



液晶显示模组规格书

LCD Module Specification

项目型号 Project No.	JTG101Q0125X	
客户名称 Customer's Name		
客户型号 Module No.	S694-A10	
产品属性 Product type	Standard LCD Module 800RGB x1280 Dots 10.1" TFT LCM	
环保要求 Environmental requirements	本产品符合HSF管制标准	
Signature by customer: 客户确认签章: 注意: 请务必安排试产确认无问题后签核承认书及样品, 否则后续量产引起的各种问题 (主要包括: 结构、功能、光学特性、残影、水印、MURA等问题, 外观不良除外) 由贵司自行承担。 NOTE: The specifications must be arranged to sign the acceptance certificate and samples after the confirmation of the problematic production. Otherwise, the problems caused by the subsequent production (mainly including: structure, function, optical properties, residual shadow, watermarking, MURA, etc. Except for poor appearance) will be borne by your company on its own.		
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蔡炜文		



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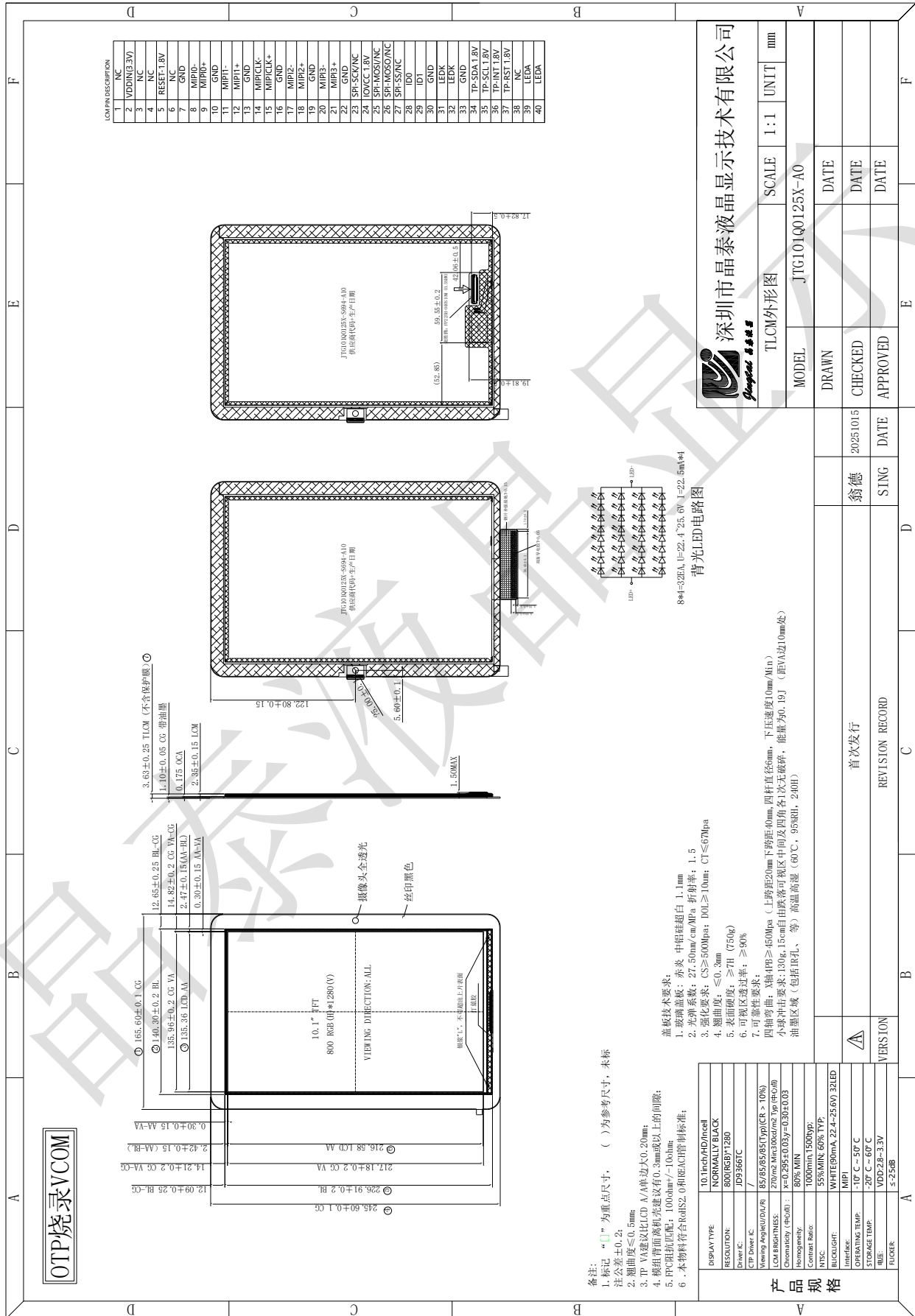


