



LCD Module SPECIFICATION

液晶显示模组规格书

ZX1D54N2424SE001

1. Revision History (修订记录)

修订内容	时间	修订人	备注

2. Application (应用)

This data sheet is to introduce the specification of ZX1D54N2424SE001 active matrix 16.7M color TFT LCD module. Main color LCD module is controlled by Driver IC ST7789V. 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 ZX1D54N2424SE001 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 ST7789V 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, 3 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，3 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)	1.54	inch
Display mode (显示模式)	TFT	-
Active area (显示范围)	27.72(H)×27.72(V)	mm
Display format (分辨率)	240×RGB×240	-
Dot Size (点距)	0.1155(H) X0.1155(V)	mm
Pixel configuration (像素)	R. G. B. strip	-
Outline Dimensions (外形尺寸)	31.52(W)×33.72(H)×2.02(D)	Note 1
View Angle (视角)	FULL	
Base color Notes (基色)	Normal Black	-
Weight (重量)	TBD	
Driver/ CTP IC (驱动/触摸 IC)	ST7789V	

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)

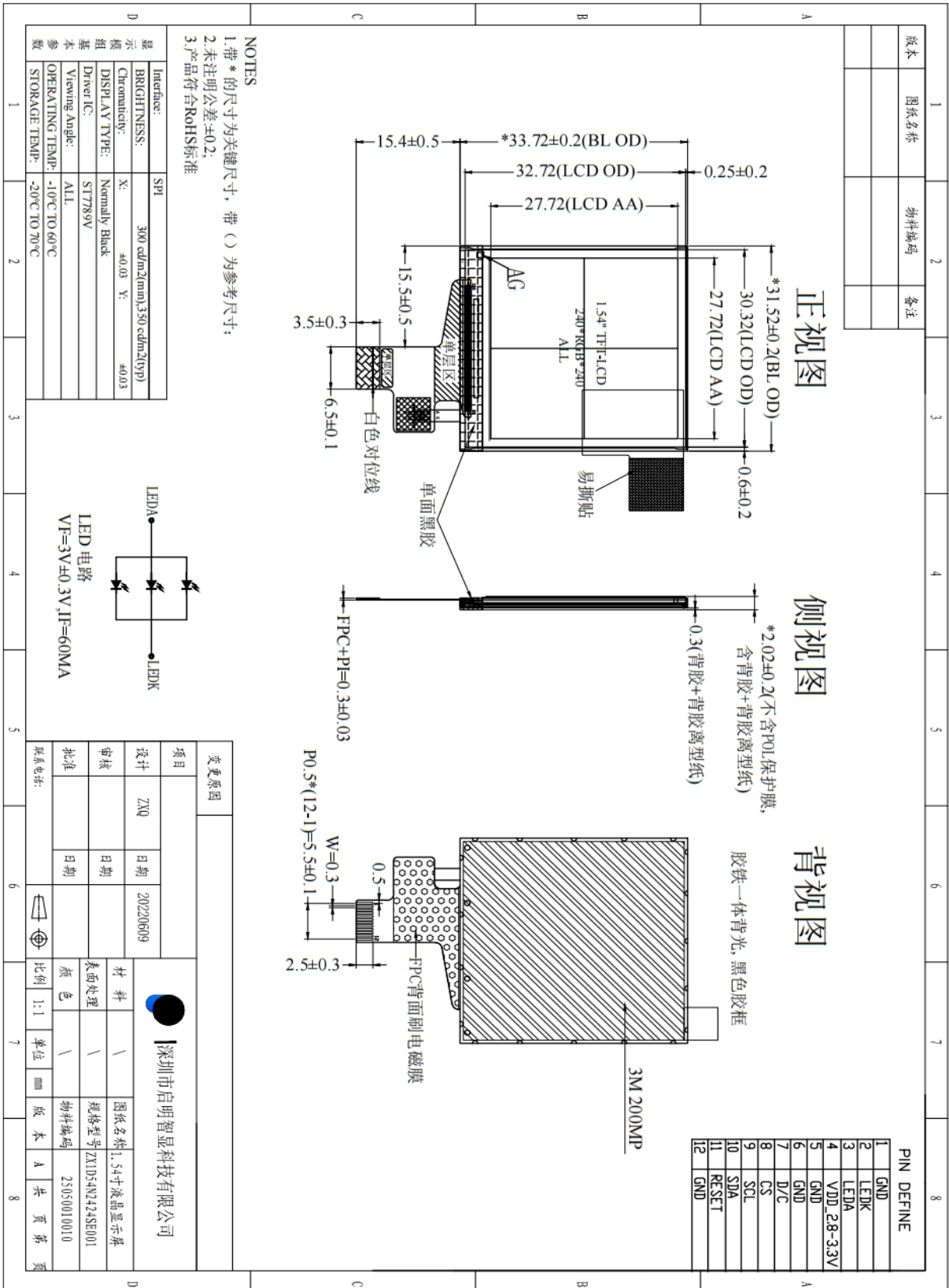


Fig.1 (图 1)

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

Pin No.	LCD 接口 pin 定义	LCD 接口说明
1	GND	地
2	BL_K	背光电源负极
3	BL_A	背光电源正极
4	VDD_2.8-3.3V	电源 2.8V
5	GND	地
6	GND	地
7	D/C	Write enable in MCU parallel interface
8	CS	Chip selection pin
9	SCL	Display data/command selection pin in parallel interface
10	SDA	The data is latched on the rising edge of the SCL signal.
11	RESET	This signal will reset the device and it must be applied to properly initialize the chip
12	GND	地

Notes: 2.FPC Connector 30pin

备注: 2.12pin 排线连接器定义

7. LED back light(背光灯)

At main panel the back light uses 3 pcs edge light type white LED. 在背光的主面板用 3 颗白色 LED 灯

Parameter (参数)	Symbol (样品)	Min. (最小值)	Typ. (标准值)	Max. (最大值)	Unit (单位)	Remark (备注)
