

深圳市金逸晨电子有限公司

ShenZhen GoldenMorning Electronic Co.,Ltd

PRODUCT SPECIFICATION

Model No	T285VX-C30-01
Product Name	2.85 TFT LCD Module
Version	V2
Date	2026-06-18

- ☐ Preliminary Specification
- ☒ Final Specification

PREPARED BY	CHECKED BY	APPROVED BY

Revision History

Version	Date	Page	Revise record	Remarks
V1	2025-10-09	-	First issued	ZY
V2	2026-06-18	-		ZY

TABLE OF CONTENT

NO.Contents	Page
1. General Parameter	4
2. MIPI Parameter	4
3. Physical drawing	5
4. Mechanical Dimension	6
5. Absolute Maximum Ratings	7
6. DC Characteristics	7
7. Backlight Characteristic	7
8. Pins Definitions	8
9. Schematic Diagram	9
10. Power On/Off Sequence.....	10
11. Optical Characteristics	11
12. Reliability	14
13. Precautions	15

1. General Parameter

NO.	Features	Details	Unit
1	Display Size(Diagonal)	2.85"	Inch
2	LCD type	TFT TDDI	-
3	Display Mode	Normally Black	-
4	Resolution	400(H) x 800(V)	Pixels
5	Viewing Direction	ALL	-
6	Module size	34.30(W) x 69.40(H) x 2.12(T)	mm
7	Active Area	32.10(W) x 64.20(H)	mm
8	Pixel Size	80.25(W) x 80.25(H)	um
9	Color arrangement	RGB stripe	-
10	Interface	MIPI	-
11	Display Colors	262K	-
12	Driver IC	ST7102	-
13	Touch Panel	Touch-disabled	-
14	Operating Temperature	-20℃~70℃	℃
15	Storage Temperature	-30℃~80℃	℃
16	Weight	10.75	g

2. MIPI Parameter

NO.	Features	Details	Unit
1	Display Mode	Burst mode	-
2	PCLK Freq	29	MHz
3	PCLK	Falling Edge	-
4	DE/VS/HS	Active High	-
5	HFP WIDTH	40	-
6	HBP WIDTH	40	-
7	HSW WIDTH	2	-
8	VFP WIDTH	192	-
9	VBP WIDTH	18	-
10	VSW WIDTH	2	-

3. Physical drawing



[illegible]

5. Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit
Power Supply Voltage	VCC	-0.3	+4.0	V
Power supply Voltage	IOVCC	-0.3	+2.1	V
Operating temperature	Top	-20	70	°C
Storage temperature	Tst	-30	80	°C

Note 1: If Ambient temperature below 50°C, the maximal humidity is 90%RH, if Ambient temperature over 50°C, absolute humidity should be less than 60%RH.

Note 2: The response time will be extremely slow when the operating temperature is around -10°C, and the back ground will become darker at high temperature operating.

Note 3: If one of the above items is exceeded its maximum limitation momentarily, the quality of the product may be degraded. Absolute maximum limitation, therefore, specify the values exceeding which the product may be physically damaged. Be sure to use the product within the recommend range.

6. DC Characteristics

Item	Symbol	Min.	Typ.	Max.	Unit
Power Supply Voltage	VCC	2.5	2.8	4.0	V
Power Supply Voltage	IOVCC	1.65	1.8	1.95	V
Input Current	I _{IN}	-	20	-	mA

7. Backlight Characteristic

Item	Symbol	Min.	Typ.	Max.	Unit	Condition
Forward Voltage	V _F	11.2	12.0	13.6	V	-
Forward Current	I _F	-	-	40	mA	-
Power dissipation	P _d	-	-	544	mW	-
LED Life Time(25 °C)	-	-	10000	-	Hrs	-

