



LCD Module SPECIFICATION

液晶显示模组规格书

ZX4D58N3296QG825

0. Revision History (修订记录)

修订内容	时间	修订人	备注

1. Application (应用)

This data sheet is to introduce the specification of ZX4D58N3296QG825 active matrix 16.7M color TFT LCD module. Main color LCD module is controlled by Driver IC ST7701. 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 ZX4D58N3296QG825 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 **ST7701** 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》。

2. 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，请务必将包装结构设计成用海绵等软材料支撑液晶面板的边缘。

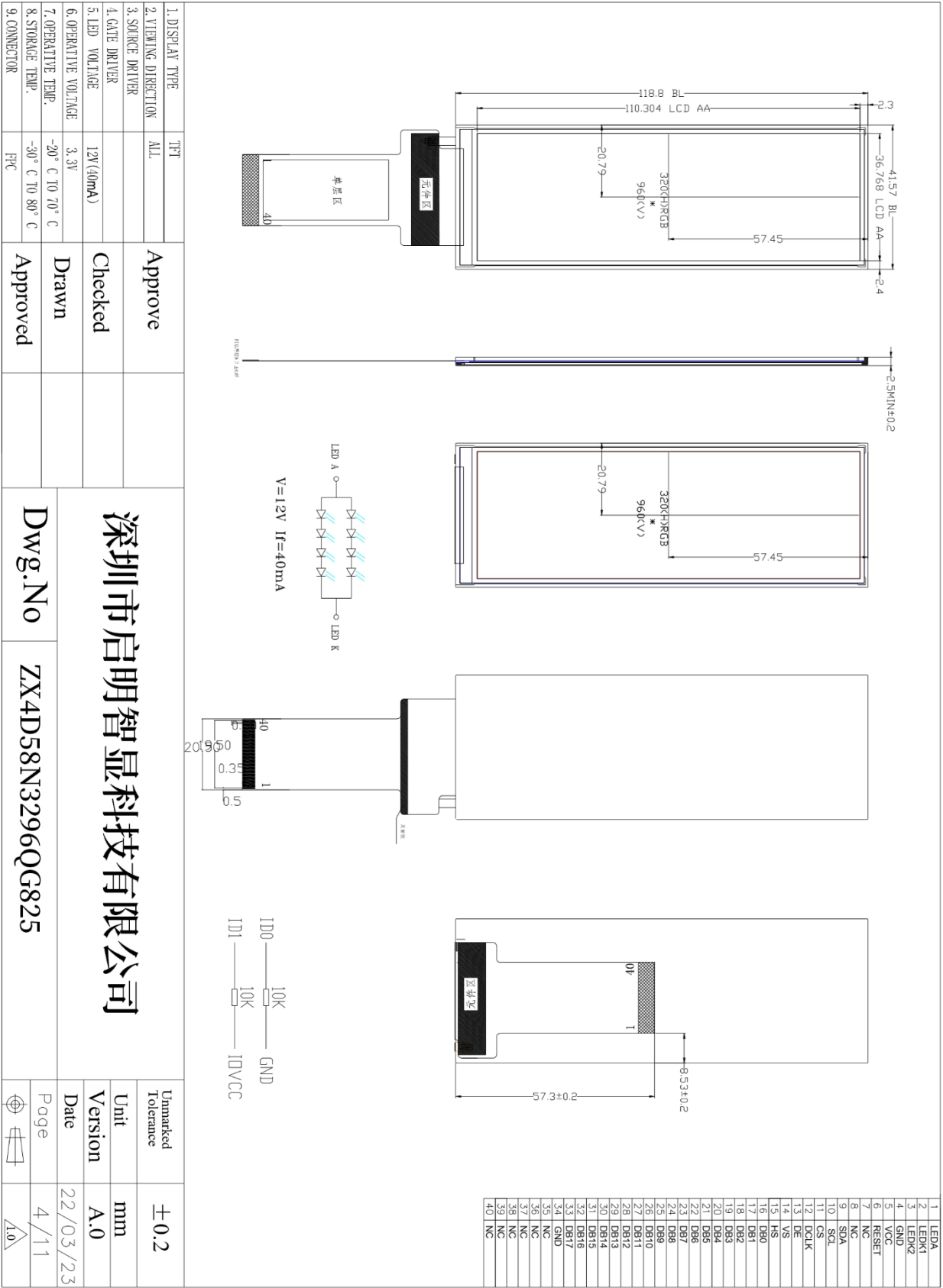
3. Mechanical Specification (参数规格) Table 1 (表 1)

Item(项目)	Specifications(规格)	Unit(单位)
Screen size(屏幕尺寸)	4.58	inch
Display mode(显示模式)	Normally Black	-
Active area(显示范围)	36.768 x 110.304	mm
Display format(分辨率)	320(horizontal)*960(Vertical)	-
Pixel configuration(像素)	R. G. B. Vertical Stripe	
Outline Dimensions(外形尺寸)	41.57*118.8*2.5	Note 1
View Angle(视角)	FULL	
Base color Notes(基色)	Black	-
Weight(重量)	TBD	
Driver IC(驱动 IC)	ST7701	

Note 1: Not include FPCs & Bezel extrude structure.

