

LI48800T043TD3098

4.3 inch, 480*800 pixels resolution, RGB interface, IPS-TFT-LCD



Disclaimer: The product design is subject to alternation and improvement without prior notice.

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1 General Feature

Feature		Description	Unit
Display Spec.	Size	4.3	inch
	Resolution	480(H)*800(V)	pixels
	Pixel Configuration	RGB stripe	-
	Pixel Pitch	0.117(H)*0.117(V)	mm
	Viewing Direction	ALL	-
Mechanical Characteristics	Outside Dimension	60.90(W)*102.60(H)*2.70(D)	mm
	Active Area	56.16(W)*93.60(H)	mm
	Luminance	300	cd/m ²
	LED Numbers	10 LEDS	-
	Pin Order	From left to right 40PIN_0.5mm	-
Electrical Characteristics	Interface	RGB_24bit	-
	Color Depth	16.7M	colors
	Driver IC	ST7701S	-
Temperature Range	Operating Temp.	-10~60	°C
	Storage Temp.	-20~70	°C

Note: Requirements on Environmental Protection: RoHS.

You can use dynamic screen saver wallpapers to avoid afterimages caused by fixed paper display for a long time.

2 Mechanical Drawing

[illegible]

3 Input/Output Terminals

Pin NO.	Symbol	Function	Remark
1	LEDK	Back light cathode	
2	LEDA	Back light anode	
3	GND	Ground	
4	VCC	Power supply	
5-12	R0-R7	Data bus	
13-20	G0-G7	Data bus	
21-28	B0-B7	Data bus	
29	GND	Ground	
30	CLK	Clock signal	
31	SDO	Serial data output pin.	
32	HSYNC	Line synchronizing signal	
33	VSYNC	Frame synchronizing signal	
34	DE	Data ENABLE signal	
35	NC	Not connect	
36	GND	Ground	
37	RESET	Reset Signal pin	
38	SDA	Serial data input/output bidirectional pin for SPI interface	
39	SCL	Serial clock input for SPI interface	
40	CS	A Chip Select signal	

4 Electrical Characteristics

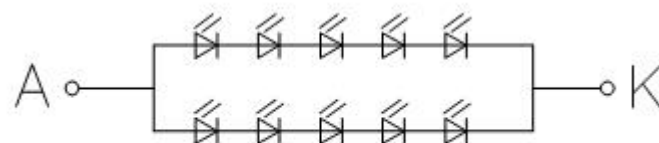
4.1 Driving TFT LCD Panel

Item	Symbol	Min.	Typ.	Max.	Unit	Remark
Analog Voltage	V _{CI}	2.8	3.0	3.3	V	
Input Logic High Voltage	V _{IH}	0.7V _{CI}	-	V _{CI}	V	
Input Logic Low Voltage	V _{IL}	GND	-	0.3V _{CI}	V	
Output Logic High Voltage	V _{OH}	0.8V _{CI}	-	V _{CI}	V	
Output Logic Low voltage	V _{OL}	GND	-	0.2V _{CI}	V	

4.2 LED Backlight Specification

Item	Symbol	Min.	Typ.	Max.	Unit	Remark
Forward Voltage	V _F	14.6	15	16	V	
Forward Current	I _F	-	40	-	mA	
Luminance	L _v	-	300	-	cd/m ²	
Power Consumption	P _{LED}	-	600	-	mW	
Uniformity(with L/G)	Avg	75	80	-	%	
LED Life Time	Hr	-	30000	-	Hour	

Note: 10 LEDs (5 LEDs Serial,2 ways Parallel)

