

LI48800T043TD3098-TCF

4.3 inch, 480×800, IPS screen with wide viewing angle, air bonding CTP

DWIN Technology Technical Document

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

Table of Contents

1 General Feature	3
2 Mechanical Drawing	5
3 Input/Output Terminals	6
4 Electrical Characteristics	7
5 Timing Characteristics	8
6 Optical Characteristics	12
7 Environmental Reliability Test	15
8 Packing Capacity & Dimension	16
9 Precautions for Use of LCD Modules	17

1 General Feature

1.1 LCD Parameters

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	62.96(W)*103.67(H)*4.43(D)	mm
	Active Area	56.16(W)*93.60(H)	mm
	Luminance	250	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 Condition	3.3 (TYP.)	V
	LCM Driver IC	ST7701S	-
Temperature Range	Operating Temp.	-10~60	°C
	Storage Temp.	-20~70	°C

1.2 Touch Parameters

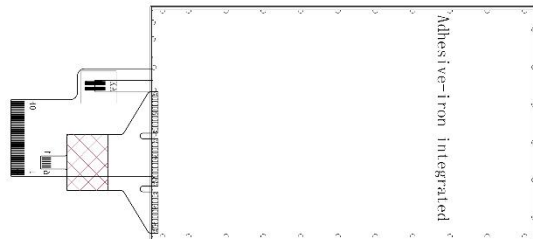
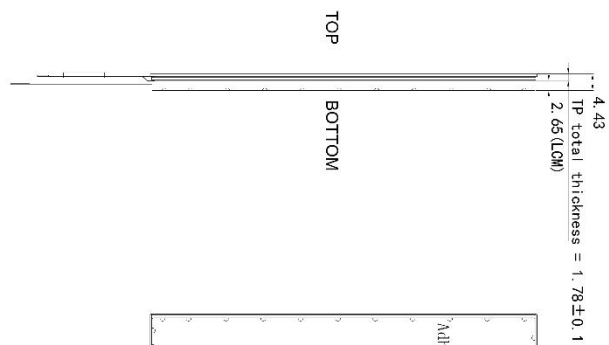
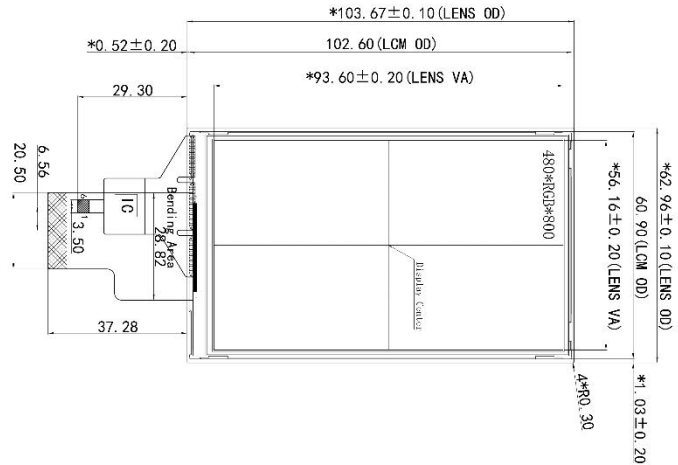
Feature	Description
Type	CTP (Capacitive touch panel)
Structure	G+G
Control Type	GT911
Surface Hardness	6H
Light Transmittance	≥80%

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

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2 Mechanical Drawing



No	PIN NAME	No	PIN NAME
1	LEDA	21	S0
2	LEDA	22	S1
3	GND	23	S2
4	VCC	24	S3
5	R0	25	S4
6	R1	26	S5
7	R2	27	S6
8	R3	28	S7
9	R4	29	GND
10	P5	30	CLK
11	R6	31	S00
12	R7	32	HSING
13	R7	33	VSING
14	G1	34	DE
15	G2	35	NC
16	G3	36	GND
17	G4	37	RESET
18	G5	38	SDA
19	G6	39	SCL
20	G7	40	CS

Front View

Side View

Back View

NOTE:

- 1、Structure: G+G;
- 2、IC:GT911(COF). Both SDA and SCL require 4.7 kΩ pull-up resistors
- 3、Transmittance: 80% MTX
- 4、* indicates critical dimensions. Chamfers on the lens are not specified.
- 5、Surface Hardness 6H;
- 6、Working temperature: -10~60° ;
- 7、Storage Temperature: -20~70° ;
- 8、Unspecified dimension tolerance: ±0.2mm;
- 9、RoSH compliant



REVISION RECORD

VER DATE

DWIN Technology Co., Ltd

1 First Release

VER DATE

2 Change LCD

VER DATE

3

VER DATE

4

VER DATE

5

VER DATE

6

VER DATE

Both SDA and SCL require 4.7kΩ pull-up resistors
PIN Definition

PIN#	Name
1	SCL
2	SDA
3	INT
4	GND
5	VDD-3.3V
6	RST

3 Input/Output Terminals

3.1 LCD 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	VSYN	Frame synchronizing signal	
34	DEN	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	

3.2 TP Input/Output Terminals

Pin NO.	Logic	Remark
1	SCL	
2	SDA	
3	INT	
4	GND	
5	VDD-3.3V	
6	RST	

4 Electrical Characteristics

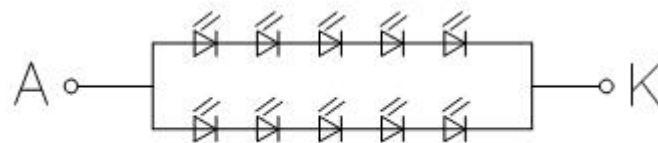
4.1 Driving TFT LCD Panel

Item	Symbol	Min.	TYP.	Max.	Unit	Remark
Analog Voltage	VCI	2.8	3.0	3.3	V	
Input Logic High Voltage	VIH	0.7VCI	-	VCI	V	
Input Logic Low Voltage	VIL	GND	-	0.3VCI	V	
Output Logic High Voltage	VOH	0.8VCI	-	VCI	V	
Output Logic Low voltage	VOL	GND	-	0.2VCI	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	-	250	-	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)

