



LCD Module SPECIFICATION

液晶显示模组规格书

ZX3D95C4848RE05P

深圳市启明显示技术有限公司

1. Revision History (修订记录)

修订内容	时间	修订人	备注

深圳市启明智显科技有限公司

2. Application (应用)

This data sheet is to introduce the specification of ZX3D95C4848RE05P active matrix 16.7M color TFT LCD module. Main color LCD module is controlled by Driver IC GC9503CV. If any problem occurs concerning the items not stated in this specification, it must be solved sincerely by both parties after deliberation. As to basic specification of driver IC refer to the IC specification and handbook.

本规格书是为了介绍 ZX3D95C4848RE05P 有源矩阵 16.7M 彩色 TFT LCD 模块的规格。主彩色液晶显示模块由驱动芯片 GC9503CV 控制 本规范未尽事宜如有问题，双方必须认真协商解决。驱动 IC 的基本规格参照《IC 规格书》和相关《手册》。

3. Construction and Outline (结构与大纲)

Construction: LCD panel, Driver (COG), FPC with electric components, 8 White LED lump, prism sheet, diffuser, light guide and reflector, plastic frame to fix them mechanically. There shall be no scratches, stains, chips, distortions, and other external drawbacks that may affect the display function. To realize thin module structure, double-sided adhesive tapes are used to fix LCD panels. As these tapes do not guarantee to permanently fix the panels, LCD panel may rise from the module when shipped from factory. So please make sure to design the system to hold the edges of LCD panel by the soft material such as sponge when LCD module is assembled into the cabinet.

结构:液晶面板，驱动或 COG，带电子元件的 FPC，8 个白光 LED 块，棱镜片，扩散器，导光器和反射器，塑料框架机械固定。不应有可能影响显示功能的划痕、污迹、芯片、畸变等外部缺陷。为了实现薄型模块结构，采用双面胶带固定液晶面板。由于这些胶带不能保证永久有效固定面板，LCD 面板在出厂时可能会从模块内移动。所以在液晶模块组包装和进柜时，请务必将包装设计成用海绵等软材料支撑液晶面板的边缘。

4. Mechanical Specification (参数规格) Table 1 (表 1)

Item(项目)	Specifications (规格)	Unit(单位)
Screen size(屏幕尺寸)	3.95	inch
Display mode(显示模式)	RGB	-
Active area(显示范围)	71.86(H) X 70.18(V)	mm
Display format(分辨率)	480(H)* RGB x 480 (V)	-
Pixel configuration(像素)	0.1497(H)*RGB*0.1462(V)	mm
Outline Dimensions(外形尺寸)	84(W) × 84(H) × 3.73(D)	Note 1
View Angle(视角)	FULL	
Base color Notes(基色)	Black	-
Weight(重量)	TBD	
Driver IC(驱动 IC)	GC9503CV	

Note 1: Not include FPCs & Bezel extrude structure.