LED Voltage (LED 电压)	VLED	2.7	3.0	3.3	V	[Note 5-2]
LED Current (LED 电流)	ILED	-	60	-	mA	
Power Consumption (电功率)	WLED	-	180	-	mW	[Note 5-2]
Number of LED components (LED 组成部件数量)		3			PCS (片)	
Connection Type(Serial/Parallel/Other) 连接类型(串联/并联/其他)		1x3 LEDs				

Note:

- *3 pcs of LED
- *Please consider Allowable Forward Current on used temperature
- *3 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

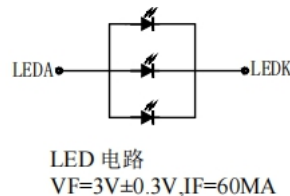
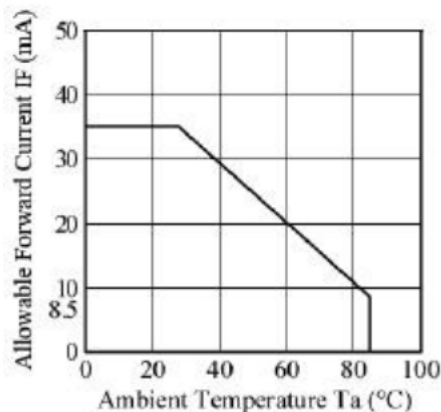


Fig. 2 (图 2)

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 IOVCC for Input signals.

Note: Ta = -30 to 70 °C, IOVCC=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 IOVCC 的 70%和 30%。

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

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

Item 项目		Symbol (样品)	Condition (条件)	Min. (最小值)	Typ. (标准值)	Max. (最大值)	Unit (单位)	Remark (备注)
Response time (响应时间)	Rise (上升) +Fall (下降)	Tr+Tf	$\theta=0^\circ$	-	-	35	ms	
Brightness (亮度)		Br	$\theta=0^\circ$	-	350	-	Cd/m ²	
Contrast ratio (对比度)		CR	$\theta=0^\circ$	800	1000	-	-	Note 1,2,6
Viewing angle(with Polarizer) (视角)	Top (顶部)		90°	80	-	-	degree	Note 1,2,6,7
	Bottom (底部)		270°	80	-	-		
	Left (左边)		180°	80	-	-		
	Right (右边)		0°	80	-	-		
White Chromaticity (白色色度)		X	$\theta=0^\circ$	0.265	0.295	0.325	-	Note 1,3
		Y		0.295	0.325	0.355	-	
NTSC (色彩饱和度)			-	64	69	-	%	Note 1,3

9. General Precaution (一般注意事项)

9.1 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.

9.2 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.

9.3 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.

9.4 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.

10. 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/>

微信公众号: 启明智显