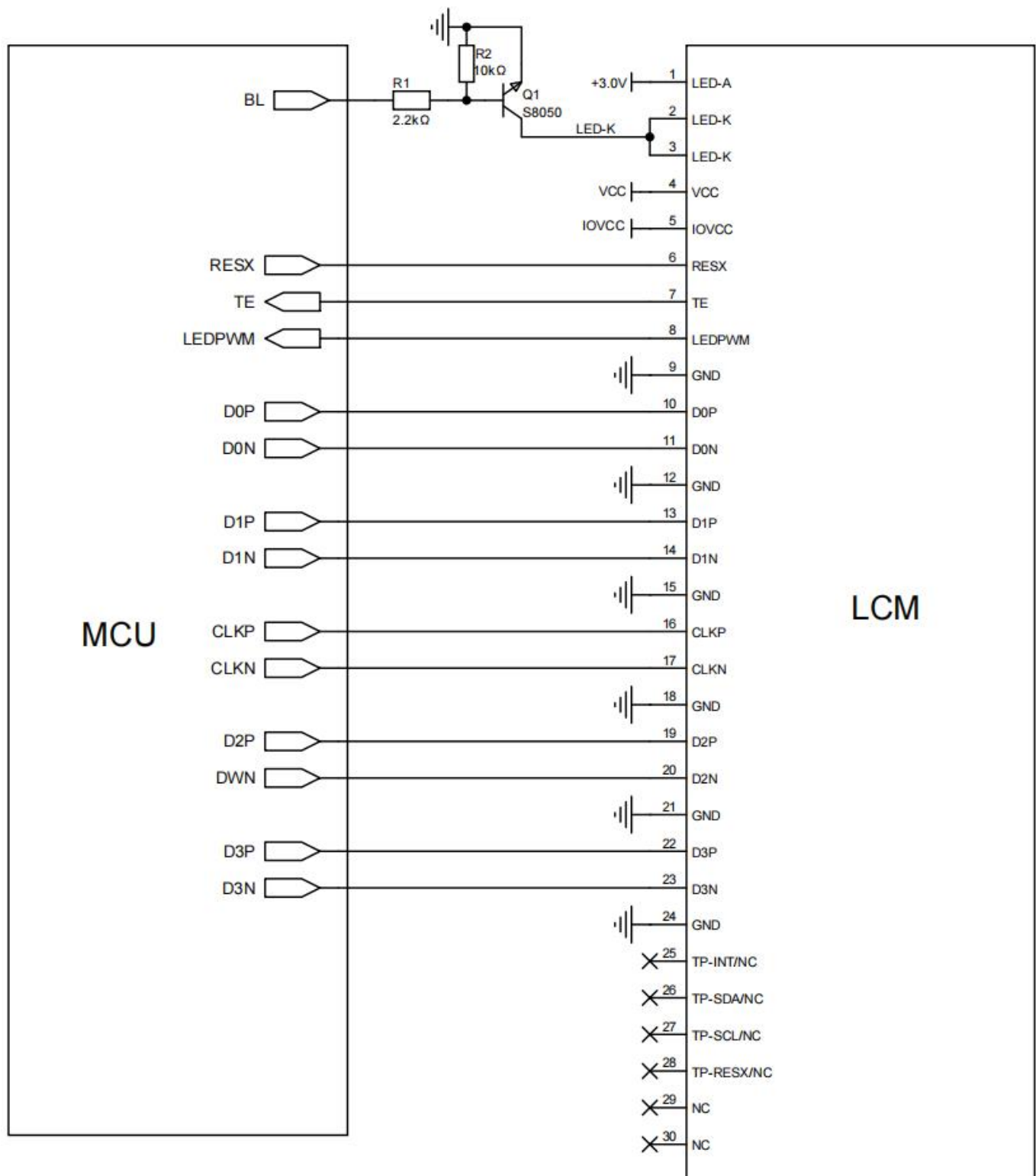
Note: LED life time defined as follows: The final brightness is at 50% of original brightness. Typical operating life time is estimated data.

