



LN80480T070IC3004

7.0 英寸，800*480 分辨率，RGB 接口，TN 屏

7.0-inch, 800*480 pixels resolution, RGB interface, TN-TFT-LCD

实物图（略）

Physical drawing (omitted)



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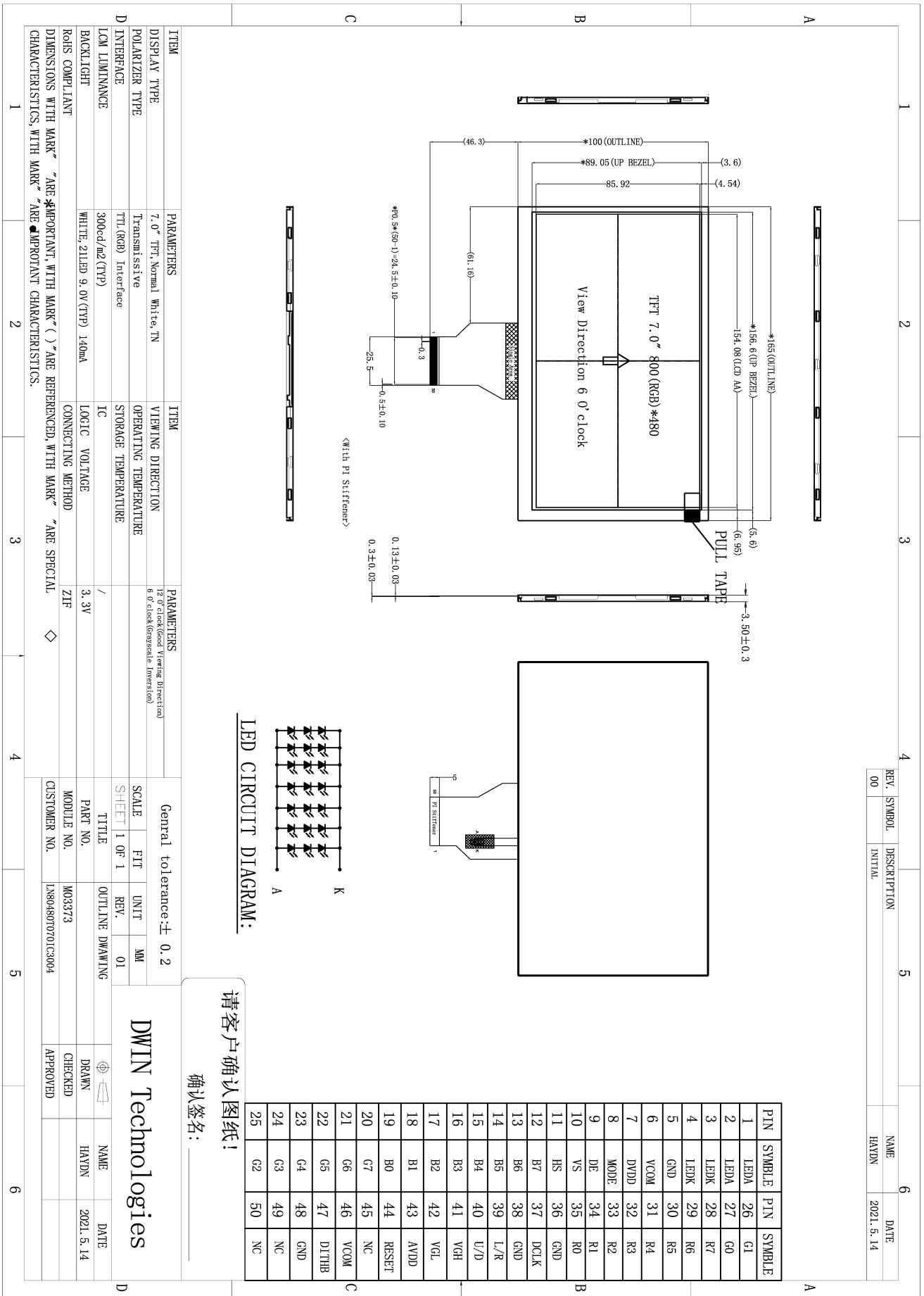