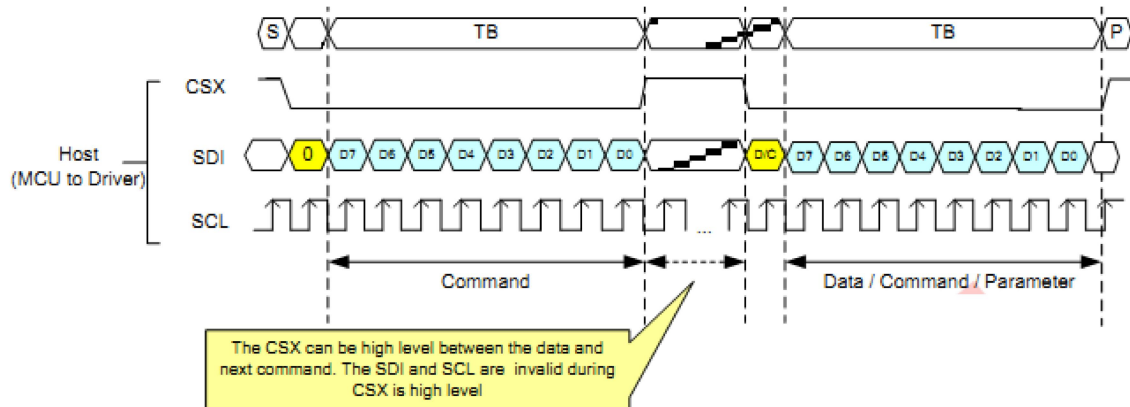


Circuit Diagram

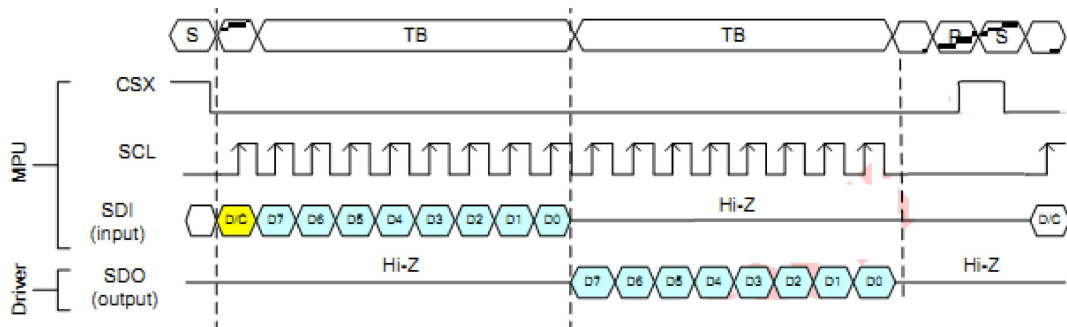
5 Timing Characteristics

5.1 SPI Serial Data Transfer Interface Characteristics

5.1.1 Write Cycle Sequence

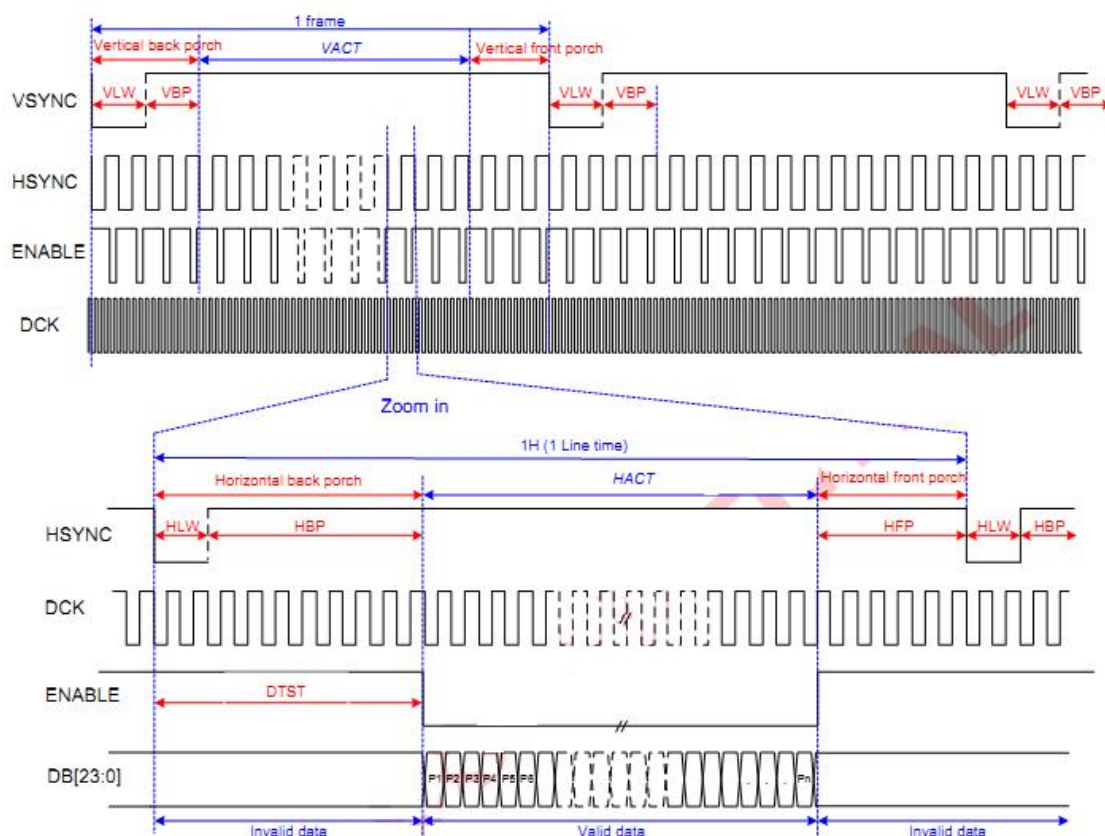


5.1.2 Read Cycle Sequence

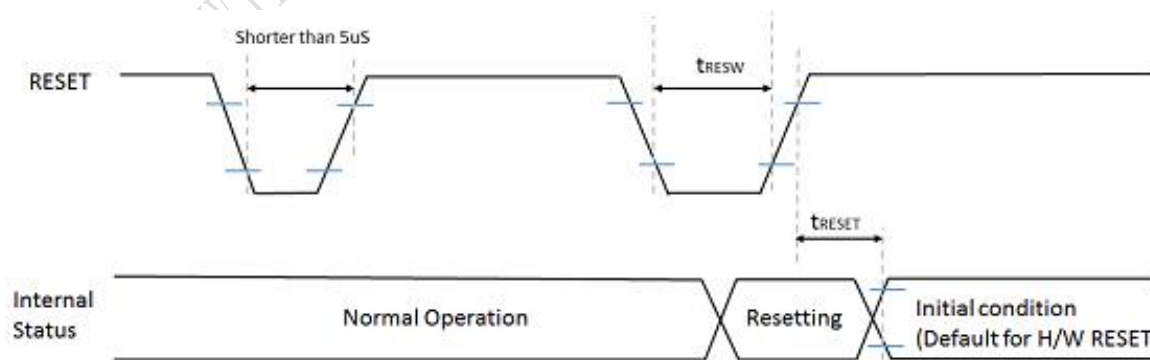


5.2 RGB Interface Characteristics