8. Pins Definitions

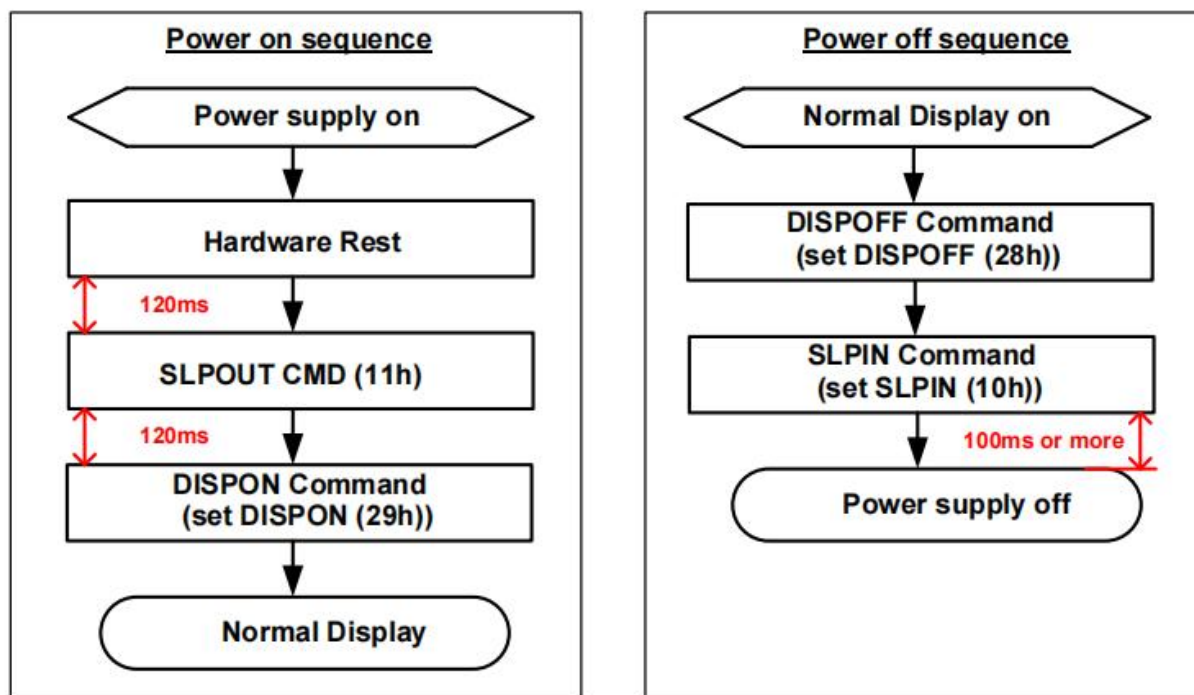
Pin.No	Symbol	Description
1	LED-A	Backlight anode
2	LED-K	Backlight cathode
3	LED-K	
4	VCC	Power supply input pin.(2.5V-4.0V)
5	IOVCC	External power supply for internal logic circuit.(1.65V-1.95V)
6	RESX	This signal will reset the device and it must be applied to properly initialize the chip. -Signal is active low
7	TE	Tearing effect output pin to synchronies MCU to frame writing, activated by S/W command. When this pin is not activated (TE function OFF), this pin is GND level.
8	LEDPWM	LCD backlight control PWM output pin
9	GND	Ground
10	D0P	MIPI-DSI data lane 0 positive-end input/output pin
11	D0N	MIPI-DSI data lane 0 negative-end input/output pin
12	GND	Ground
13	D1P	MIPI-DSI data lane 1 positive-end input pin
14	D1N	MIPI-DSI data lane 1 negative-end input pin
15	GND	Ground
16	CLKP	MIPI-DSI clock lane positive-end input pin
17	CLKN	MIPI-DSI clock lane negative-end input pin
18	GND	Ground
19	D2P	MIPI-DSI data lane 2 positive-end input pin
20	D2N	MIPI-DSI data lane 2 negative-end input pin
21	GND	Ground
22	D3P	MIPI-DSI data lane 3 positive-end input pin
23	D3N	MIPI-DSI data lane 3 negative-end input pin
24	GND	Ground
25	TP-INT	Touch interrupt input pin
26	TP-SDA	Transfers touch-related data (e.g., X/Y coordinates, touch pressure).
27	TP-SCL	Synchronizes the timing of data exchange between the touch panel and main control unit.
28	TP-RESX	Reset, low active, weak pull up
29	NC	No connect
30	NC	No connect

Note: The backlight LED is recommended to be powered independently by constant current drive.