1 一般参数 / General Feature

特征 Feature		描述 Description	单位 Unit
显示规格 Display Spec.	尺寸 Size	7.0	inch
	分辨率 Resolution	800(H)*3(RGB)*480Z(V)	pixels
	像素间距 Pixel Pitch	0.1926(W)*0.179(H)	mm
	视角方向 Viewing Direction	6 o'clock	-
机械参数 Mechanical Characteristic	外形尺寸 Outside Dimension	165.0(W)*100.0(H)* 3.5(D)	mm
	有效显示区 Active Area	154.08(W)*85.92(H)	mm
	亮度 Luminance	300	cd/m ²
	LED 数量 LED Numbers	21 LEDS	-
	PIN 脚顺序 Pin Order	从左到右 From left to right	-
电气特性 Electrical Characteristics	接口 Interface	RGB	-
	色深 Color Depth	16.7M	colors
	驱动 IC Driver IC	ILI6137A+ILI5960	-
温度范围 Temperature Range	工作温度 Operating Temp.	-20~70	°C
	存储温度 Storage Temp.	-30~80	°C

Note: 符合最新 RoHS 指令要求 / Requirements on Environmental Protection : RoHS.

2 尺寸图 / Mechanical Drawing



3 输入/输出定义 / Input/Output Terminals

Pin NO.	Symbol	Function	Remark
1~2	VLED+	Power for LED backlight (Anode)	
3~4	VLED-	Power for LED backlight (Cathode)	
5	GND	Ground	
6	VCOM	For external VCOM DC input	
7	DVDD	Digital Power	
8	MODE	DE/SYNC mode select	
9	DE	Data ENEABLE signal	
10	VS	Frame synchronizing signal	
11	HS	Line synchronizing signal	
12~19	B7-B0	Data bus	
20~27	G7-G0	Data bus	
28~35	R7-R0	Data bus	
36	GND	Ground	
37	DCLK	Dot clock signal	
38	GND	Ground	
39	L/R	Left / right selection	
40	U/D	Up/down selection	
41	VGH	Positive Power for TFT	
42	VGL	Negative Power for TFT	
43	AVDD	Analog Power	
44	RESET	Global reset signal pin .Active low to enter reset state.suggest to connecting with an RC reset circuit for stability.normally pull high.	
45	NC	Not connect	
46	VCOM	For external VCOM DC input	
47	DITHB	Dithering setting.DITH="H" 6bit resolution; DITH="L" 8bit resolution(default setting)	
48	GND	Ground	
49~50	NC	Not connect	

4 电气特性 / Electrical Characteristics

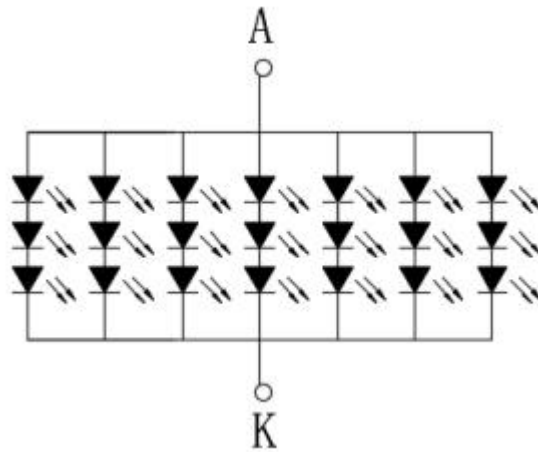
4.1 驱动规格 / Driving TFT LCD Panel

Item	Symbol	Min	Type	Max	Unit	Remark
Digital power Voltage	DVDD	3.0	3.3	3.6	V	
Analog power Voltage	AVDD	10.2	10.4	10.6	V	
Gate on voltage	VGH	-	15.0	-	V	
Gate off voltage	VGL	-	-10.0	-	V	
Common voltage	VCOM	3.7	4.0	4.2	V	

4.2 背光规格 / LED back Light Specification

Item	Symbol	Min	Type	Max	Unit	Remark
Voltage for LED Backlight	VL	8.4	9.0	9.9	V	
Current for LED Backlight	IL	-	140	-	mA	
LED life time	-	-	30000	-	hrs	