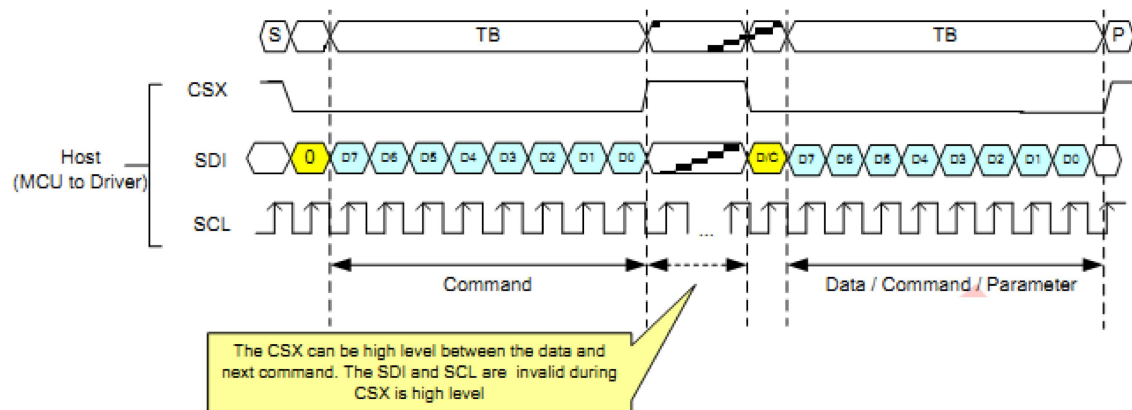


Circuit Diagram

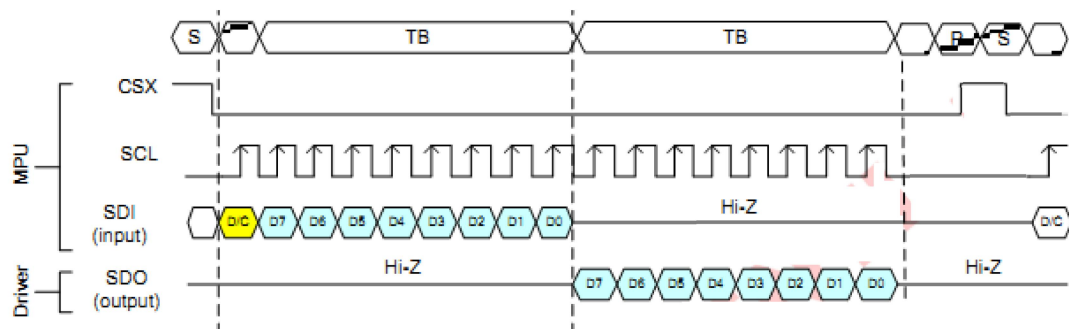
5 Timing Characteristics

5.1 SPI Serial Data Transfer Interface Characteristics

5.1.1 Write Cycle Sequence

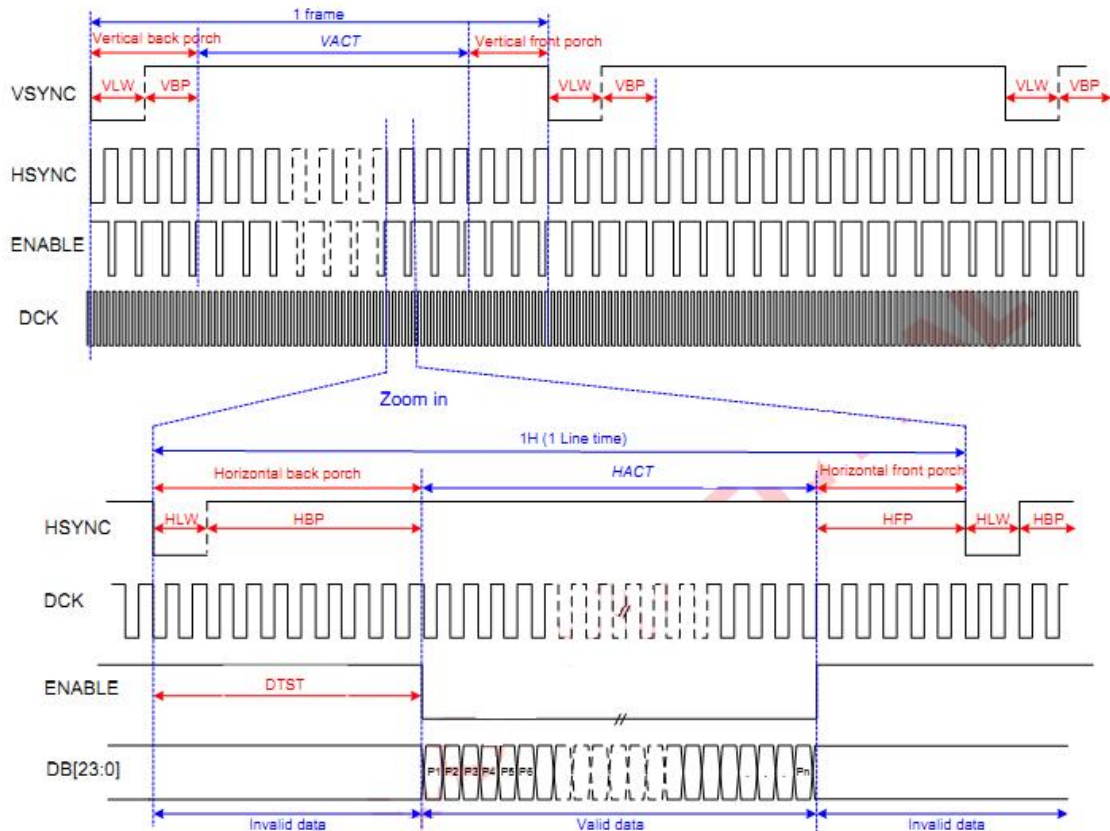


5.1.2 Read Cycle Sequence

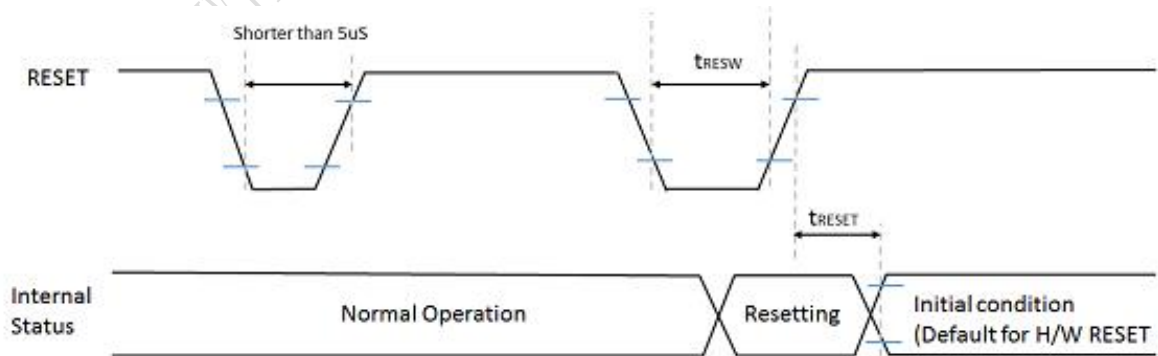


5.2 RGB Interface Characteristics

Parameter	Symbols	Condition	Min.	Typ.	Max.	Units
Frame Rate	FR		54		66	fps
Horizontal Low Pulse width	HLW		2		50	DOTCLK
Horizontal Back Porch	HBP		4		200	DOTCLK
Horizontal Address	HACT			480		DOTCLK
Horizontal Front Porch	HFP		2		250	DOTCLK
Vertical Low Pulse width	VLW		1		50	Line
Vertical Back Porch	VBP		2		200	Line
Vertical Address	VACT				864	Line
Vertical Front Porch	VFP		2		250	Line
Data Clock	DCLK		16.6		35.7	MHz