备注 1: 不包括排线和面板构造

5. LCD Module Outline dimensions (模组外形图)

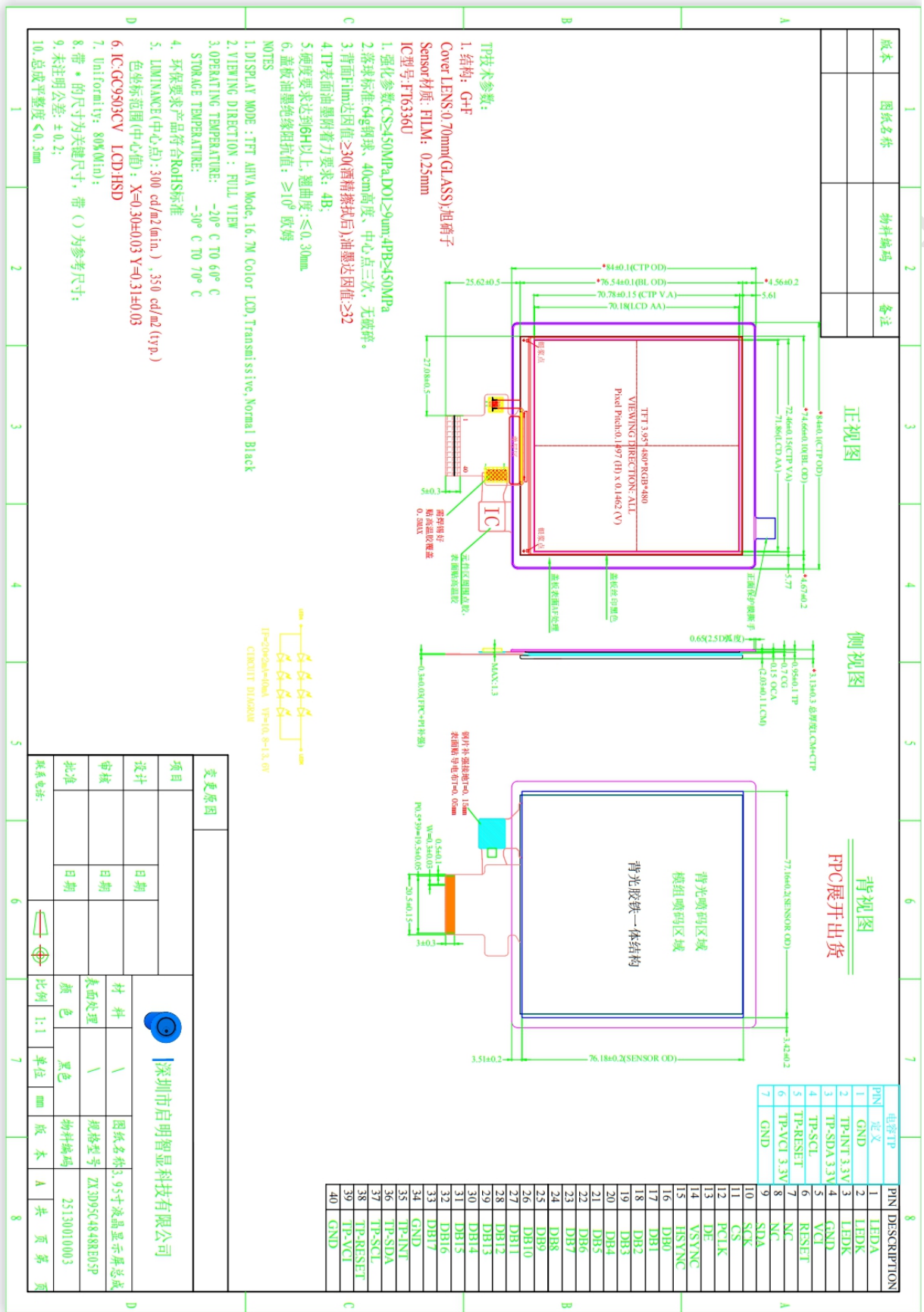


Fig. 1 (图 1)

6. Interface signals (接口信号) Table 2 (表 2)

Pin No.	Symbol	Description	Remark
1	LEDA	Power Supply for LED Backlight Anode Input	
2-3	LEDK	Power Supply for LED Backlight Cathode Input	
4	GND	GND	
5	VCI	Power Supply for LCD	
6	RESET	Reset Signal input pin	
7-8	NC	NC	
9	SDA	Serial data input/output pin	
10	SCK	Serial data input pin	
11	CS	Chip selection signal pin	
12	PCLK	Dot clock signal for RGB interface operation	
13	DE	Data enable signal for RGB interface operation	
14	VSYNC	Frame synchronous signal for RGB interface operation	
15	HSYNC	Line synchronous signal for RGB interface operation	
16-33	DB0-DB17	Corresponding RGB data component	
34	GND	GND	
35	TP_INT (3.3V)	CTP interrupt request	
36	TP_SDA (3.3V)	Serial data input/output pin	
37	TP_SCL	Serial clock signal pin	
38	TP_RESET	Reset Signal input pin	
39	TP_VCC (3.3V)	Power Supply for CTP	
40	GND	GND	

7. ELECTRICAL CHARACTERISTICS (电气特征)

7.1 ABSOLUTE MAXIMUM RATINGS (绝对最大额定值) Table 3(表 3)

Item	Symbol	Values		Unit	Remark
		Min.	Max.		
Digital Supply Voltage	VDD	2.5	3.6	V	ST7701S spec

7.2 Operating Conditions (工作条件) Table 4(表 4)

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Digital Supply Voltage	VDD	2.5	2.8	3.3	V	
Analog power supply	IOVCC	1.65	1.8	3.3	V	

Note1: Please adjust VCOM to make the flicker level be minimum

Note2: TYP VCOM is only reference value. It must be optimized according to each LCM. Be sure to use VR and OP buffer on VCOM output. Please adjust VCOM to make the flicker level be minimum for getting excellent image.

7.3 Current Consumption (电流消耗) Table 5(表 5)

Parameter	Symbol	Condition	Values			Unit	Remark
			Min.	Typ.	Max.		
Digital Current	IVDD	VDD= 3.3V	-	50	-	mA	
Total Power Consumption	PC		-	TBD	TBD	mW	

8. LED back light (背光灯) Table 6(表 6)

At main panel the back light uses 8 pcs edge light type white LED. 在背光的主面板用 8 颗白色 LED 灯

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED Voltage	VLED	10.8	-	13.6	V	[Note 5-2]
LED Current	ILED	40	-	40	mA	
Power Consumption	WLED	432	-	544	mW	[Note 5-2]
Number of LED components		8			PCS	
Connection Type		4*2 pcs LEDs				

Note:

