W \leq$ 0.3mm. It is shown in Fig.5.
6	Foreign Black / White/Bright Spot	(1) $0.15 < D \leq 0.5$ mm, $N \leq 4$; (2) $D \leq 0.15$mm, Ignore. It is shown in Fig.6.
7	Foreign Black / White/Bright Line	(1) $0.05 < W \leq 0.1$ mm, $0.3 < L \leq 2$ mm, $N \leq 4$.
		(2) $W \leq 0.05$mm and $L \leq 0.3$mm Ignore.
		It is shown in Fig.7.
8	Color irregular	Not remarkable color irregular.

Fig 1.

Crack

Active Area

Fig 2.

Active Area

W

L

Fig 3.

w

Lead Area

Fig 4.

w

L

BM

Dot Area

Fig 5.

W

BM

Fig 6.

b

a

$D=(a+b)/2$

Fig 7.

L

w

Fig8.

R>90°
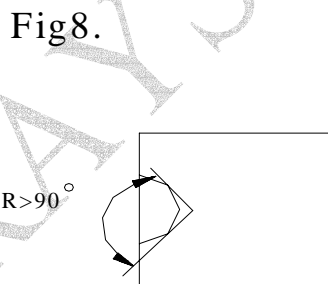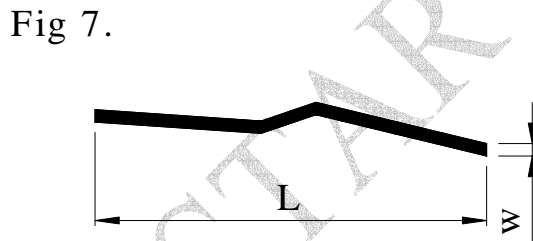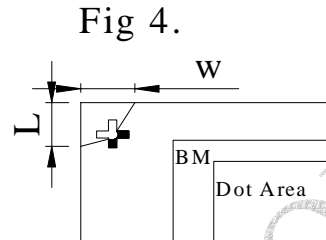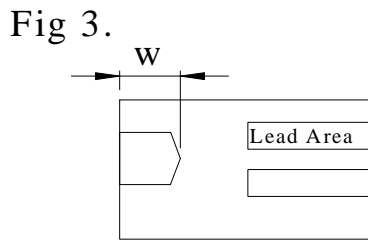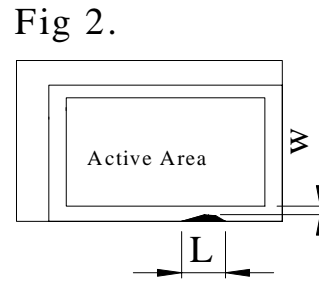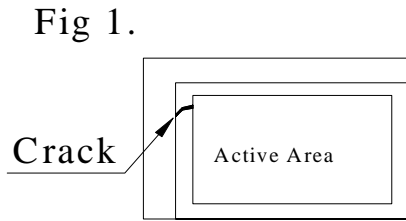
Notes
1.W:Widh
2.Lengh
3.D:Average Diameter
4.N:Count
5.All the anhle of the broken must be larger than 90～.It is shown in Fig.8.(R>90～)

NOTICE:

・ SAFETY

1. If the LCD panel breaks, be careful not to get the liquid crystal to touch your skin.

2. If the liquid crystal touches your skin or clothes, please wash it off immediately by using soap and water.

・ HANDLING

1. Avoid static electricity which can damage the CMOS LSI.

2. Do not remove the panel or frame from the module.

3. The polarizing plate of the display is very fragile. So, please handle it very carefully.

4. Do not wipe the polarizing plate with a dry cloth, as it may easily scratch the surface of plate.

5. Do not use ketonics solvent & Aromatic solvent. Use a soft cloth soaked with a cleaning naphtha solvent.

・ STORAGE

1. Store the panel or module in a dark place where the temperature is 25±5℃ and the humidity is below 65% RH.

2. Do not place the module near organics solvents or corrosive gases.

3. Do not crush, shake, or jolt the module.

・ TERMS OF WARRANT

1. Acceptance inspection period

The period is within one month after the arrival of contracted commodity at the buyer's factory site.

2. Applicable warrant period

The period is within twelve months since the date of shipping out under normal using and storage conditions.

LCM Sample Estimate Feedback Sheet

Module Number：_____

1、Panel Specification：

1. Panel Type：	□ Pass	□ NG ,_____
2. View Direction：	□ Pass	□ NG ,_____
3. Numbers of Dots：	□ Pass	□ NG ,_____
4. View Area：	□ Pass	□ NG ,_____
5. Active Area：	□ Pass	□ NG ,_____
6.Operating Temperature：	□ Pass	□ NG ,_____
7.Storage Temperature：	□ Pass	□ NG ,_____
8.Others：_____		

2、Mechanical Specification：

1. PCB Size：	□ Pass	□ NG ,_____
2.Frame Size：	□ Pass	□ NG ,_____
3.Materal of Frame：	□ Pass	□ NG ,_____
4.Connector Position：	□ Pass	□ NG ,_____
5.Fix Hole Position：	□ Pass	□ NG ,_____
6.Backlight Position：	□ Pass	□ NG ,_____
7. Thickness of PCB：	□ Pass	□ NG ,_____
8. Height of Frame to PCB：	□ Pass	□ NG ,_____
9.Height of Module：	□ Pass	□ NG ,_____
10.Others：	□ Pass	□ NG ,_____

3、Relative Hole Size：

1.Pitch of Connector：	□ Pass	□ NG ,_____
2.Hole size of Connector：	□ Pass	□ NG ,_____
3.Mounting Hole size：	□ Pass	□ NG ,_____
4.Mounting Hole Type：	□ Pass	□ NG ,_____
5.Others：	□ Pass	□ NG ,_____

4、Backlight Specification：

1.B/L Type：	□ Pass	□ NG ,_____
2.B/L Color：	□ Pass	□ NG ,_____
3.B/L Driving Voltage (Reference for LED Type)：□ Pass □ NG ,_____		
4.B/L Driving Current：	□ Pass	□ NG ,_____
5.Brightness of B/L：	□ Pass	□ NG ,_____
6.B/L Solder Method：	□ Pass	□ NG ,_____
7.Others：	□ Pass	□ NG ,_____

＞＞ **Go to page 2** ＜＜

Module Number：_____

5、Electronic Characteristics of Module：

1.Input Voltage：	□ Pass	□ NG ,_____
2.Supply Current：	□ Pass	□ NG ,_____
3.Driving Voltage for LCD：	□ Pass	□ NG ,_____
4.Contrast for LCD：	□ Pass	□ NG ,_____
5.B/L Driving Method：	□ Pass	□ NG ,_____
6.Negative Voltage Output：	□ Pass	□ NG ,_____
7.Interface Function：	□ Pass	□ NG ,_____
8.LCD Uniformity：	□ Pass	□ NG ,_____
9.ESD test：	□ Pass	□ NG ,_____
10.Others：	□ Pass	□ NG ,_____

6、Summary：

Sales signature：_____
Customer Signature：_____   **Date**：___/___/___