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



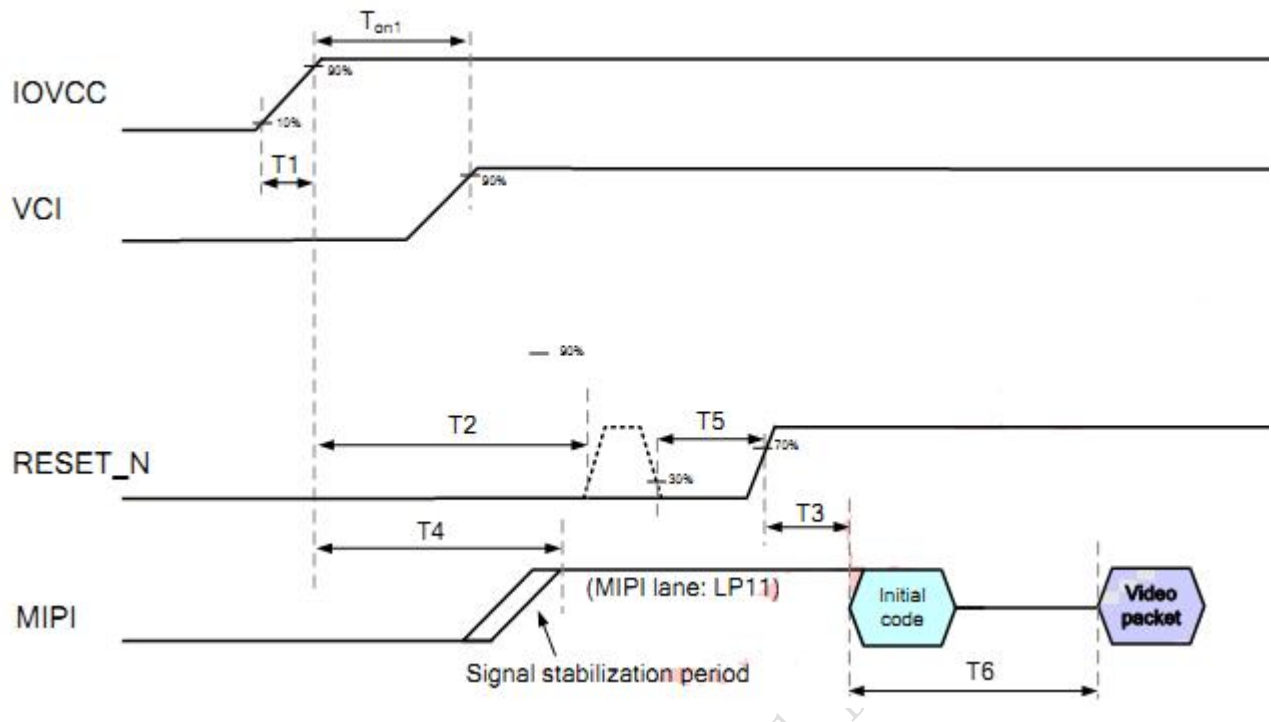
5.3 Reset Timing



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

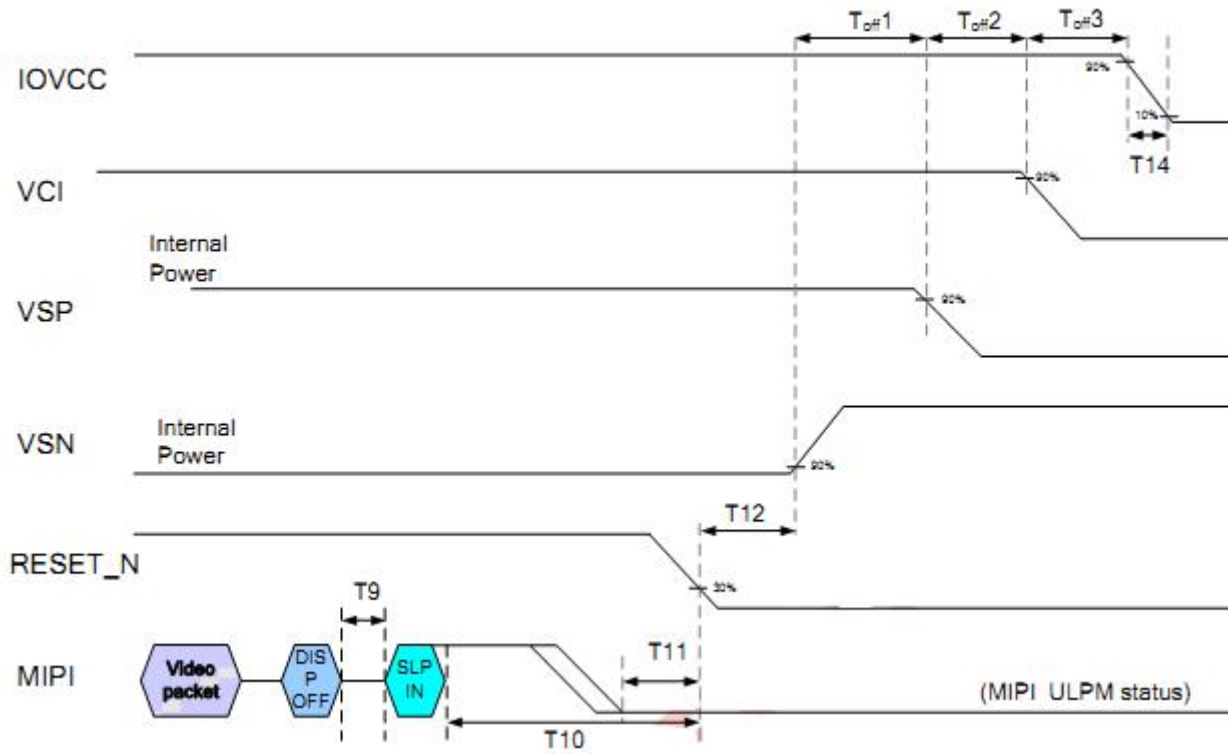
5.4 Power Sequence

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.		
T _{off1}	VSN off to VSP off delay	>0			us	
T _{off2}	VSP off to VCI off delay	>0			us	
T _{off3}	VCI off to IOVCC off delay	>0			us	
T _{off4}	VSP off to IOVCC off delay	>0			us	
T ₉	Display-off command received to Sleep-in command delay	>0			us	
T ₁₀	Sleep-in command received to valid to RESET_N low	100			ms	
T ₁₁	MIPI ultra low power mode to valid to RESET_N low	0			us	
T ₁₂	RESET_N low to VSN off delay	0			us	
T ₁₃	RESET_N low to VCI off delay	0			us	
T ₁₄	IOVCC power falling time			2	ms	

