



深圳市宇锡科技有限公司

SHENZHEN YOUSEE TECHNOLOG CO., LTD

## DISPLAY SPECIFICATION

Product NO: (产品型号) YX08017482717NA

Customer : (客户) \_\_\_\_\_

APPROVED BY CUSTOMER 客户签署栏	
Approved by 审核	Remark 备注

APPROVED BY YOUSEE 宇锡签署栏			
Prepared by 制作	Checked by 检查		Approved by 审核
	电子	结构	

深圳市宇锡科技有限公司 Shenzhen Yousee Technology Co.,Ltd 邹长城 LONG Tel:15818552076 E-mail: zouchangcheng@youseelcd.com Adress:深圳市西乡簕竹角鸿竹雍启 C 栋 5 楼 3 楼 3&5 Floor, Building C, Hongzhu Yongqi, Lezhujiao, Xixiang, Shenzhen
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## 1.0 General Description

### 1.1 Introduction

YX08017482717NA is a color active matrix thin film transistor (TFT) liquid crystal display (LCD) that uses amorphous silicon TFT as a switching device. This model is composed of a TFT LCD panel and a driving circuit. This TFT LCD has a 8 (4:3) inch diagonally measured active display area with (1024 horizontal by 768 vertical pixel) resolution.

### 1.2. Features

8 (4:3 diagonal) inch configuration  
Compatible with NTSC & PAL system  
Image Reversion: UP/DOWN and LEFT/RIGHT  
ROHS design

### 1.3. General information

Item	Specification	Unit
Outline Dimension	174 (H) x 136(V) x2.45 (D)	mm
Display area	162.05 (H) x 121.54 (V)	mm
Number of Pixel	1024 RGB (H) x 768 (V)	pixels
Pixel size	0.115 (w) x 0.105(H)	mm
Pixel arrangement	RGB Vertical stripe	
Display mode	Normally Black	
Color Filter Array	RGB vertical stripes	
Backlight	White LED	
Interface	LVDS	
Weight	TBD	g

## 2.0 Absolute Maximum Ratings

### 2.1 Environment Absolute Rating

Item	Symbol	Min.	Max.	Unit	Note
Operating Temperature	Topa	-10	50	°C	
Storage Temperature	Tstg	-20	60	°C	

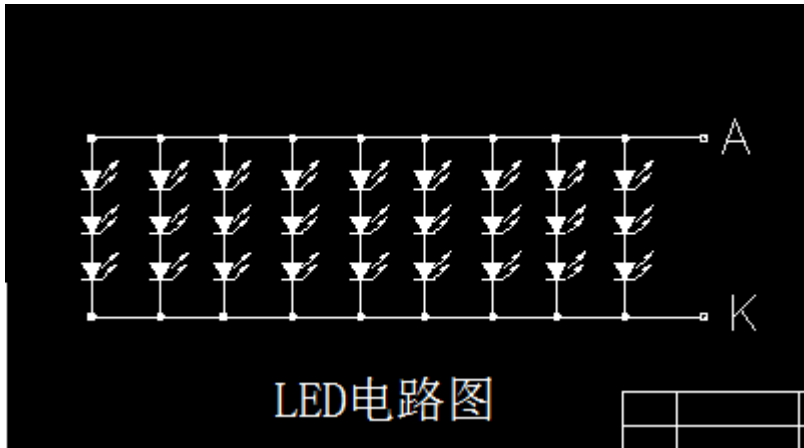
### 2.2 Back-light Unit:

PARAMETER	Sym.	Min.	Typ.	Max.	Unit	Test Condition	Note
LED Current	IF	–	200	–	mA	–	–
LED Voltage	VF	9	9.6	10.2	V	–	–
Life Time		–	20000	–	Hr.	$I \leq 160\text{mA}$	–
Luminance	L	220	260				
Color	White						

Note (1) Permanent damage may occur to the LCD module if beyond this specification. Functional operation should be restricted to the conditions described under normal operating conditions.

(2)  $T_a = 25 \pm 2^\circ\text{C}$

(3) Test condition: LED Current 200mA





### 3.0 Optical Characteristics

#### 3.1 Optical specification

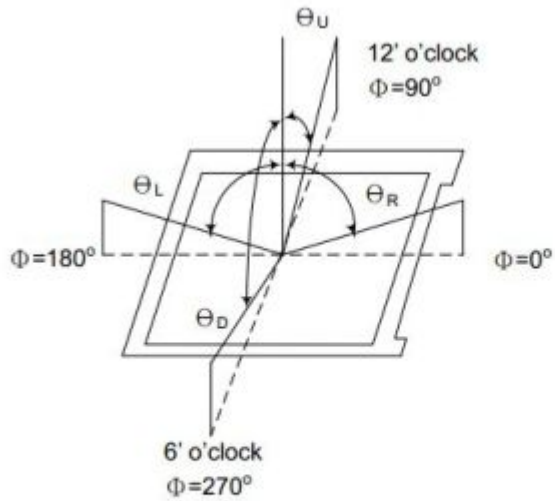
Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Transmittance (With PZ)	T		—	4.8	—	%	
Contrast	CR		—	800	—		(1)(2)(4)
Response time	Tr+Tf			30	45	msec	(1)(3)
Color chromaticity (CIE1931)	Red	$R_x$	$\theta=0$ Normal viewing angle	—	0.632		CF glass C light
		$R_y$			0.314		
	Green	$G_x$			0.267		
		$G_y$			0.547		
	Blue	$B_x$			0.142		
		$B_y$			0.102		
	White	$W_x$			0.302		
		$W_y$			0.321		
Viewing angle	Hor.	$\theta_L$	CR>10	75	85	—	(1)(4)
		$\theta_R$		75	85	—	
	Ver.	$\theta_U$		75	85	—	
		$\theta_D$		75	85	—	
View Direction	ALL						(5)

#### 3.2 Measuring Condition

- Measuring surrounding : dark room
- Ambient temperature :  $25\pm 2^\circ\text{C}$
- 15min. warm-up time.