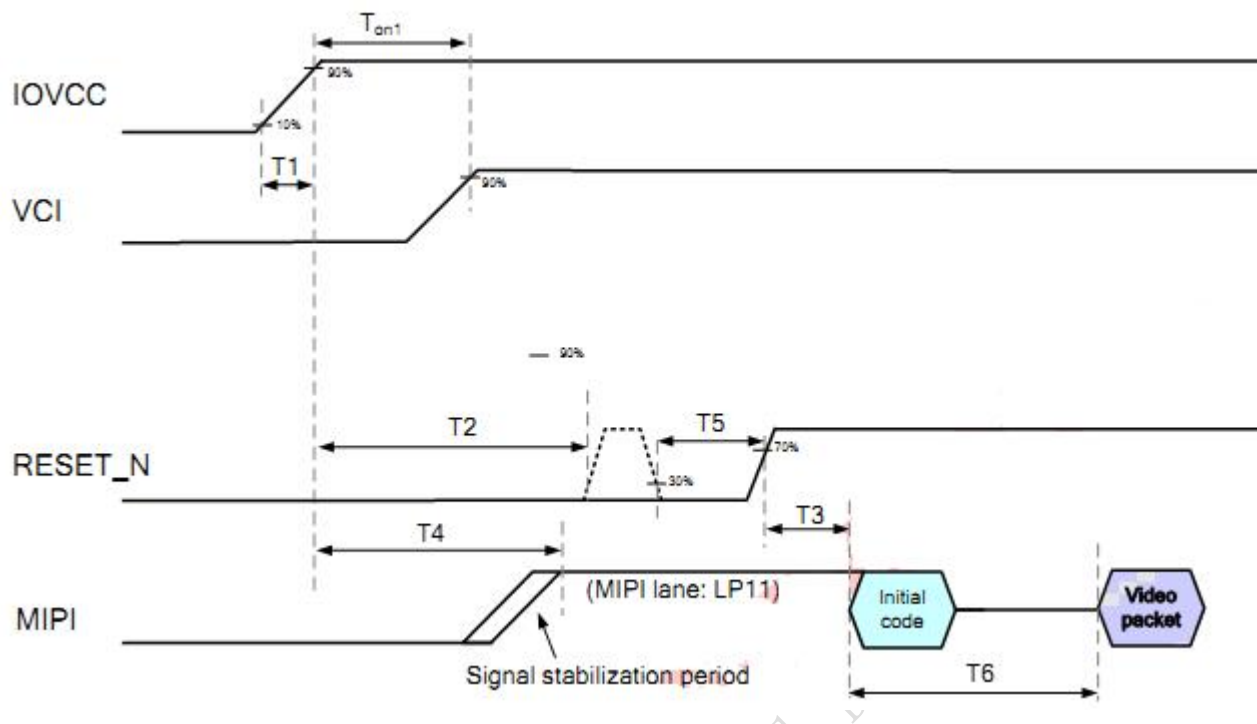
5.3 Reset Timing



Signal	Symbol	Parameter	Description	Specification			Unit
				MIN	TYP	MAX	
RESET	tRESW	Reset "L" pulse width		10			μS
	tRESET	Reset complete time	When reset applied during Sleep in mode			5	mS
			When reset applied during Sleep Out mode			120	mS