6 Optical Characteristics

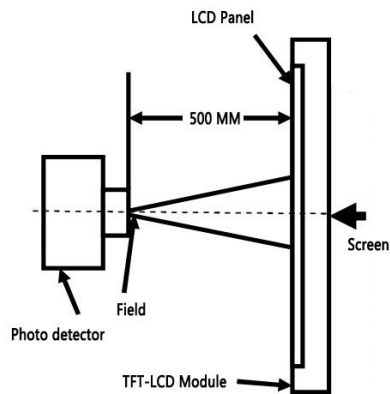
Item	Symbol	Condition	Min.	TYP.	Max.	Unit	Remark
Viewing Angle	Top	$CR \geq 10$	-	85	-	Deg.	Note 2
	Bottom		-	85	-		
	Left		-	85	-		
	Right		-	85	-		
Contrast Ratio	CR	$\theta = 0^\circ$	800	1000	-		
Response Time	$T_r + T_f$	$\theta = 0^\circ$	-	25	35	ms	Note 4
Color Chromaticity (CIE1931)	Wx	$\theta = 0^\circ$	0.271	0.286	0.301		Note 5
	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	Note 3
Color Gamut	NTSC	$\theta = 0^\circ$	65	70	-	%	

Test conditions:

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

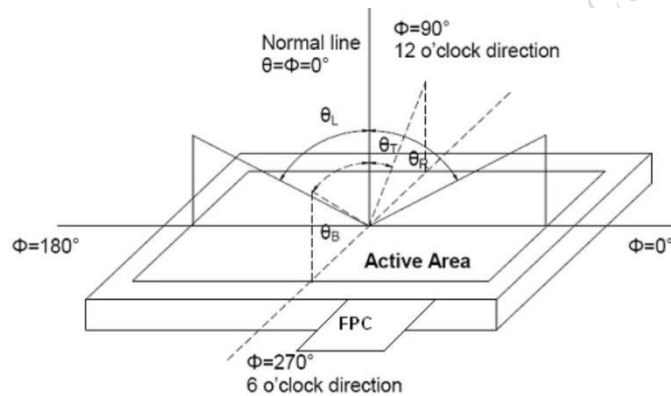
Note 1: Definition of optical measurement system.

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.

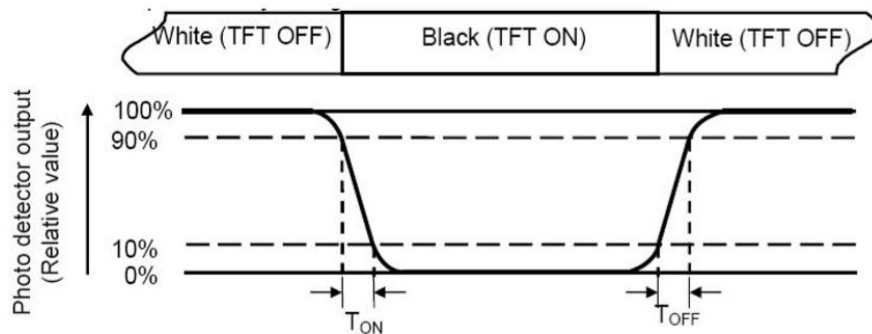


Note 3: Definition of color temperature.