#### 3.3 Measuring Equipment

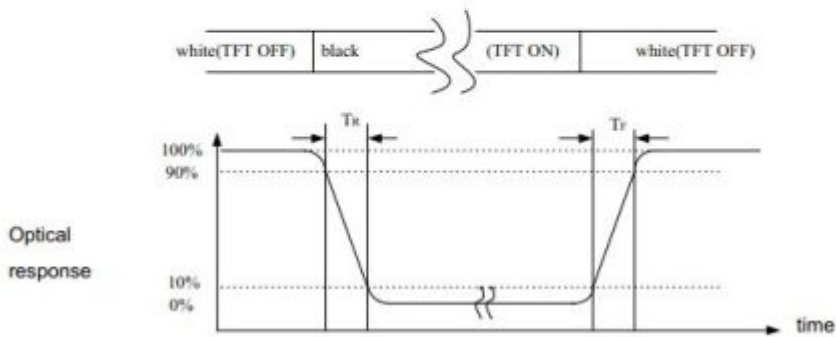
- TOPCON BM-7
- Measuring spot size : field  $2^\circ$



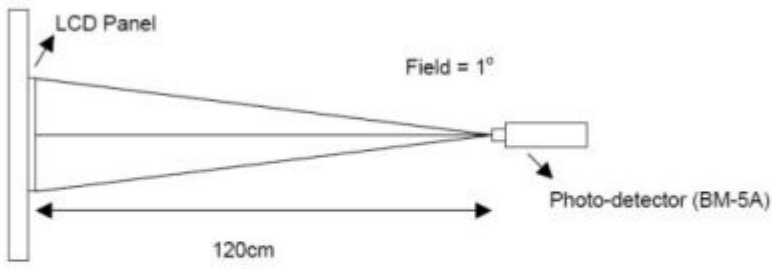
**Note (2)** Definition of Contrast Ratio (CR) :  
measured at the center point of panel

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

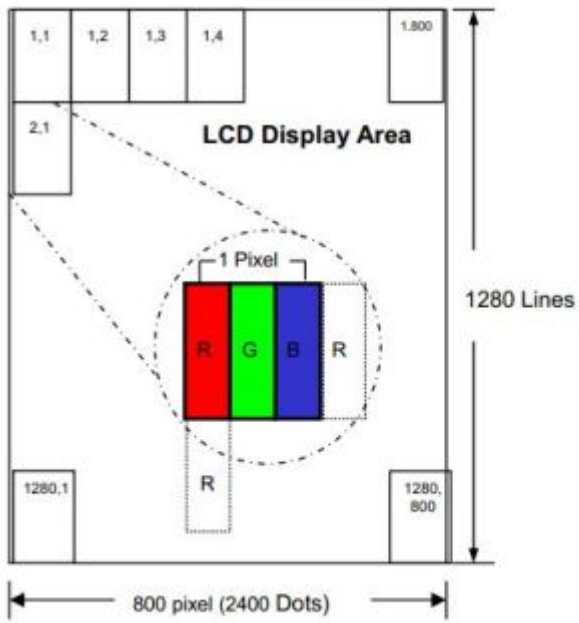
**Note (3)** Definition of Response Time : Sum of  $T_R$  and  $T_F$