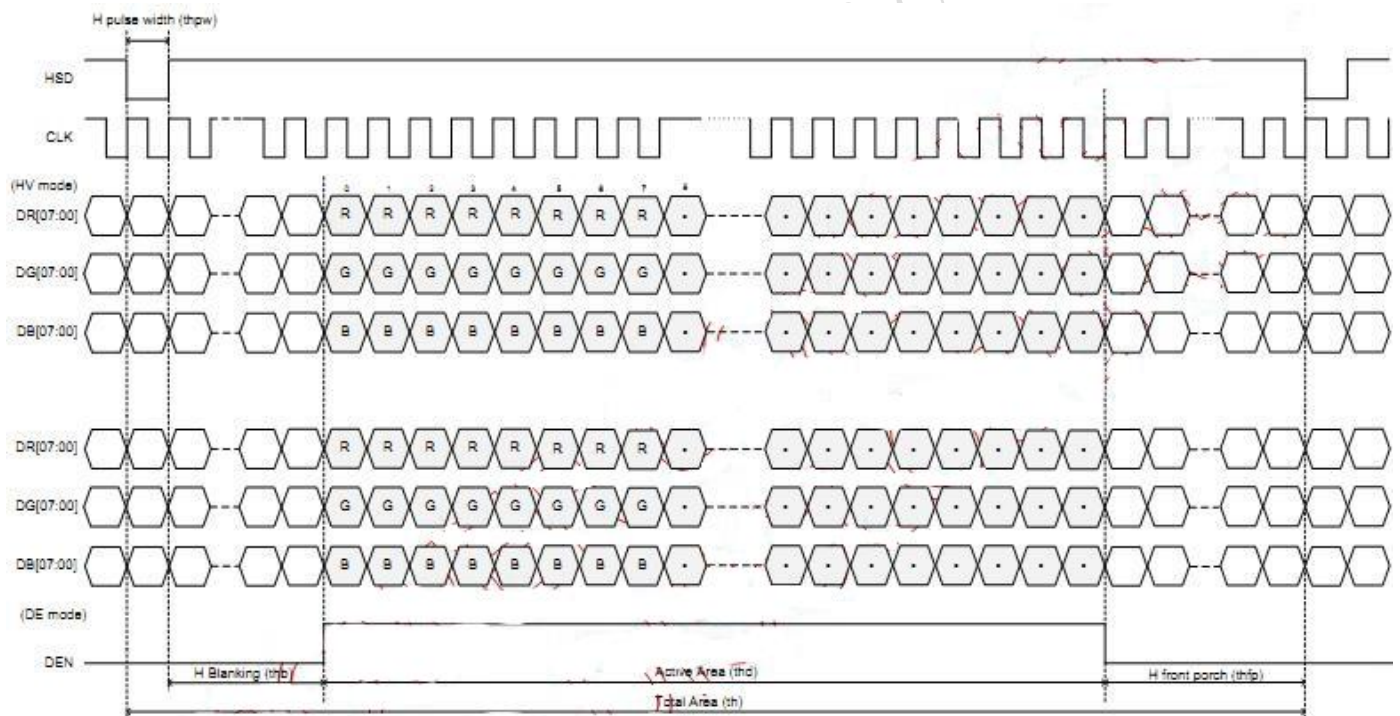
Note: 21 个 LED 灯 (3 串 7 并) 21LEDs (3LEDs Serial, 7ways Parallel)



5 时序特性 / Timing Characteristics

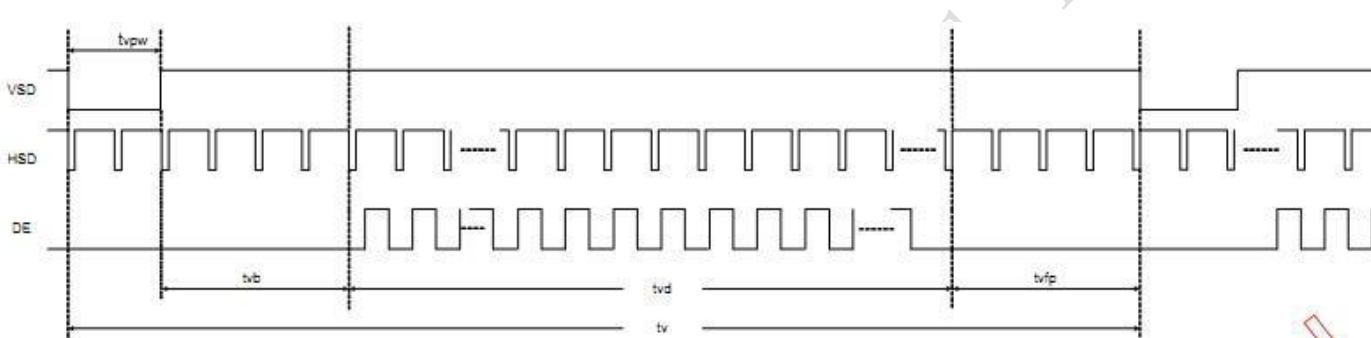
5.1 输入水平时序 Horizontal input timing

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Horizontal Display Area	thd	-	800	-	DCLK	
DCLK Frequency	fclk	26.4	33.3	46.8	MHz	
One Horizontal Line	th	862	1056	1200	DCLK	
HS pulse width	thpw	1	-	40	DCLK	
HS Blanking	thb	46	46	46	DCLK	
HS Front Porch	thfp	16	210	354	DCLK	