备注 1: 不包括排线和面板构造

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



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 Dwg.No ZX4D58N3296QG825

Unmarked Tolerance	±0.2
Unit	mm
Version	A.0
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Fig. 1 (图 1)

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

Pin. No	Symbol	Function
1	VLED+	Power for LED backlight (Anode)
2-3	VLED-	Power for LED backlight (Cathode)
4	GND	Power ground
5	VDD	Power Supply 2.8V
6	RSTB	LCM RESET signals
7	IOVCC	Power Supply to the IO
8	GND	Power ground
9	SDA	SPI Data signal
10	SCL	SPI Clock signal
11	CS	SPI Chip select signal
12	DCLK	RGB dot clock signal
13	DE	RGB data enable signal
14	VS	RGB frame synchronizing signal
15	HS	RGB line synchronizing signal
16-33	DB0-DB17	RGB data signal
34	GND	Ground
35	TP_INT/NC	Touch Interrupt/NC
36	TP_SDA/NC	Touch IIC Data signal/NC
37	TP_SCL/NC	Touch IIC Clock signal/NC
38	TP_RESET/NC	Touch Reset Signal/NC
39	TP_VCI/NC	Touch Power supply/NC
40	GND	Ground

6. ELECTRICAL CHARACTERISTICS (电气特征)

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

Item	Symbol	MIN	MAX	Unit	Remark
Supply Voltage	VDD	-0.3	3.6	V	
Input Signal Voltage	V _{in}	-0.3	VDD+0.3	V	
Logic Output Voltage	V _{OUT}	-0.3	VDD+0.3	V	
Operating Temperature	TOPR	-20	70	°C	
Storage Temperature	TSTG	-30	80	°C	

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

Parameter	Symbol	MIN	TYP	MAX	Unit	Remark
Power Voltage	V _{CC}	3.0	3.3	3.6	V	
MIPI Supply Voltage	V _{CC_IF}	1.4	--	1.6	V	
VDD Input high voltage level	V _{IH}	0.7*VDD	-	VDD	V	
VDD Input low voltage level	V _{IL}	0	-	0.3*VDD	V	
VDD Output high voltage level	V _{OH}	0.8*VDD	-	-		
VDD Output low voltage level	V _{OL}	V _{OL}	-	-	V	

7. LED back light (背光灯) Table 6(表 6)

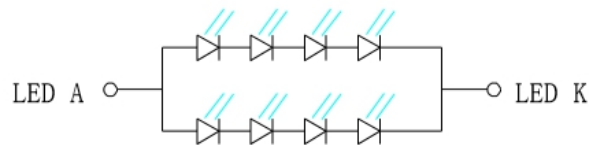
At main panel the back light uses 8 pcs edge light type white LED. 在背光的主面板用 8 颗白色 LED 灯

Item	Symbol	MIN	TYP	MAX	Unit	Remark
LED current	I_F	-	40	-	mA	Note 1 Note 2, 3
Power Consumption			-	-	mW	
LED Voltage	V_F	11.2	12	12.8	V	
LED Life Time	W_{BL}	25000		-	Hr	

Note 1 : There are 4*2 Groups LED

Note 2 : $T_a = 25^{\circ}C$

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



$$V=12V \quad I_f=40mA$$

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

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

Items	Symbol	Condition	Min.	Typ.	Max.	Unit	Remark	
Viewing angles	θ_T	Center $CR \geq 10$	-	80	-	Degree.	Note2	
	θ_B		-	80	-			
	θ_L		-	80	-			
	θ_R		-	80	-			
Contrast Ratio	CR	$\Theta = 0$	1000	1200	-	-	Note1, Note3	
Response Time	TON	25° C	-	25	35	ms	Note1, Note4	
	TOFF		-	25	35			
Chromaticity	White	Backlight is on	X_W	-	0.302	-	-	Note1, Note5
			Y_W	-	0.319	-	-	
	Red		X_R	-	0.590	-	-	
			Y_R	-	0.347	-	-	
	Green		X_G	-	0.340	-	-	
			Y_G	-	0.581	-	-	
	Blue		X_B	-	0.153	-	-	
			Y_B	-	0.104	-	-	
Uniformity	U		80	-	-	%	Note1, Note6	
NTSC				50		%	Note5	
Luminance	L		260	300			Note1, Note7	

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 $50\pm 20\%\text{RH}$.
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/>

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