**Note (4)** Definition of optical measurement setup



**4.0Pixel Format**





## 6. Electrical Characteristics

### 6.1 TFT LCD Module

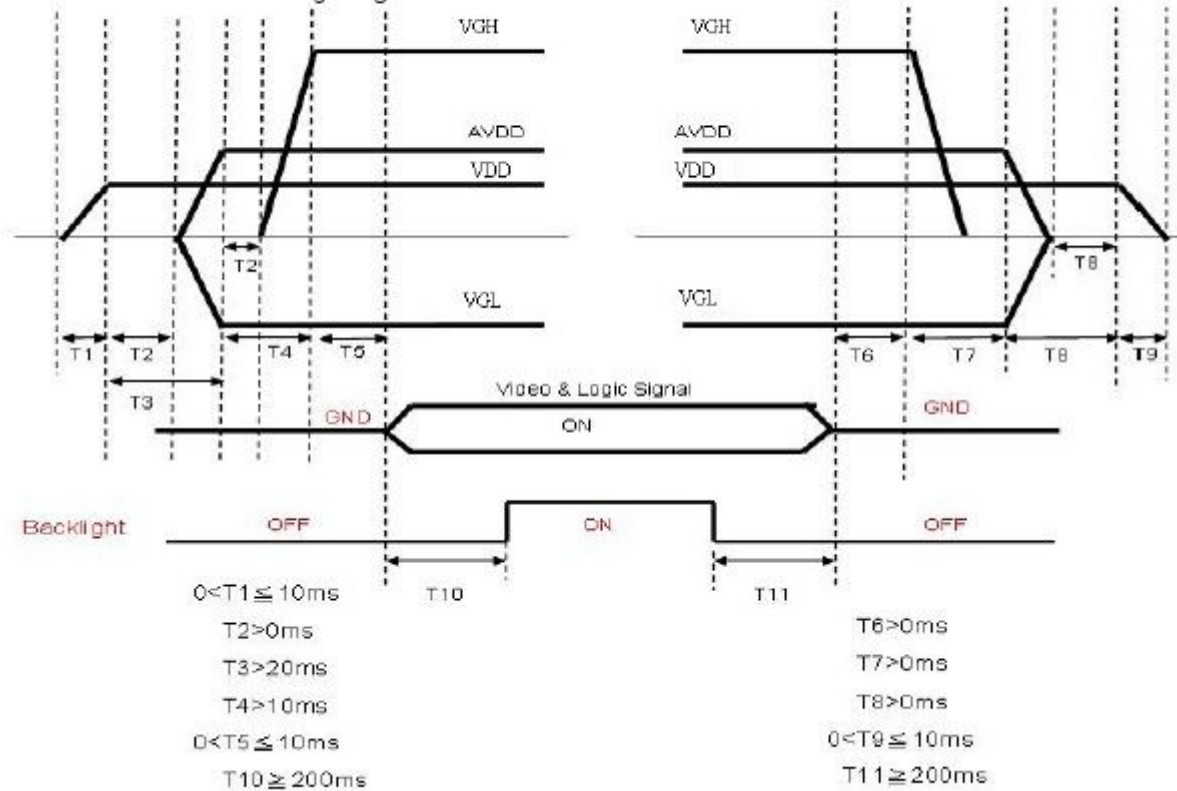
Item	Symbol	Min.	Typ.	Max.	Unit	Note
Supply Voltage	VDD	3.0	3.3	3.6	V	
	AVDD	10.2	10.4	10.6	V	
	VGH	17	18	19	V	
	VGL	-8.1	-7.8	-7.5	V	
	<b>VCOM</b>	<b>3.5</b>	<b>3.8</b>	<b>4.1</b>	V	(1)
Input signal voltage	V <sub>IH</sub>	0.7DV <sub>DD</sub>	-	DV <sub>DD</sub>	V	
	V <sub>IL</sub>	0	-	0.3DV <sub>DD</sub>	V	
Power Current	I <sub>DD</sub>	-	10	--	mA	
	I <sub>AVDD</sub>	--	18	--		
	I <sub>VGH</sub>	--	2	--		
	I <sub>VGL</sub>	--	3	--		
	I <sub>VCOM</sub>	--	1	--		