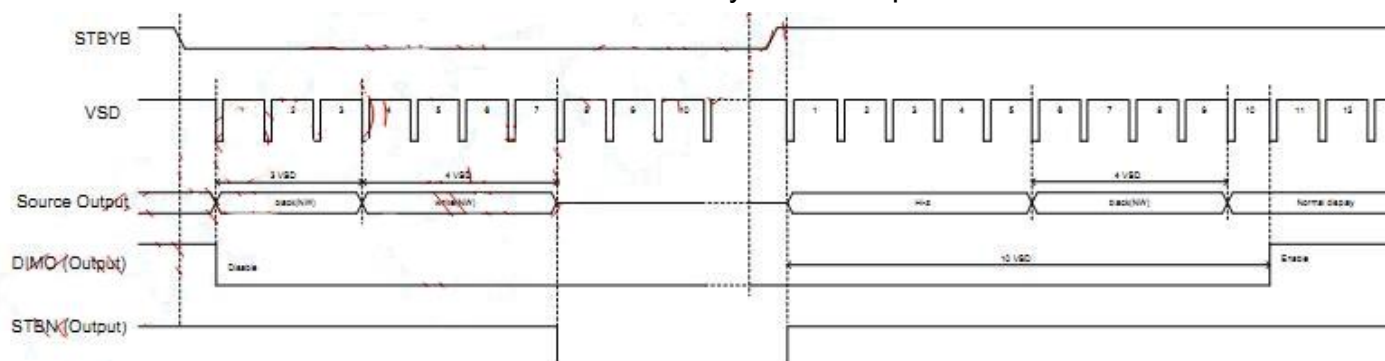


5.2 输入垂直时序 Vertical input timing

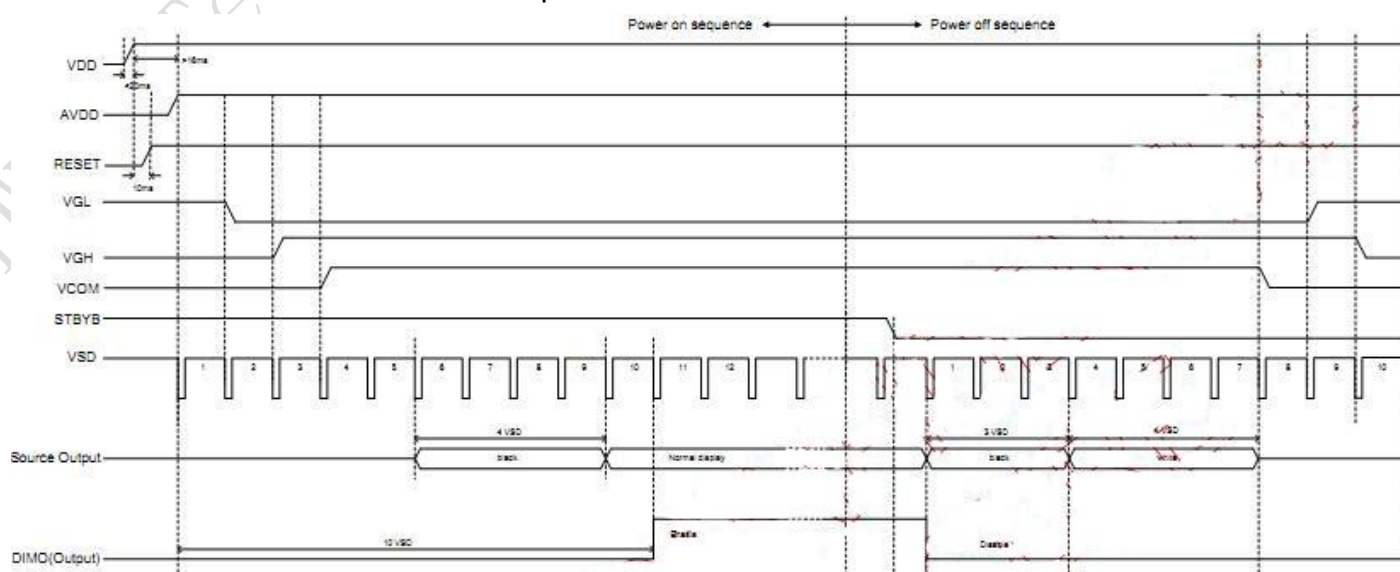
Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Vertical Display Area	tvd	-	480	-	TH	
VS period time	tv	510	525	650	TH	
VS pulse width	tvpw	1	-	20	TH	
VS Blanking	tvb	23	23	23	TH	
VS Front Porch	tvfp	7	22	147	TH	