2. 产品特性 Product Features

序号 NO.	特征 Item	规格 Specification	Unit
1	液晶屏幕尺寸(对角线) LCD size (Diagonal)	10.1"	英寸 inch
2	液晶面板类型 LCD Type	TFT	-
3	显示模式 Display Mode	Normally BLACK	-
4	分辨率 Resolution	800 RGB(H)×1280(V)	像素 Pixels
5	视角 Viewing Direction	ALL 'clock	最佳视角 Best Image
6	模组尺寸 Module size	165.6(H) × 245.6(V) × 3.63(D)	毫米 mm
7	可视区尺寸 Active area size	135.36(H) × 216.576(V)	毫米 mm
8	像素间距 Pixel Pitch	0.1692(H) × 0.1692 (V)	毫米 mm
9	像素排列 Pixel Arrangement	RGB-stripe	-
10	显示色彩 Display Colors	16.7M	-
11	接口 Interface	MIPI	-
12	驱动芯片 Driver IC	JD9366TC	-
13	重量 Weight	TBD	克 grams



3.模组外形图 OutlineDrawing





4.接口描述 Interface Pin Description

NO.	Symbol	Function	Remark
1	NC		
2	VDDIN(3.3V)	Analog Power	
3-4	NC		
5	LCM_RST	LCM reset pin	
6	NC		
7	GND	Ground	
8	MIPI_TDN0	MIPI-DSI data Lane 0 negative-end input/output pin	
9	MIPI_TDP0	MIPI-DSI data Lane 0 positive-end input/output pin	
10	GND	Ground	
11	MIPI_TDN1	MIPI-DSI data Lane 1 negative-end input	
12	MIPI_TDP1	MIPI-DSI data Lane 1 positive-end input	
13	GND	Ground	
14	MIPI_TCN	MIPI-DSI clock Lane negative-end input pin/	
15	MIPI_TCP	MIPI-DSI clock Lane positive-end input pin	
16	GND	Ground	
17	MIPI_TDN2	MIPI-DSI data Lane 2 negative-end input/output pin	
18	MIPI_TDP2	MIPI-DSI data Lane 2 positive-end input/output pin	
19	GND	Ground	
20	MIPI_TDN3	MIPI-DSI data Lane 3 negative-end input/output pin	
21	MIPI_TDP3	MIPI-DSI data Lane 3 positive-end input/output pin	
22	GND	Ground	
23	SPI-SCK/NC		
24	IOVCC	Logic Power Supply(1.8V)	
25	SPI-MOSI/NCGND		
26	SPI-MOSO/NC		Remark
27	SPI-SS/NC		
28	LCD_ID0	R1=10K,R2=NC	
29	LCD_ID1	R3=10K,R4=NC	
30	GND	Ground	
31	LEDK	Cathode of LED	
32	LEDK	Cathode of LED	
33	GND	Ground	
34	TP-SDA 1.8V	Serial interface address and data input/output for I2C interface.	
35	TP-SCL 1.8V	Serial interface clock input for I2C interface.	
36	TP-INT 1.8V	Touch screen interrupt line	
37	TP-RST 1.8V	Touch circuit reset pin,	
38	NC		
39	LEDA	Anode of LED	
40	LEDA	Anode of LED	



5. 电气规格 Electrical Specifications

5.1 绝对最大参数 Absolute Maximum Ratings

Item 项目	Symbol 符号	最小值 Min.	最大值 Max	单位 Unit
Input Voltage 输入电压	Vin	-0.3	VDDI	V
I/O Supply Voltage I/O 端口供电电压	VioVcc	-0.3	0.3VDDI	V
Operating Temperature 操作温度	Top	-10	50	°C
Storage Temperature 存储温度	Tst	-20	60	°C
Humidity 湿度	RH	---	90% (MAX50°C)	RH

5.2 直流特性 DC Characteristics

Item 项目	Symbol 符号	最小值 Min.	典型 值 Typ.	最大值 Max.	单位 Unit
模拟电源电压 Supply Voltage of Analog	VSP	4.5	--	6.2	V
模拟电源电压 Supply Voltage of Analog	VSN	-6.2		-4.5	
数字电源电压 Supply Voltage of Digital	IOVCC	1.65	--	1.95	V
输入电流 Input Current	Idd				mA
输入电压高电平 Input Voltage 'H' Level	Vih	0.7IOVCC	-	IOVCC	V
输入电压低电平 Input Voltage 'L' Level	ViL	0	-	0.3IOVCC	V
输出电压高电平 Output Voltage 'H' Level	Voh	0.8 IOVCC	-	IOVCC	
输出电压低电平 Output Voltage 'L' Level	Vol	0	-	0.2IOVCC	

备注：即使上述参数之一的绝对最高额定值只超过一段时间，产品的质量也可能下降。因此，请确保在绝对最高额定值的范围内使用该产品

Note: Even if the absolute maximum rating of one of the above parameters is exceeded only for a short while, the quality of the product may be degraded. Therefore, be sure to use the product within the range of the absolute maximum ratings.