*Note1: VCOM 实际电压值以主板最佳效果为准*

### 3.3 Power · Signal sequence

Power On : VDD→AVDD/VGL →VGH →Video & Logic Signal→BL

Power Off : BL→Video & Logic Signal→ VGH→AVDD/VGL→VDD



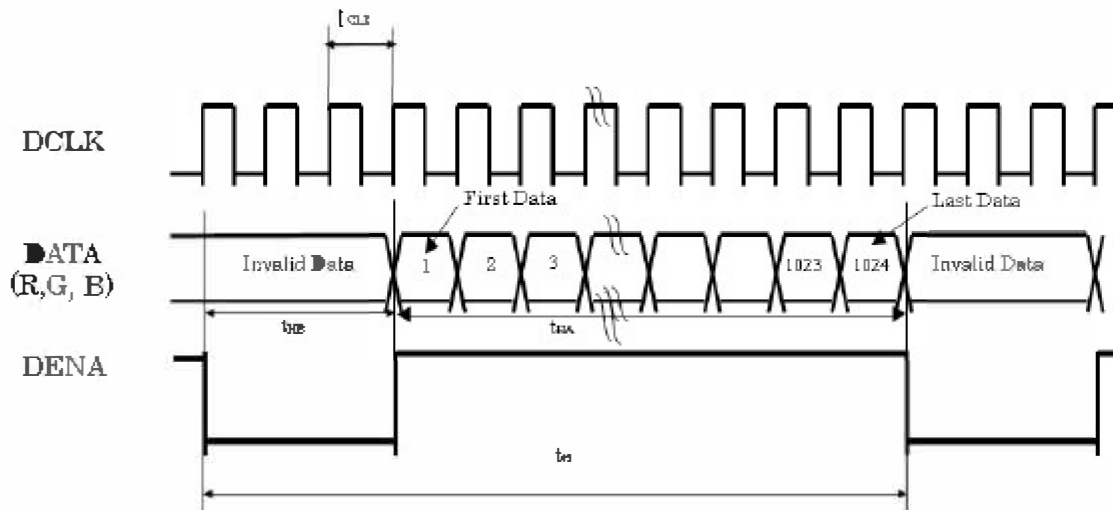


### 3.4 Timing characteristics of input signals

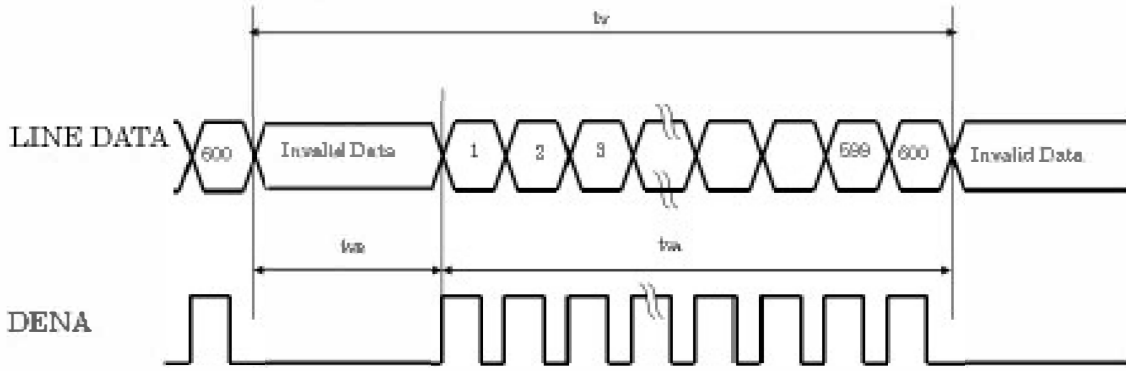
ITEM		SYMBOL	MIN	TYP	MAX	UNIT	
LVDS input signal sequence	CLK Frequency	tclk	45	51.2	57	MHz	
LCD input signal sequence (Input LVDS Transmitter)	Horizontal	Horizontal total Time	t <sub>H</sub>	1324	1344	1364	tCLK
		Horizontal effective Time	t <sub>HA</sub>	1024			tCLK
		Horizontal Blank Time	t <sub>HB</sub>	300	320	340	tCLK
	Vertical	Vertical total Time	t <sub>V</sub>	625	635	645	t <sub>H</sub>
		Vertical effective Time	t <sub>VA</sub>	600			t <sub>H</sub>
		Vertical Blank Time	t <sub>VB</sub>	25	35	45	t <sub>H</sub>