5.3 进入和退出备用模式顺序 Enter and Exit Standby Mode Sequence

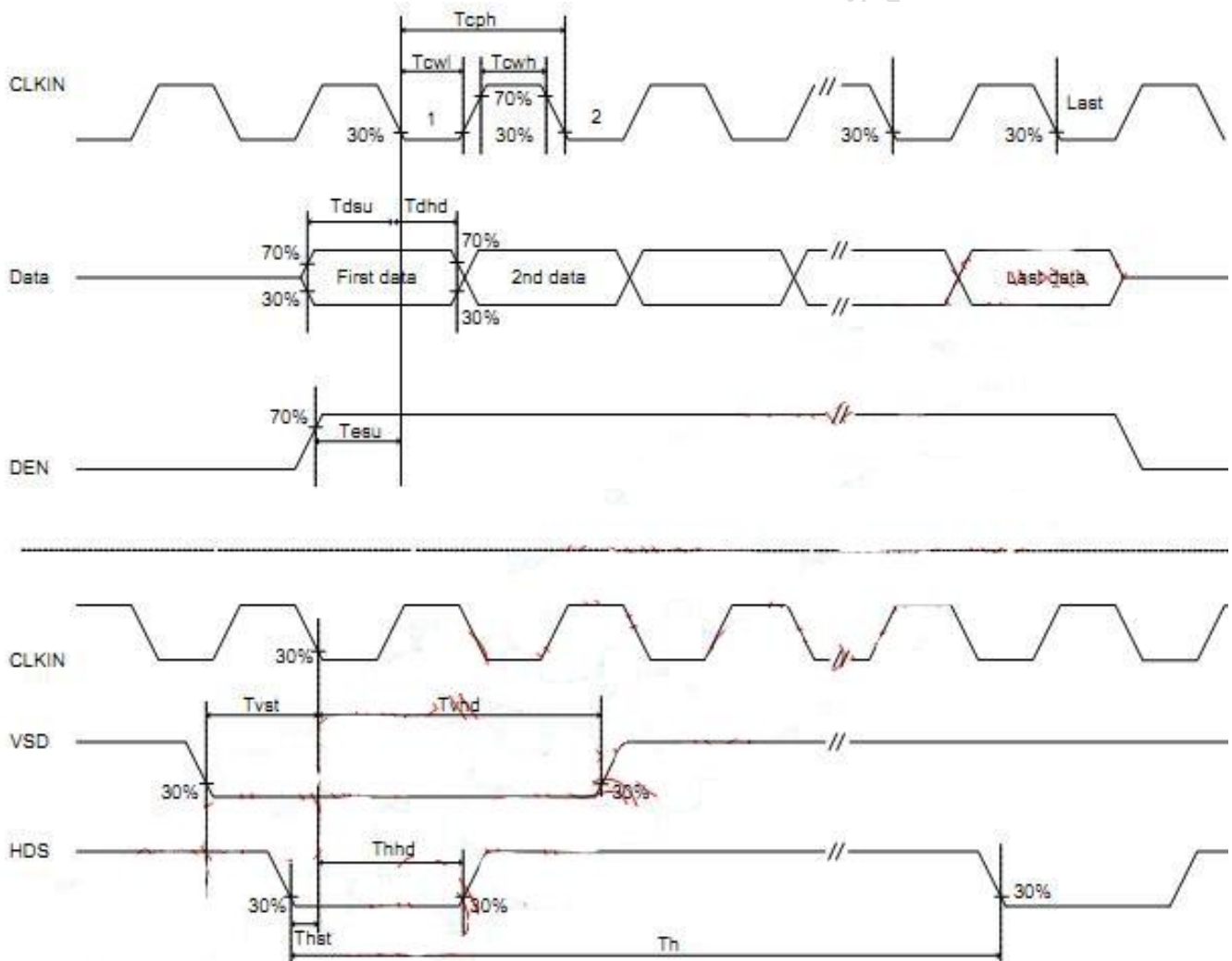


5.4 电源开/关时序 Power On/Off Sequence



5.5 并行 24 位 RGB 模式定时 Parallel 24-bit RGB Mode Timing

Parameter	Symbol	Condition	Min.	Typ.	Max.	Unit
CLKIN Frequency	Fclk	VDD = 1.8V ~3.6V	-	33.3	50	MHz
CLKIN Cycle Time	Tclk	-	20	30	-	ns
CLKIN Pulse Duty	Tcwh	Tclk= Tcwh + cwl	40	50	60	%
	Tcwl		40	50	-60	%
VSD to STV	Tstv	HV mode	-	24	-	H
DEN to STV	Tstv	DE mode	-	4	-	CLKIN
STV pulse width	Twstv	-	-	0.5	-	H
STV to CKV	Tckv	-	-	18	-	CLKIN
STV to OEV	Toev	-	-	2	-	CLKIN
CKV Pulse Width	Twckv	-	-	66	-	CLKIN
OEV Pulse Width	Twoev	-	-	50	-	CLKIN



6 光学特性 / Optical Characteristics

Item	Symbol	Condition	Min.	TYP.	Max.	Unit	Remark
可视视角 Viewing angle	Top	$CR \geq 10$	-	70	-	Deg.	
	Bottom		-	60	-		
	Left		-	70	-		
	Right		-	70	-		
对比度 Contrast ratio	CR	$\theta=0^\circ$	-	500	800		
响应时间 Response Time	T_r+T_f	$\theta=0^\circ$	-	25	50	ms	
色度 Color Chromaticity (CIE1931)	Wx	$\theta=0^\circ$	0.290	0.310	0.330		