9. Schematic Diagram



10. Power On/Off Sequence



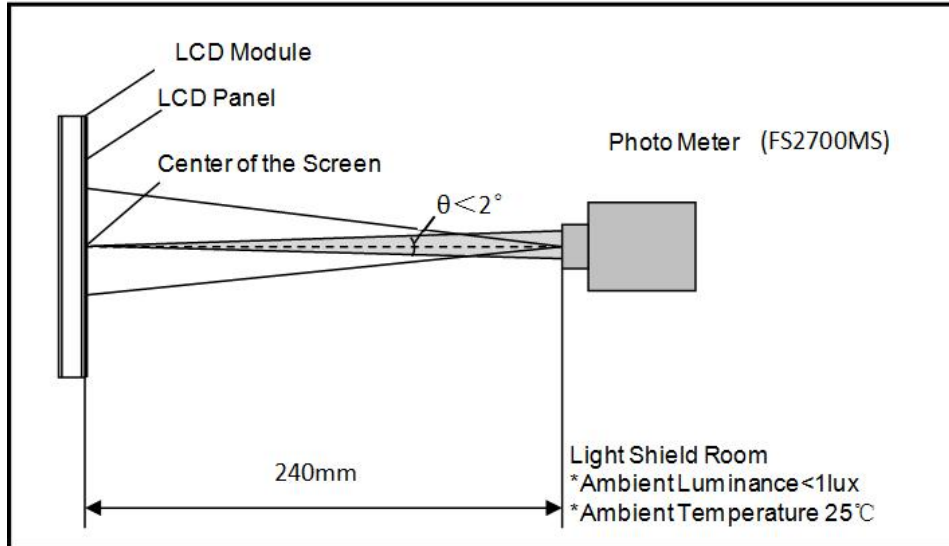
11. Optical Characteristics

The optical characteristics are measured under stable conditions as following notes.

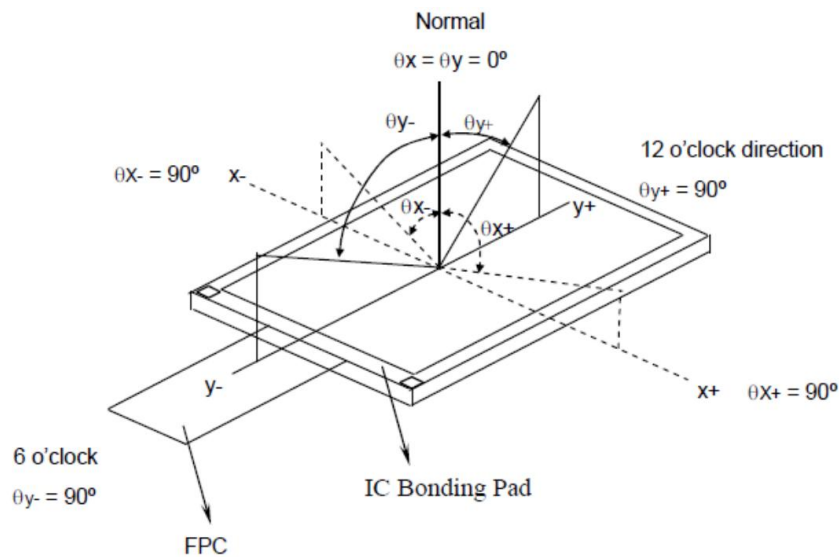
Item	Conditions		Min.	Typ.	Max.	Unit	Note
Transmittance	Center		(3.2)	(3.6)	-	%	Under C-light (1),(5) $\theta_x=\theta_y=0^\circ$
Contrast Ratio	Center		(1000)	(1,200)	-	-	(1),(3) $\theta_x=\theta_y=0^\circ$
Response Time	Rising + Falling		-	TBD	(35)	ms	(1),(4) $\theta_x=\theta_y=0^\circ$
CF Color Chromaticity (CIE1931)	Red	x	(Typ. -0.02)	(0.643)	(Typ. +0.02)	-	Under C-light (1),(5) $\theta_x=\theta_y=0^\circ$
	Red	y		(0.330)		-	
	Green	x		(0.293)		-	
	Green	y		(0.576)		-	
	Blue	x		(0.147)		-	
	Blue	y		(0.133)		-	
	White	x		(0.304)		-	
	White	y		(0.335)		-	
NTSC	CIE1931		TBD	(60)	-	%	
Viewing Angle (CR $\geq$ 10)	Horizontal	θ_{x+}	TBD	(85)	-	degree	(1),(2)
		θ_{x-}	TBD	(85)	-		
	Vertical	θ_{y+}	TBD	(85)	-		
		θ_{y-}	TBD	(85)	-		