### 3.5 Timing sequence(Timing chart)

#### 3.5.1 Horizontal Timing Sequence

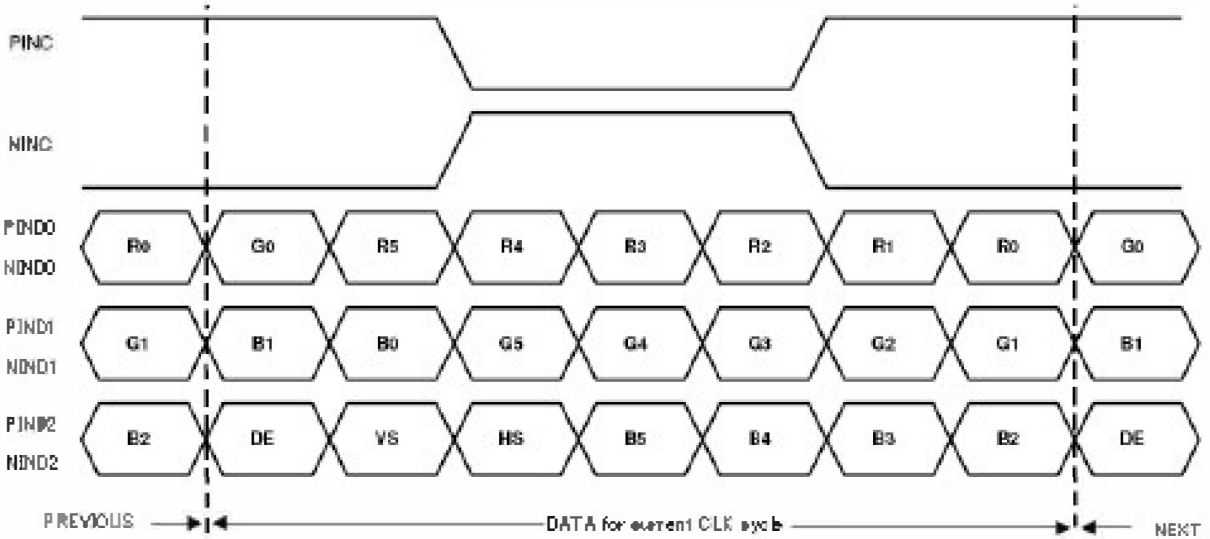


### 3.5.2 Vertical Timing Sequence

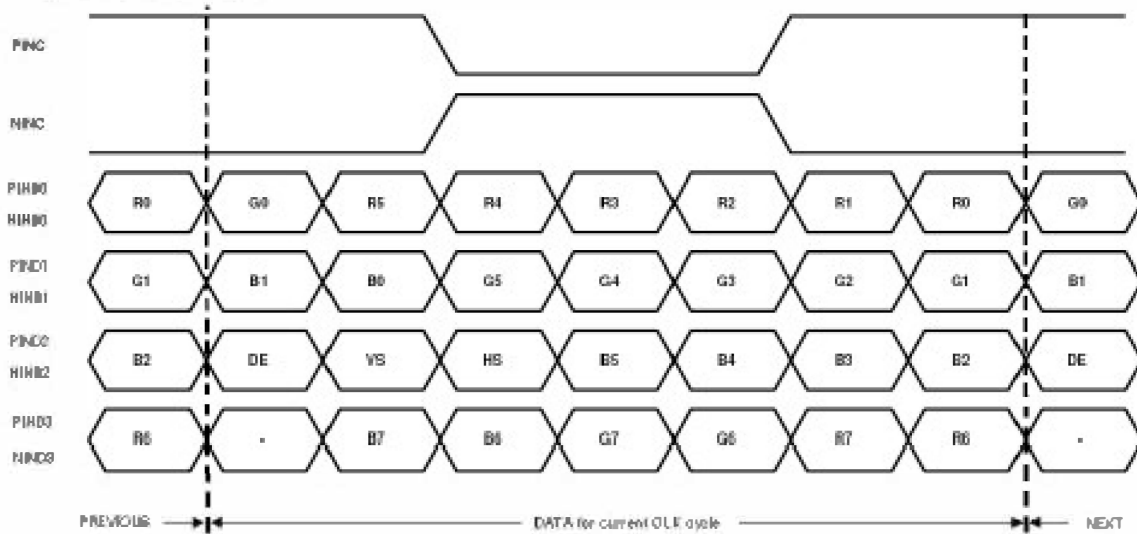


### 3.5.3 LVDS Input Data mapping

6 Bit LVDS input



### 8 Bit LVDS input





## 4.0 Interface Pin Connection

FPC Connector is used for the module electronics interface. The recommended model is FH12A-40S-0.5SH manufactured by Hirose.

Pin No.	Symbol	I/O	Function	Remark
1	VCOM	P	Common Voltage	
2	VDD	P	Power Voltage for digital circuit	
3	VDD	P	Power Voltage for digital circuit	
4	NC	---	No connection	
5	Reset	I	Global reset pin	
6	STBYB	I	Standby mode, Normally pulled high STBYB = "1", normal operation STBYB = "0", timing controller, source driver will turn off, all output are High-Z	
7	GND	P	Ground	
8	RXIN0-	I	- LVDS differential data input	
9	RXIN0+	I	+ LVDS differential data input	
10	GND	P	Ground	
11	RXIN1-	I	- LVDS differential data input	
12	RXIN1+	I	+ LVDS differential data input	
13	GND	P	Ground	
14	RXIN2-	I	- LVDS differential data input	
15	RXIN2+	I	+ LVDS differential data input	
16	GND	P	Ground	
17	RXCLKIN-	I	- LVDS differential clock input	
18	RXCLKIN+	I	+ LVDS differential clock input	
19	GND	P	Ground	
20	RXIN3-	I	- LVDS differential data input	
21	RXIN3+	I	+ LVDS differential data input	
22	GND	P	Ground	
23	NC	---	No connection	
24	NC	---	No connection	
25	GND	P	Ground	
26	NC	---		



27	DIMO	O	Backlight CABC controller signal output	
28	SELB	I	6bit/8bit mode select	Note1
29	AVDD	P	Power for Analog Circuit	
30	GND	P	Ground	
31	LED-	P	LED Cathode	
32	LED-	P	LED Cathode	
33	L/R	I	Horizontal inversion	Note3
34	U/D	I	Vertical inversion	Note3
35	VGL	P	Gate OFF Voltage	
36	CABCEN1			
37	CABCEN0			
38	VGH	P	Gate ON Voltage	
39	LED+	P	LED Anode	
40	LED+	P	LED Anode	

**I: input O: output P: power**

**Note 1:** Global reset pin: Active low to enter reset mode. Suggest connecting with an RC reset circuit for stability. Normally pull high. (R=10K , C=0.1μF) **Note:** If RC is not added, users must follow the rule, T2 > 50ms on page 18 item 6.5 power on/off sequence.

**Note 2:** When L/R="0", set right to left scan direction.

When L/R="1", set left to right scan direction.

When U/D="0", set top to bottom scan direction.

When U/D="1", set bottom to top scan direction.

**Note3:** If LVDS input data is 6 bits, SELB must be set to High;

If LVDS input data is 8 bits, SELB must be set to Low.

## 4.1 TFT LCD Module

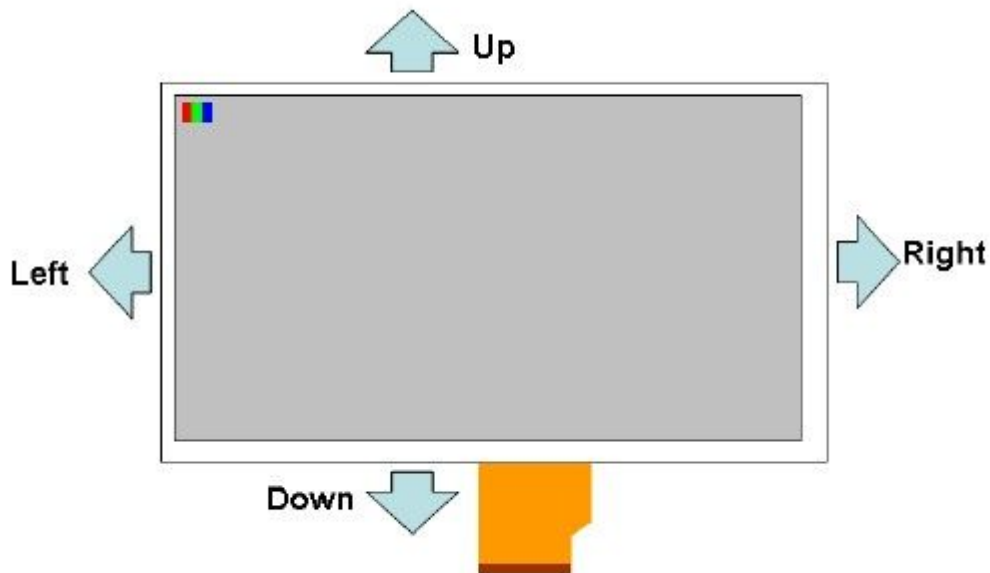
Remarks :