	Wy		0.310	0.330	0.350		
	Rx		0.561	0.581	0.601		
	Ry		0.291	0.311	0.331		
	Gx		0.291	0.311	0.331		
	Gy		0.535	0.555	0.575		
	Bx		0.116	0.136	0.156		
	By		0.099	0.119	0.139		
透射率 Cell Transmittance	T%	$\theta=0^\circ$	4.42	5.02	-	%	

测试条件 / Test conditions:

IF= 140 mA, 环境温度 25℃。

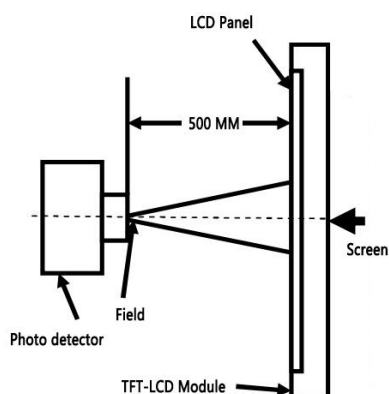
IF= 140 mA, and the ambient temperature is 25℃.

备注 1：光学测量系统的定义。

光学测试必须在暗室中进行，液晶屏点亮五分钟后开始测试，测试液晶屏的显示中心。

Note 1: Definition of optical measurement system.

The optical characteristics should be measured in dark room. After 5 minutes operation, the optical properties are measured at the center point of LCD.

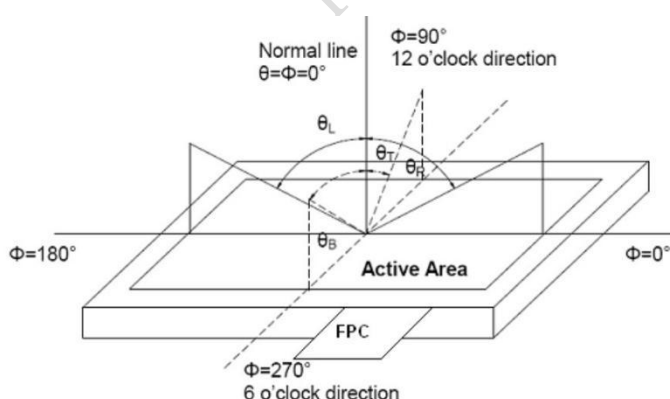


备注 2：视角范围和测量定义。

通过 BM-7A 在 LCD 中心点测量视角。

Note 2: Definition of viewing angle range and measurement system.

The viewing angle is measured at the center point of the LCD by BM-7A.



备注 3：色温定义。

光源的辐射在可见区和绝对黑体的辐射完全相同时，此时黑体的温度就称此光源的色温。色温是衡量光源颜色（冷色，暖色）程度的一种指标。

暖色<3300K；中间色 3300~5000K；冷色>5000K。

Note 3: Definition of color temperature.