*8 pcs of LED

*Please consider Allowable Forward Current on used temperature *8 颗灯

* 请考虑允许范围内的正向电流的使用温度

■ Ambient Temperature vs. Allowable Forward Current

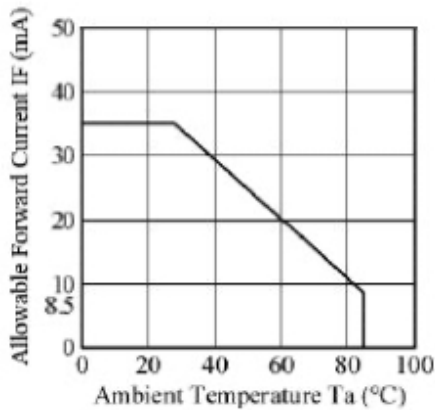


Fig. 2 (图 2)

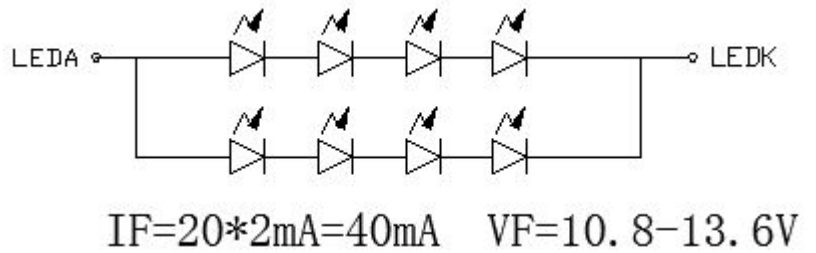


Fig. 3*Schematics drawing of lighting (绘制照明图 图.3)

Note: Logic high and low levels are specified as 30% and 70% of 10VCC for Input signals.

Note: Ta = -30 to 70 ° C, 10VCC=1.65V to 3.3V, VCI=2.5V to 3.3V, GND=0V

备注: 指定逻辑高和低电平作为输入信号 10VCC 的 70%和 30%。

备注: Ta = -30 to 70 ° C, 10VCC=1.65V to 3.3V, VCI=2.5V to 3.3V, GND=0V

9. Optical Characteristics (光学特征) Table 7 (表 7)

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
Response time	Rise +Fall	Tr+Tf	$\theta = 0^\circ$		35	-	ms	
Brightness		Br	$\theta = 0^\circ$	300	350		Cd/m ²	
Contrast ratio		CR	$\theta = 0^\circ$	640	-		-	
Viewing angle (with Polarizer)	Top		CR \geq 10	70	80		degree	
	Bottom			70	80			
	Left			70	80			
	Right			70	80			
White Chromaticity		X	CIE	0.27	0.30	0.33	-	-
		Y		0.28	0.31	0.34	-	-
NTSC			-	55			%	-

10. General Precaution (一般注意事项)

10.1 Safety

1. Do not swallow any liquid crystal, even if there is no proof that liquid crystal is poisonous.
2. If the LCD panel breaks, be careful not to get liquid crystal to touch your skin.
3. If skin is exposed to liquid crystal, wash the area thoroughly with alcohol or soap.

10.2 Storage Conditions

1. Store the panel or module in a dark place where the temperature is $23\pm 5^{\circ}\text{C}$ and The humidity is below $50\pm 20\%RH$.
2. Store in anti-static electricity container.
3. Store in clean environment, free from dust, active gas, and solvent.
4. Do not place the module near organics solvents or corrosive gases.
5. Do not crush, shake, or jolt the module.

10.3 Handling Precautions

1. Avoid static electricity which can damage the CMOS LSI.
2. The polarizing plate of the display is very fragile. So, please handle it very carefully.
3. Do not give external shock.
4. Do not apply excessive force on the surface.
5. Do not wipe the polarizing plate with a dry cloth, as it may easily scratch the surface of plate.
6. Do not use ketonic solvent & Aromatic solvent, use with a soft cloth soaked with a cleaning naphtha solvent.
7. Do not operate it above the absolute maximum rating.
8. Do not remove the panel or frame from the module.
9. When the module is assembled, it should be attached to the system firmly, be careful not to twist and bend the module.
10. Wipe off water droplets or oil immediately. If you leave the droplets for a long time, staining and discoloration may occur.
11. If the liquid crystal material leaks from the panel, it should be kept away from the eye so mouth in case of contact with hands, legs or clothes, it must be head way thoroughly with soap.

10.4 Warranty

1. The period is within twelve months since the date of shipping out under normal using and storage conditions.
2. Do not repaired or modified the LCM. It may cause function to lose efficacy, Starry does not warrant the LCM.
3. All process and material comply ROHS.

11. Contact information (联系信息)

网址: [http://www. panel-tag.cn/](http://www.panel-tag.cn/)

联系邮箱: panlee@smartpanle.com

样品购买地址: <https://shop212317088.taobao.com/>

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