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

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

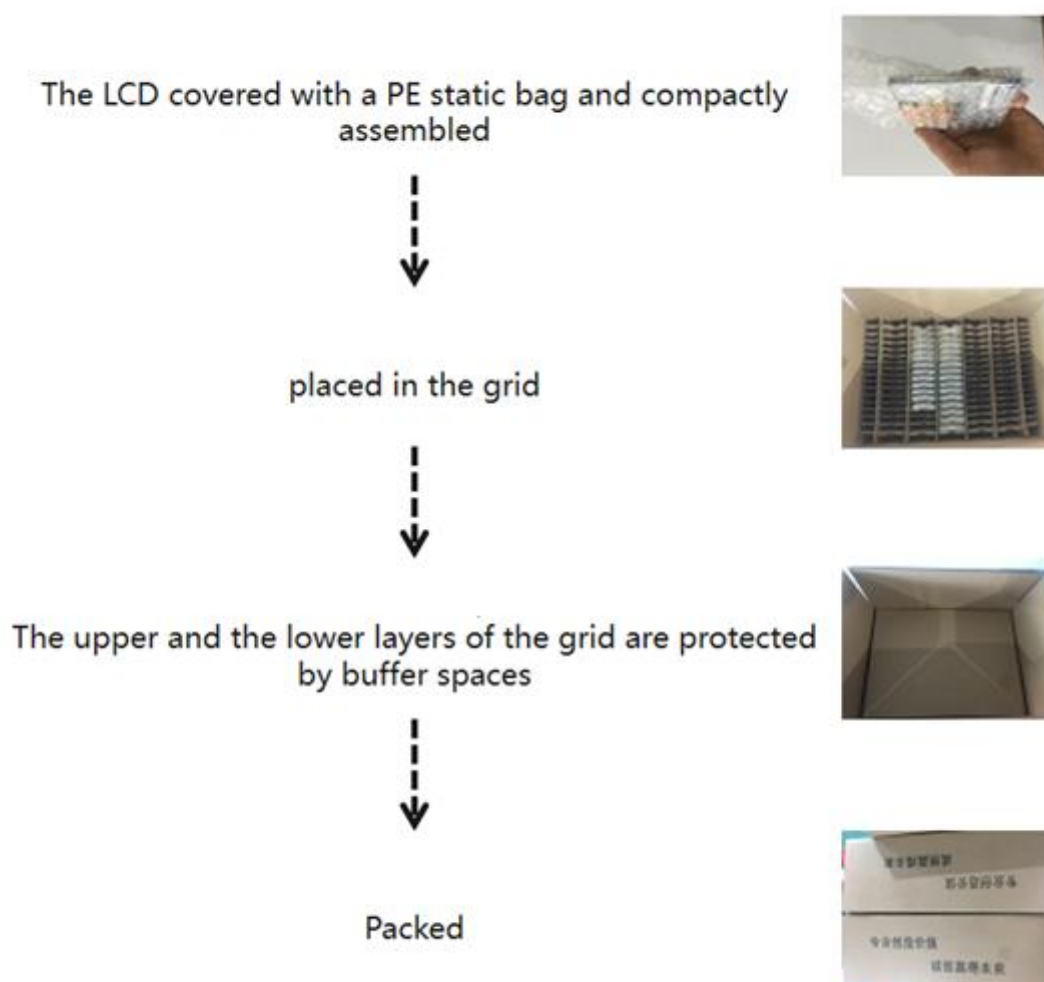
NO	Test Item	Condition	Remarks
1	High Temperature Operation	Ta=+60°C,48hours	IEC60068-2-1:2007 GB/T 2423.2-2008
2	Low Temperature Operation	Ta=-10°C,48hours	IEC60068-2-1:2007 GB/T 2423.1-2008
3	High Temperature Storage	Ta=+70°C,48hours	IEC60068-2-1:2007 GB/T 2423.2-2008
4	Low Temperature Storage	Ta=-20°C,48hours	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/T 2423.22-2002

8 Packing Capacity & Dimension

Dimension			
Dimension(mm)	62.96(W)*103.67(H)*4.48(D)		
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+TP 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	2023-03-14	First Release	Chen
01	2023-06-02	Update Luminance	Chen
02	2025-03-10	Update Drawing	Chen
03	2026-06-30	Update Drawing	Joyce Jiang
04	2026-09-04	Update Drawing and Add Backlight Reinforcement Precautions	Joyce Jiang

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