When the radiation of the light source is exactly the same in the visible region and the absolute blackbody, the temperature of the blackbody is called the color temperature of the light source.

Color temperature is an index to measure the degree of light source color (cold color, warm color).

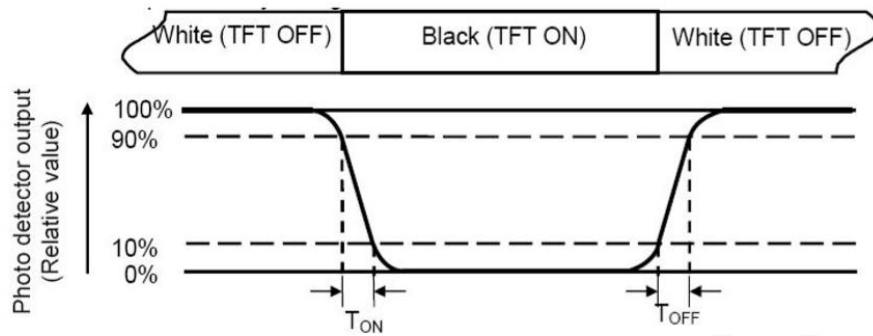
Warm color < 3300K, intermediate color 3300 ~ 5000K, cold color > 5000K.

备注 4：响应时间定义。

响应时间被定义为“白”状态和“黑”状态之间的 LCD 光学切换时间间隔。上升时间（TON）是光电探测器输出强度从 90% 变为 10% 之间的时间。下降时间（TOFF）是光电检测器输出强度从 10% 变为 90% 之间的时间。

Note 4: Definition of response time.

The response time is defined as the LCD optical switching time interval between “White” state and “Black” state. Time ON (TON) is the time between photo detector output intensity changed from 90% to 10%. And time off (TOFF) is the time between photo detector output intensity changed from 10% to 90%.



备注 5：色度定义。

LCD 中心测得的色坐标。

Note 5: Definition of color chromaticity (CIE1931).

Color coordinates measured at center point of LCD.

备注 6：亮度定义。

在中心点测量白色状态的亮度。

Note 6: Definition of brightness.

Measure the brightness of white state at center point.



7 环境可靠性测试 / Environmental Reliability Test

NO	Test Item	Condition	Remarks
1	高温工作 High Temperature Operation	Ta=+70℃,48hours	IEC60068-2-1:2007 GB/T 2423.2-2008
2	低温工作 Low Temperature Operation	Ta=-20℃,48hours	IEC60068-2-1:2007 GB/T 2423.1-2008
3	高温存储 High Temperature Storage	Ta=+80℃,48hours	IEC60068-2-1:2007 GB/T 2423.2-2008
4	低温存储 Low Temperature Storage	Ta=-30℃,48hours	IEC60068-2-1:2007 GB/T 2423.1-2008
5	高温高湿 Storage at High Temperature and Humidity	Ta=+40℃,90% RH max,48hours	IEC60068-2-78 :2001 GB/T 2423.3-2006

8 包装和物理尺寸 / Packing Capacity & Dimension

尺寸 Dimension			
外形尺寸(mm) Dimension	165.0(W)*100.0(H)* 3.5(D)		
净重量 Net Weight	-		
包装标准 Packing Capacity			
包装箱尺寸 Size	LCD 尺寸 LCD Size	层数（层） Layer	总数量（片） Quantity(Pcs)
405mm(L)x280mm(W)	7.0 寸（inch）	-	-

包装说明 (Packing instruction) :

液晶屏套上 PE 静电袋, 紧凑装配, 放入挡格中, 挡格上下层使用缓冲空格保护。

The LCD is placed in the grid, covered with a PE static bag and compactly assembled, the upper and the lower layers of the grid are protected by buffer spaces.

液晶屏套上PE静电袋, 紧凑装配
The LCD covered with a PE static bag and compactly assembled



放入挡格中
placed in the grid



挡格上下层使用缓冲空格保护
The upper and the lower layers of the grid are protected by buffer spaces