- 1) Mating connector : 089N60-000100-G2-R (STARCONN)
- 2) DITH and SELB control function

DITH	SELB	FUNCTION
0	1	Colors (262K)
0	0	Colors (262K)
1	1	Colors (262K)
1	0	Colors (16.2M)

- 3) UPDN and SHLR control function

UPDN	SHLR	FUNCTION
0	1	Normal display
0	0	Inverse Left and Right
1	1	Inverse Up and Down
1	0	Inverse Left and Right Inverse Up and Down



**5.0 Reliability test items**

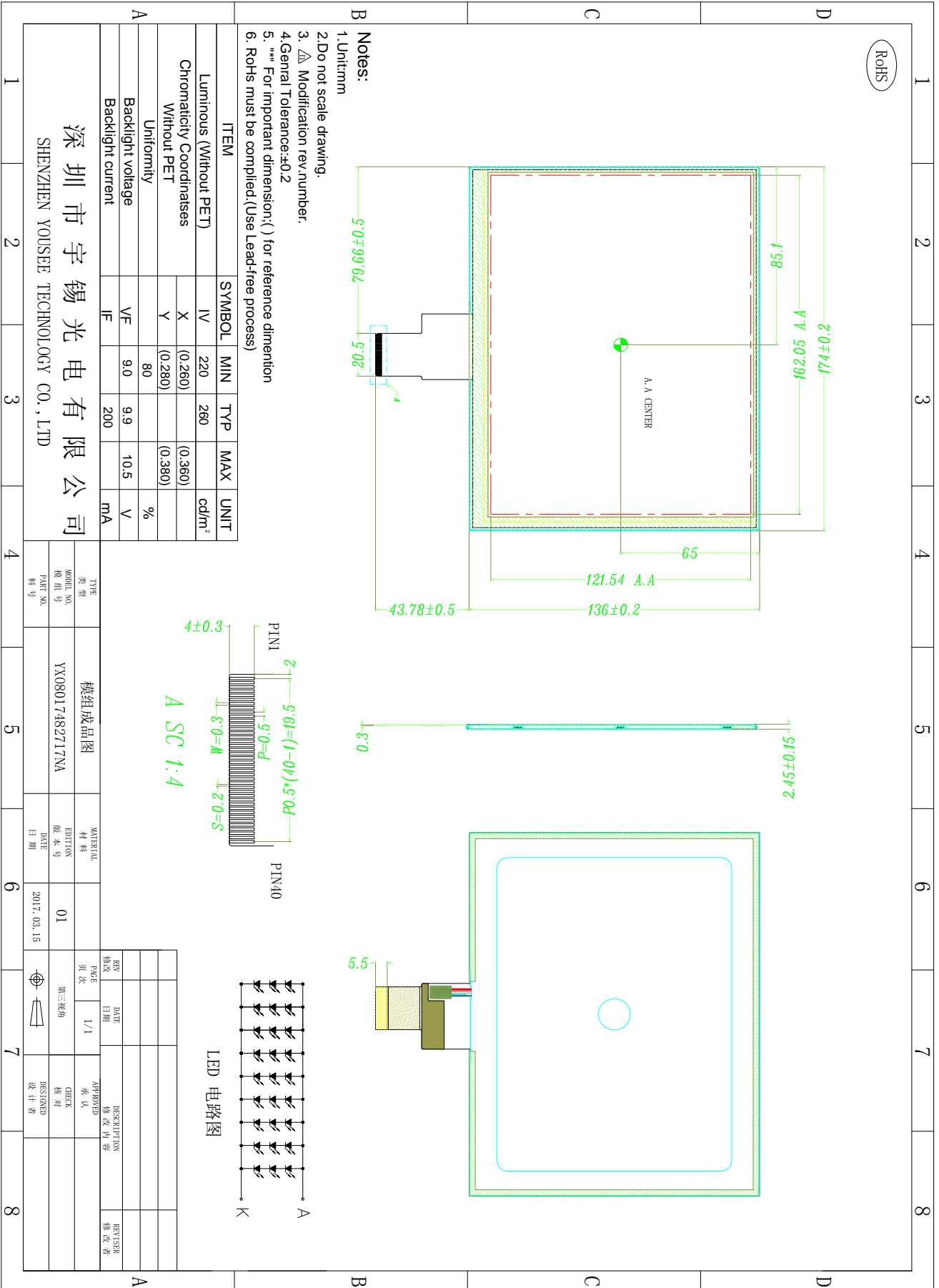
NO	Item	Conditions	Remark
1	High Temperature Storage	Ta=+60℃,48hrs	
2	Low Temperature Storage	Ta=-20℃,48hrs	
3	High Temperature Operation	Ta=+50℃,48hrs	
4	Low Temperature Operation	Ta=-10℃,48hrs	
5	High Temperature and High Humidity (operation)	Ta=+40℃,80%RH,48hrs	
6	Thermal Cycling Test (non operation)	-20℃(0.5hr)→+60℃(0.5hr),100cycles	
7	Vibration	1.Random:1.04G,10-500HZ,X,Y,Zdirection 30min/each direction 2.Sweep sine:1.5G, 5~500Hz, X/Y/Z,30min/each direction	
8	Shock	100G,6ms, ±X, ±Y, ±Z 3 time for each direction	JIS C7021, A-10 (Condition A)
9	Vibration (with carton)	Random:1.04Grms, 10~500Hz, X/Y/Z 45min/each direction Fixed:5Hz, 1.5Grms, X/Y/Z 45min/each direction	
10	Drop (with carton)	Height: 60cm 1 corner, 3 edges, 6 surfaces	JIS Z0202
11	Electrostatic Discharge	±200V,200PF,0Q1 time/each terminal	