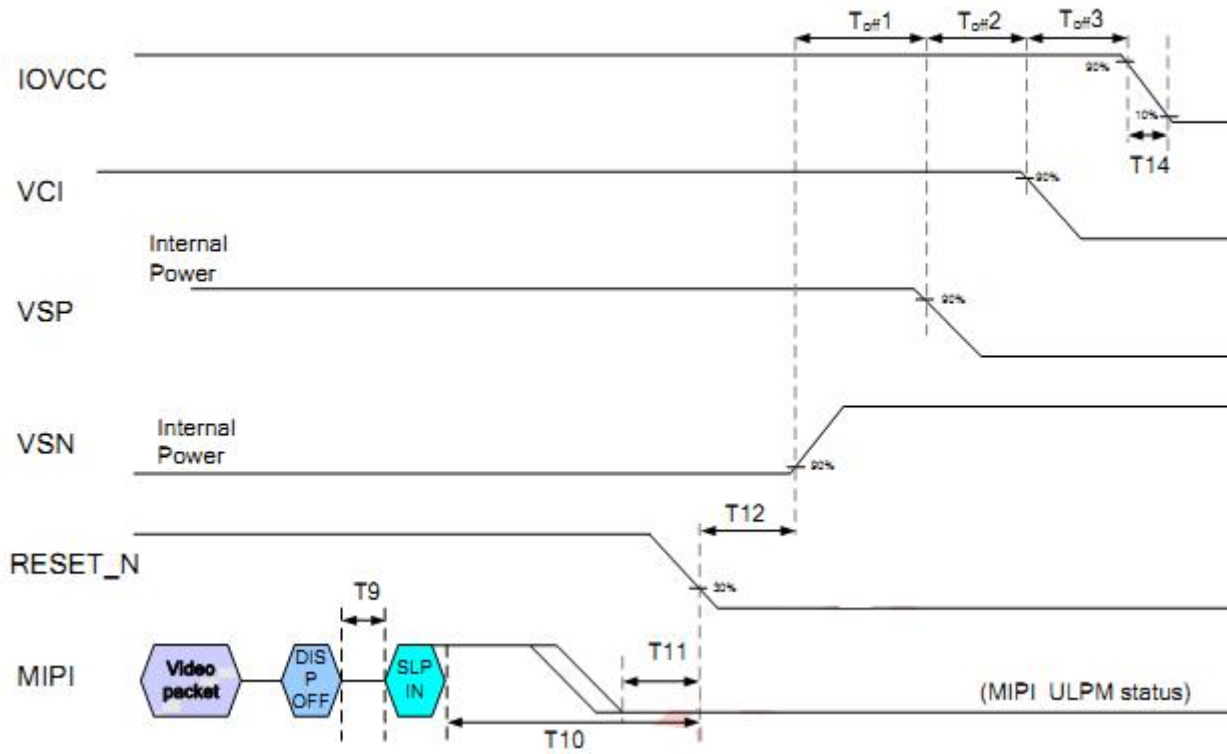
5.4 Power Sequence

5.4.1 Power On Sequence



Symbol	Value			Unit	Remark
	Min.	Typ.	Max.		
TOn1	0			mS	
TOn2	0			mS	
TOn3	0			mS	
TOn4	0			mS	
T2		No limit		uS	
T3	0			mS	
T4	10			mS	
T5	20			mS	
T6	0		T4	mS	
T7	10			uS	
T8	120			mS	

5.4.2 Power Off Sequence



Symbol	Description	Value			Unit	Remark
		Min.	Typ.	Max.		
Toff1	VSN off to VSP off delay	>0			us	
Toff2	VSP off to VCI off delay	>0			us	
Toff3	VCI off to IOVCC off delay	>0			us	
Toff4	VSP off to IOVCC off delay	>0			us	
T9	Display-off command received to Sleep-in command delay	>0			us	
T10	Sleep-in command received to valid to RESET_N low	100			ms	
T11	MIPI ultra low power mode to valid to RESET_N low	0			us	
T12	RESET_N low to VSN off delay	0			us	
T13	RESET_N low to VCI off delay	0			us	
T14	IOVCC power falling time			2	ms	

6 Optical Characteristics

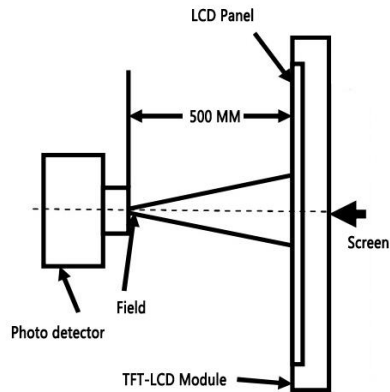
Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
Viewing Angle	Top	$CR \geq 10$	-	85	-	Deg.	
	Bottom		-	85	-		
	Left		-	85	-		
	Right		-	85	-		
Contrast Ratio	CR	$\theta = 0^\circ$	800	1000	-		
Response Time	$T_r + T_f$	$\theta = 0^\circ$	-	25	35	ms	
Color Chromaticity (CIE1931)	Wx	$\theta = 0^\circ$	0.271	0.286	0.301		
	Wy		0.302	0.317	0.332		
	Rx		0.636	0.651	0.666		
	Ry		0.296	0.311	0.326		
	Gx		0.241	0.256	0.271		
	Gy		0.573	0.588	0.603		
	Bx		0.123	0.138	0.153		
	By		0.083	0.098	0.113		
Color Temperature	-	-	-	5870	-	K	
Color Gamut	NTSC	$\theta = 0^\circ$	65	70	-	%	

Test conditions:

IF= 40 mA, and the ambient temperature is 25°C.