包装完毕
Packed



9 使用 LCD 注意事项 / Precautions for Use of LCD Modules

9.1 处理注意事项

9.1.1 显示面板由玻璃制成，不要将其从高处坠落等方式使其受到机械冲击。

9.1.2 如果显示面板损坏，且其中的液晶物质泄漏，请确保不要让任何东西进入您的口腔内，如果该物质接触到您的皮肤或衣服，请立即用肥皂和水将其冲洗干净。

9.1.3 请勿对显示面或邻近的区域施加过大的压力，可能会导致色调的变化。

9.1.4 液晶屏显示表面覆盖的偏振片很软且容易刮伤，请小心使用。

9.1.5 如果显示器表面出现脏污，请在其表面哈气，并使用无尘布轻轻擦拭，如仍未完全清除，只能使用液晶屏专用清洁剂，如下有机溶剂都不能使用：

--异丙醇

--乙醇类

--酮

--芳香溶剂

9.1.6 请勿试图拆卸液晶屏模组。

9.1.7 如果逻辑电路电源关闭，则不要应用输入信号。

9.1.8 为防止静电破坏元件，应小心维护。

9.1.9 最佳工作环境：

9.1.9.1 搬运液晶屏时，确保将车身接地。

9.1.9.2 装配所需的工具，如烙铁，必须正确接地。

9.1.9.3 为减少静电，请勿在干燥的环境下进行组装使用。

9.1.9.4 液晶屏表面覆盖有保护膜，请注意小心撕下保护膜，减少产生静电。

9.2 储存预防措施

9.2.1 储存液晶屏时，应避免暴露在阳光下或高温高湿环境下。

9.2.2 液晶屏长时间存放建议条件为：温度：0℃~40℃相对湿度：≤80%。

9.2.3 液晶屏应存放于室内，环境中不含酸、碱和有害气体。

9.3 运输预防措施

9.3.1 液晶显示模块在运输过程中应无坠落和剧烈震动，并应避免过度挤压、积水、潮湿和阳光照射。

9.1 Handling Precautions

9.1.1 The display panel is made of glass. Do not subject it to a mechanical shock by dropping it from a high place, etc.

9.1.2 If the display panel is damaged and the liquid crystal substance inside it leaks out, be sure not to get any in your mouth, if the substance comes into contact with your skin or clothes, promptly wash it off using soap and water.

9.1.3 Do not apply excessive force to the display surface or the adjoining areas since this may cause the color tone to vary.

9.1.4 The polarizer covering the display surface of the LCD module is soft and easily scratched. Handle this polarizer carefully.

9.1.5 If the display surface is contaminated, breathe on the surface and gently wipe it with a soft dry cloth. If still not completely clear, Can only use LCD dedicated cleaner,the following organic solvent can not be used:

- Isopropyl alcohol
- Ethyl alcohol
- Ketone
- Aromatic solvents

9.1.6 Do not attempt to disassemble the LCD Module.

9.1.7 If the logic circuit power is off, do not apply the input signals.

9.1.8 To prevent destruction of the elements by static electricity, be careful to maintain an

9.1.9 optimum work environment.

9.1.9.1 Be sure to ground the body when handling the LCD Modules.

9.1.9.2 Tools required for assembly, such as soldering irons, must be properly ground.

9.1.9.3 To reduce the amount of static electricity generated, do not conduct assembly and other work under dry conditions.

9.1.9.4 The LCD Module is coated with a film to protect the display surface. Be care when peeling off this protective film since static electricity may be generated.

9.2 Storage precautions

9.2.1 When storing the LCD modules, avoid exposure to direct sunlight or to the light of fluorescent lamps.

9.2.2 The LCD modules should be stored under the storage temperature range. If the LCD modules will be stored for a long time, the recommend condition is:

Temperature : 0℃ ~ 40℃ Relatively humidity: ≤80%.

9.2.3 The LCD modules should be stored in the room without acid, alkali and harmful gas.

9.3 Transportation Precautions

9.3.1 The LCD modules should be no falling and violent shocking during transportation, and also should avoid excessive press, water, damp and sunshine.



修订记录 / Record of Revision

版本 Rev	日期 Date	说明 Description	编辑人 Editor
00	2019-04-16	首次发布 First Release	肖蒙
01	2019-11-08	增加时序特性 Add timing characteristics	龚桂英
02	2020-6-10	增加玻璃视角 Add glass viewing angle 增加背光寿命 Add backlight life 增加电源开/关时序 Add Power ON/OFF sequence	周彪
03	2020-8-31	校对 check	周彪
04	2020-12-31	更新规格书 Update datasheet	周彪
05	2022-10-26	更新 CAD Update CAD	郑运佳
06	2024-07-05	校对 check	郑运佳
07	2025-06-03	更新温度和寿命参数 Update temperature and life parameters	广明鑫
08	2025-10-20	更新温度参数 Update temperature parameters	广明鑫

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