Note: All tests above are practiced at module type.

There is no display function NG issue occurred, All the cosmetic specification is judged before the reliability stress.



# 6.0 Outline dimension



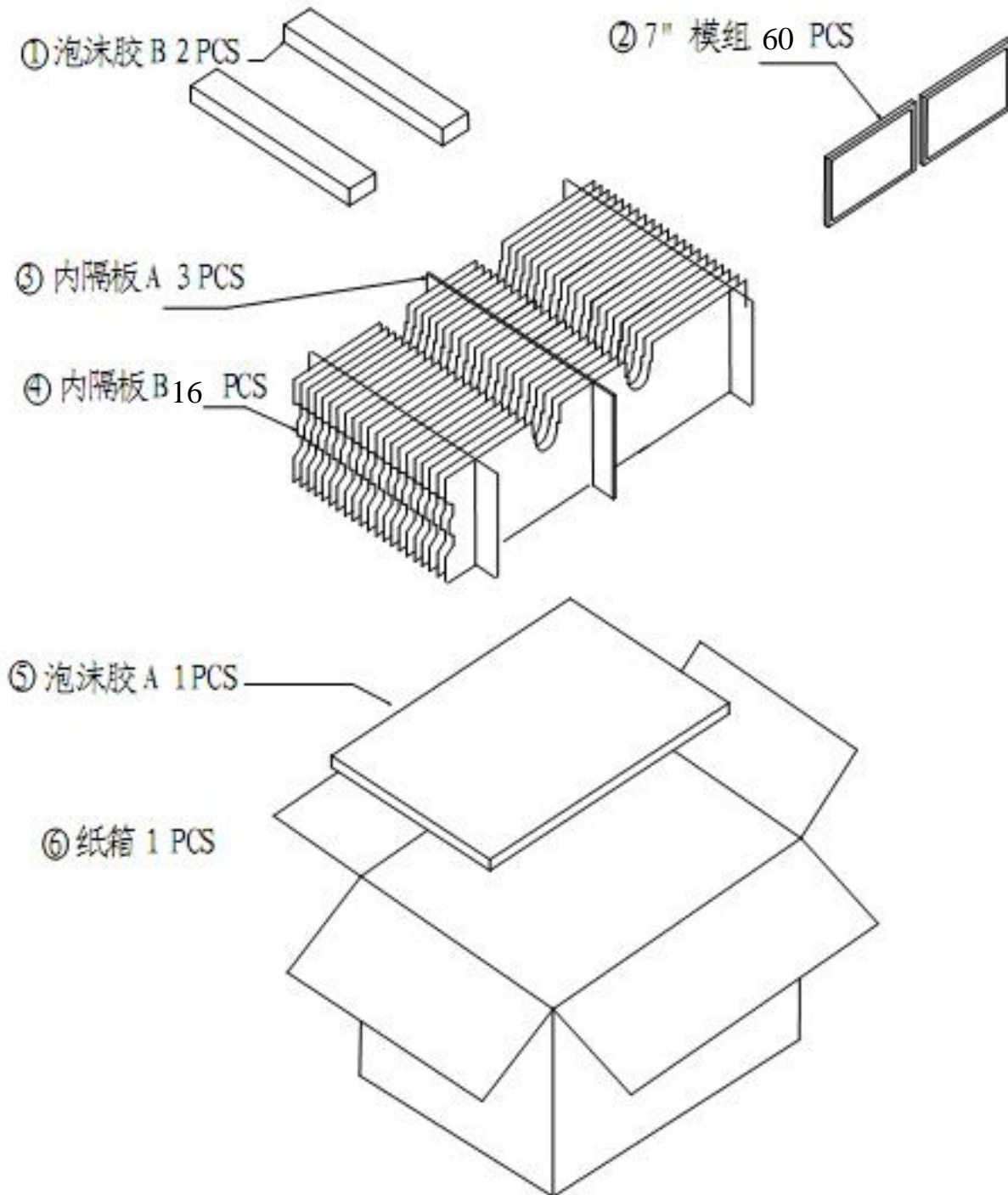
深圳市宇锡光电有限公司  
SHENZHEN YOUSEE TECHNOLOGY CO., LTD

TYPE	模组成品图	MATERIAL	
MODEL NO.	YX08017482717NA	EDITION	01
PART NO.		DATE	2017.03.15

REV	DATE	DESCRIPTION	REVISER
修改		修改内容	修改者
PAGE	1/1	APPROVED	
页次		承认	
		检查	
		核对	
		设计者	

## 7.0 Packing form

### 7.1 Packing form 1





## 8.0 General Precaution

### 8.1 Use Restriction

This product is not authorized for use in life supporting systems, aircraft navigation control systems, military systems and any other application where performance failure could be life-threatening or otherwise catastrophic.