Note(1) Measurement Setup:

The LCD module should be stabilized at given ambient temperature (25°C) for 30 minutes to avoid abrupt temperature changing during measuring. In order to stabilize the luminance, the measurement should be executed after lighting backlight for 30 minutes in the windless room.



Note(2) Definition of Viewing Angle.

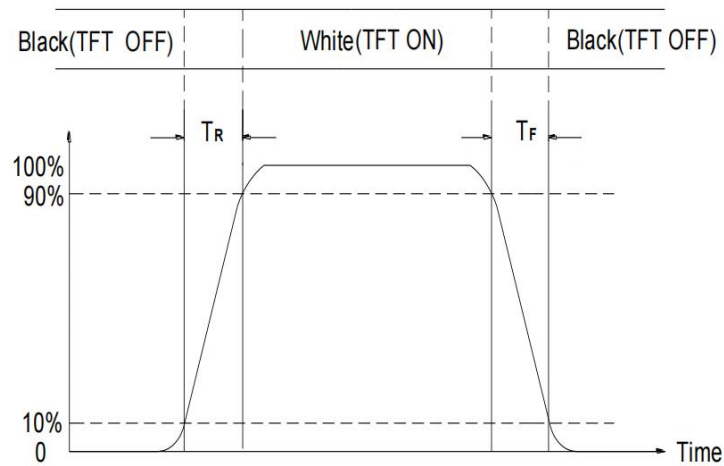


Note(3) Definition of Contrast Ratio (CR)

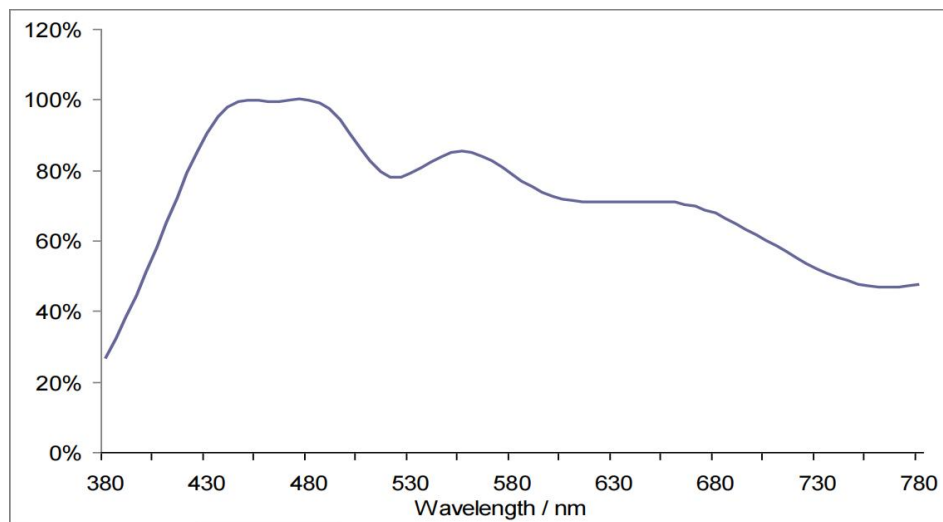
Contrast measurements shall be made at viewing angle of $\Theta = 0$ and at the center of the LCD surface. Luminance shall be measured with all pixels in the view field set first to white, then to the dark (black) state. (See FIG. 2) Luminance Contrast Ratio (CR) is defined mathematically.