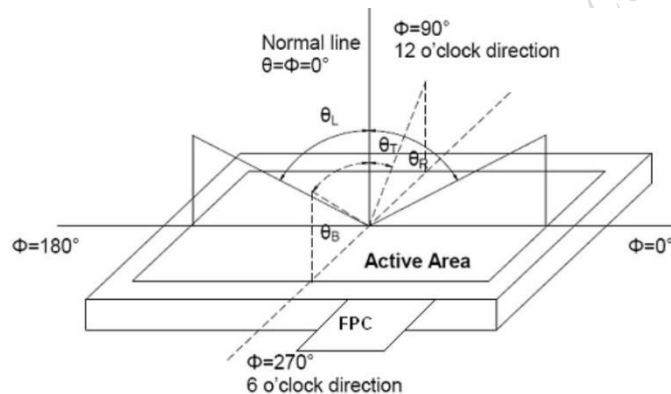
Note 1: Definition of optical measurement system.

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



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.



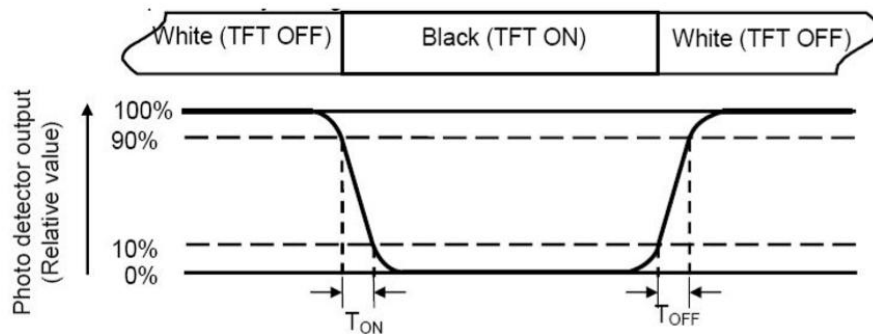
Note 3: Definition of color temperature.

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 $< 3300\text{K}$, intermediate color $3300 \sim 5000\text{K}$, cold color $> 5000\text{K}$.

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%.



Note 5: Definition of color chromaticity (CIE1931).

Color coordinates measured at center point of LCD.

Note 6: Definition of luminance.

Measure the luminance of white state at center point.