### 8.2 Assembly Precaution

8.2.1 Please use the mounting hole on the module side in installing and do not bending or wrenching LCD in assembling. And please do not drop, bend or twist LCD module in handling.

8.2.2 Please design display housing in accordance with the following guide lines.

8.2.2.1 Housing case must be destined carefully so as not to put stresses on LCD all sides and not to wrench module. The stresses may cause non-uniformity even if there is no non-uniformity statically.

8.2.2.2 Keep sufficient clearance between LCD module back surface and housing when the LCD module is mounted. The clearance in the design is recommended taking into account the tolerance of LCD module thickness and mounting structure height on the housing.

8.2.3 Please do not push or scratch LCD panel surface with any-thing hard. And do not soil LCD panel surface by touching with bare hands. ( Polarizer film, surface of LCD panel is easy to be flawed.)

8.2.4 Please do not press any parts on the rear side such as source IC, gate IC, and FPC during handling LCD module. If pressing rear part is unavoidable, handle the LCD module with care not to damage them.

8.2.5 Please wipe out LCD panel surface with absorbent cotton or soft cloth in case of it being soiled.

8.2.6 Please wipe out drops of adhesives like saliva and water on LCD panel surface immediately. They might damage to cause panel surface variation and color change.

8.2.7 Please do not take a LCD module to pieces and reconstruct it. Resolving and reconstructing modules may cause them not to work well.

### 8.3 Disassembling or Modification

Do not disassemble or modify the module. It may damage sensitive parts inside LCD module, and may cause scratches or dust on the display. HannStar does not warrant the module, if customers disassemble or modify the module.

### 8.4 Breakage of LCD Panel

8.4.1 If LCD panel is broken and liquid crystal spills out, do not ingest or inhale liquid crystal, and do not contact liquid crystal with skin.

8.4.2 If liquid crystal contacts mouth or eyes, rinse out with water immediately.

8.4.3 If liquid crystal contacts skin or cloths, wash it off immediately with alcohol and rinse thoroughly with water.

8.4.4 Handle carefully with chips of glass that may cause injury, when the glass is broken.



## 8.5 Absolute Maximum Ratings and Power Protection Circuit

8.5.1 Do not exceed the absolute maximum rating values, such as the supply voltage variation, input voltage variation, variation in parts' parameters, environmental temperature, etc., otherwise LCD module may be damaged.

8.5.2 Please do not leave LCD module in the environment of high humidity and high temperature for a long time.

8.5.3 It's recommended employing protection circuit for power supply.

### 8.6 Operation

8.6.1 Do not touch, push or rub the polarizer with anything harder than HB pencil lead. Use fingerstalls of soft gloves in order to keep clean display quality, when persons handle the LCD module for incoming inspection or assembly.

8.6.2 When the surface is dusty, please wipe gently with absorbent cotton or other soft material.

8.6.3 Wipe off saliva or water drops as soon as possible. If saliva or water drops contact with polarizer for a long time, they may causes deformation or color fading.

8.6.4 When cleaning the adhesives, please use absorbent cotton wetted with a little petroleum benzine or other adequate solvent.

## 8.7 Static Electricity

8.7.1 Protection film must remove very slowly from the surface of LCD module to prevent from electrostatic occurrence.

8.7.2 Because LCD module uses CMOS-IC on TFT-LCD panel, it is very weak to electrostatic discharge. Please be careful with electrostatic discharge.

8.7.3 Persons who handle the module should be grounded through adequate methods.

## 8.8 Disposal

When disposing LCD module, obey the local environmental regulations.

## 8.9 OTHERS

8.9.1 A strong incident light into LCD panel might cause display characteristics' changing inferior because of polarizer film, color filter, and other materials becoming inferior.

Please do not expose LCD module direct sunlight land strong UV rays.

8.9.2 Please pay attention to a panel side of LCD module not to contact with other materials in preserving it alone.

8.9.3 For the packaging box, please pay attention to the followings:

8.9.3.1 Packaging box and inner case for LCD are designed to protect the LCDs from the damage or scratching during transportation. Please do not open except picking LCDs up from the box.

8.9.3.2 Please do not pile them up more than 6 boxes. (They are not designed so.) And please do not turn over.

8.9.3.3 Please handle packaging box with care not to give them sudden shock and vibrations. And also please do not throw them up.

8.9.3.4 Packing box and inner case for LCDs are made of cardboard. So please pay attention not to get them wet. (Such like keeping them in high humidity or wet place can occur getting them wet.)