$$CR = \frac{\text{Luminance when displaying a white raster}}{\text{Luminance when displaying a black raster}}$$

Note(4) Definition of Response Time



Note(5) C-light Spectrum



12. Reliability

12.1. MTBF

The LCD module shall be designed to meet a minimum MTBF value of 50000 hours with normal.

12.2. Test Condition

No	Item	Condition	Criteria
1	High Temperature Operating	70℃*24Hrs	1. No Defect Of Operational Function In Room Temperature Are Allowable. 2. IDD of LCM in Pre-and Post-Test Should Follow Specification.
2	Low Temperature Operating	-20℃*24Hrs	
3	High Humidity Storage	50℃*90%RH*24Hrs	
4	High Temperature Storage	80℃*24Hrs	
5	Low Temperature Storage	-30℃*24Hrs	
6	Thermal Cycling Test Storage	-	
7	Packing vibration	-	
8	Electrical Static Discharge	-	
		-	
9	Drop Test (Packaged)	-	

Note1. The test samples should be applied to only one test item.

Note2. Sample size for each test item is 2pcs.

Note3. No defection function allowable.

13. Precautions

13.1. Storage Conditions

- 13.1.1. Store the panel or module in a dark place where the temperature is $23\pm5^{\circ}\text{C}$ and the humidity is below $45\pm 20\%\text{RH}$.
- 13.1.2. Store in anti-static electricity container.
- 13.1.3. Store in clean environment, free from dust, active gas, and solvent.
- 13.1.4. Do not place the module near organics solvents or corrosive gases.
- 13.1.5. Do not crush, shake, or jolt the module.
- 13.1.6. Strong light exposure causes degradation of polarizer and color filter.

13.2. Handling Precautions

- 13.2.1. Avoid static electricity, which can damage the CMOS LSI.
- 13.2.2. The polarizing plate of the display is very fragile, please handle it very carefully.
- 13.2.3. Do not give external shock.
- 13.2.4. Do not apply excessive force on the surface.
- 13.2.5. Do not wipe the polarizer with dry cloth, as it might cause scratch. If the surface of the LCD needs to be cleaned, wipe it swiftly with cotton or other soft cloth soaked with petroleum IPA, do not use other chemicals.
- 13.2.6. Reverse and use within ratings in order to keep performance and prevent damage
- 13.2.7. Do not remove the panel or frame from the module.
- 13.2.8. Except for soldering the interface, do not make any alterations or modifications with a soldering iron; Ensure welding temperature at 320°C to 350°C , the welding time control within the 10 s, welding note don't stay too long in the same place to avoid scald FPC.

13.3. Limited Warranty

- 13.3.1. Our warranty liability is limited to repair and/or replacement. We will not be responsible for any consequential loss. (我们的保证责任仅限于修理和/或更换。我们将不负任何相应的损失。)
- 13.3.2. If possible, we suggest customer to use up all modules in six months. If the module storage time over twelve months, we suggest that recheck it before the module be used. (如果可能，我们建议客户在 6 个月内用完所有模块。如果模块存放时间超过 12 个月，我们建议在使用模块前重新检查。)
- 13.3.3. The warranty period is twelve months from the date of delivery. Buyer shall complete the assembly of all processes within twelve months of validity. During the warranty period, if the product quality problems, our company will be responsible for repair and replacement. All products must be stored and handled in accordance with regulations. Under warranty. When the goods do not comply with the above terms, we do not provide warranty services. (保修期为交货之日起十二个月。买方应在 12 个月内完成所有流程的组装。在保修期内，如果产品出现质量问题，我公司将负责维修和更换。所有产品必须按照规定储存和处理。在保修期内。当货物不符合上述条款时，我们不提供保修服务。)