7 Environmental Reliability Test

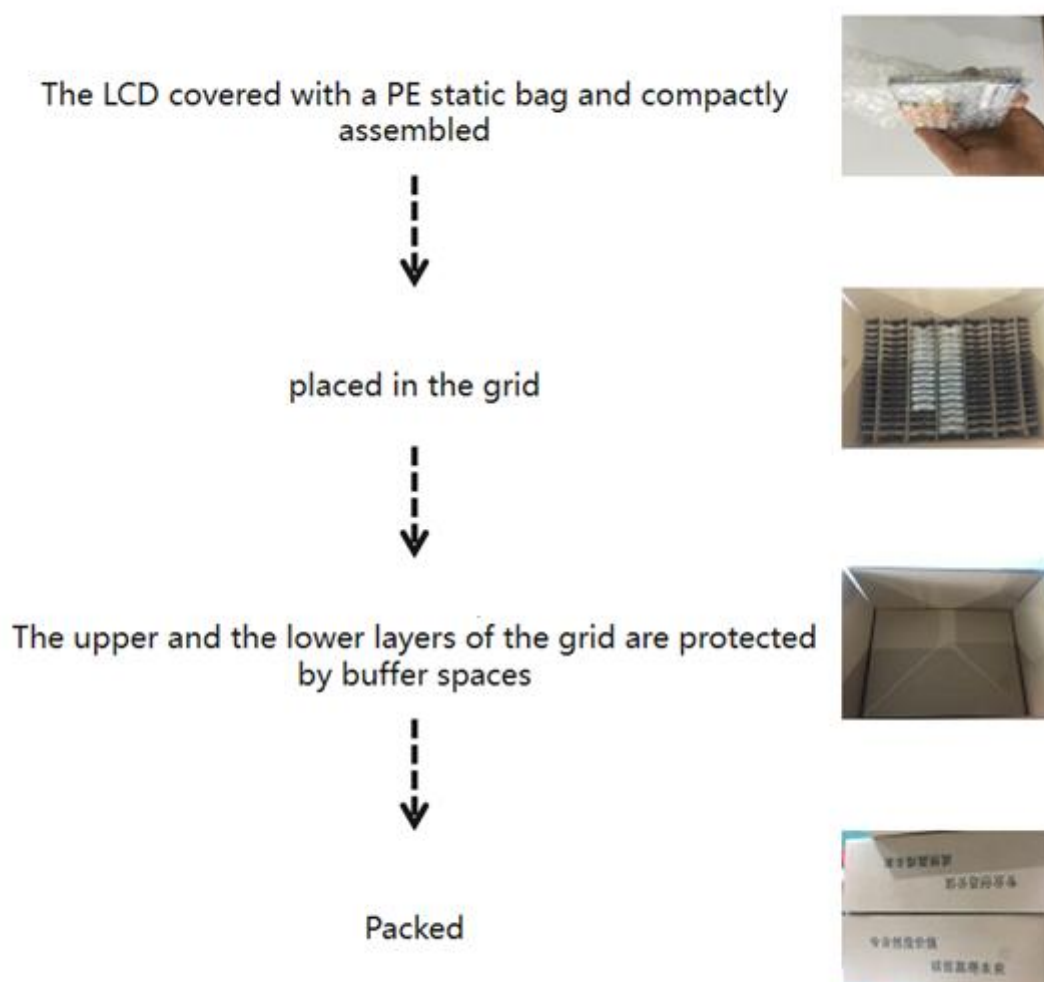
NO	Test Item	Condition	Remarks
1	High Temperature Operation	Ta=+60°C,48hours	IEC60068-2-1:2007 GB/T 2423.2-2008
2	Low Temperature Operation	Ta=-10°C,48hours	IEC60068-2-1:2007 GB/T 2423.1-2008
3	High Temperature Storage	Ta=+70°C,48hours	IEC60068-2-1:2007 GB/T 2423.2-2008
4	Low Temperature Storage	Ta=-20°C,48hours	IEC60068-2-1:2007 GB/T 2423.1-2008
5	Storage at High Temperature and Humidity	Ta=+40°C,85% RH max,48hours	IEC60068-2-78 :2001 GB/T 2423.3-2006
6	Thermal Shock (non-operation)	-20°C /30min +60°C/30min, Change time:5min,10cycles	Start with cold temperature, End with high temperature, IEC60068-2-14:1984, GB 2423.22-2002

8 Packing Capacity & Dimension

Dimension			
Dimension(mm)	60.86(W)*102.57(H)*2.7(D)±0.2		
Net Weight	-		
Packing Capacity			
Size	LCD Size and Resolution	Layer	Quantity(Pcs)
220mm(L)x160mm(W)x47mm(H)	4.3 inch 480*800	1	1
600mm(L)x450mm(W)x300mm(H)	4.3 inch 480*800	2	240

Packing instruction:

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.



9 Precautions for Use of LCD Modules

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°C ~ 40°C 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.

9.4 Backlight Reinforcement Precautions.

9.4.1 The LCD panel is equipped with protective measures and has passed reliability tests before delivery. Due to different application environments, not all unexpected situations can be completely avoided. Backlight separation may occur if the module is subjected to severe dropping, heavy compression or strong external force during transportation, installation and use. Please always handle with care to avoid dropping and violent impact, and it is recommended to reinforce with adhesive on the front housing step before assembly, ensuring no glue flows into the LCD area.

Record of Revision

Rev	Date	Description	Editor
00	2022-09-09	First Release	Zheng Yunjia
01	2022-12-26	Add Product Picture, Update Operating Temp and Storage Temp	Chen
02	2023-02-22	Update Packing Capacity	Chen
03	2025-03-04	Update Drawing	Chen
04	2026-05-27	Update Drawing	Joyce Jiang
05	2026-09-09	Update Drawing and Modify Temperature	Joyce Jiang

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