5.3 Backlight Characteristics

项目 Item	符号 Symbol	条件 Conditions	最小值 Min.	典型值 Typ.	最大值 Max.	单位 Unit
正向电压 Forward Voltage	V_F	$T_a=25^\circ\text{C}$, $I_F=22.5\text{mA/L}$ ED	22.4	24	25.6	V
正向电流 Forward Current	I_F	$T_a=25^\circ\text{C}$, $V_F=3.0\text{V/LED}$		90		mA
功耗 Power Dissipation	P_D	-	-	2160	-	mW
发光二极管排列 LED Configuration	8 串 3 并, 一共 24 颗发光二极管 8 series 3 parallel, 24 LED Altogether					

6. 光学特性 Optical Characteristics

项目 Item	符号 Symbol	条件 Condition	最小值 Min	典型值 Typ	最大值 Max	单位 Unit	备注 Remark
对比度 Contrast Ratio	CR	$T=25^\circ\text{C}$ $I=90\text{mA}$	800	1000	--		Note3
亮度 Surface Luminance	L_v		270	300	--	cd/m ²	Note1
亮度均匀性 Luminance uniformity	%		75	--	--	%	Note2
响应时间 Response time	T_r+T_f	Rising+Falling	---	30	35	ms	Note4/ 8
视角 Viewing angle range	\varnothing ($CR \geq 0$)	3o'clock	70	80	--	Deg.	Note5/ 8/9
		12o'clock	70	80	--	Deg.	
		9o'clock	70	80	--	Deg.	
		6o'clock	70	80	--	Deg.	
模组色度 Module Chromaticity CIE(x,y)	White	x	0.265	0.295	0.325		Note6
		y	0.27	0.30	0.33		
色域 NTSC Ratio	S	--	55	60	--	%	Note7

Note1. Surface luminance is the LCD surface from the surface with all pixels displaying white, For more information see FIG 1.

表面亮度是由测试 LCD 表面显示白色时 9 个点的亮度平均值得来的, 详情参考 FIG 1

L_v =Average Surface Luminance with all white pixels

Note2. The uniformity in surface luminance (& White) is determined by measuring luminance at each test position, and then dividing the maximum luminance of 9 points



luminance by minimum luminance of 9 points luminance. For more information see FIG 1.

均匀度的数据是将测试9个点在白色画面下的亮度最小值对比9个点亮度的最大值对比而得来的,详情参考 FIG 1。

$$\text{Uniformity} = \text{Minimum Surface xels(white)} / \text{Maximum Surface xels (white)}$$

Note3. Contrast Ratio(CR) is defined mathematically by the following formula. For more information see FIG 1:

对比度可参考如下公式计算, 详细信息请参考 FIG 1。

$$\text{contrast Ratio} = \text{Average Surface Luminance (white)} / \text{Average Surface Luminance (black)}$$

Note4. Response time is the time required for the display to transition from White to black(Rise Time T_r) and from black to white(Decay Time T_f), For additional information see FIG 2.

相应时间定义为: 从白转到黑的时间(上升时间 T_r)以及从黑转到白的时间(下降时间 T_f)之和, 详细信息请参考 FIG 2。

Note 5. Viewing angle is the angle at which the contrast ratio is greater than 10. For TFT module the contrast ratio is greater than 10. The angles are determined for the horizontal or x axis and the vertical or y axis with respect to the z axis which is normal to the LCD surface For more information see FIG 3.

视角定义为必须在对比度大于 10 时才有效, 详细信息请参考 FIG 3。

Note 6. CIE(x, y) chromaticity, The x, y value is determined by screen active area position 9, or more information see FIG 1.

色坐标的值来自于对于屏 AA 区 9 个点的数据测试, 详细信息参考 FIG 1。

Note7. NTSC ratio is defined mathematically by the following formula.

$$\text{NTSC ratio} = \frac{\text{Area of RGB triangle}}{\text{Area of NTSC triangle}}$$

Note8. For Viewing angle and response time testing, the testing data is base on Autronic-Melchers' s ConoScope. Series Instruments. For contrast ratio, Surface Luminance, Luminance uniformity and CIE, the testing data is base on BM-7 photo detector.

视角/相应时间的测试数据是由 Autronic-Melchers 测试得来的, 对比度/表面亮度/均匀性/色坐标的数据是由 BM-7 测试得来的。

Note9. For TFT transmissive module. Gray scale reverse occurs in direction of panel viewing angle

对于普通视角的模组, 灰阶反转的方向和 TFT 面板的方向一致



FIG. 1. Measuring method for Contrast ratio, surface luminance, Luminance uniformity, CIE (x, y) chromaticity.

对比度/表面亮度/均匀度/色坐标测试方法

A : 5mm

B : 5mm

H, V : Active Area

Light spot size $\varnothing = 5\text{mm}$, 500mm

distance from the LCD surface to detector lens measurement

instrument is luminance meter BM-7

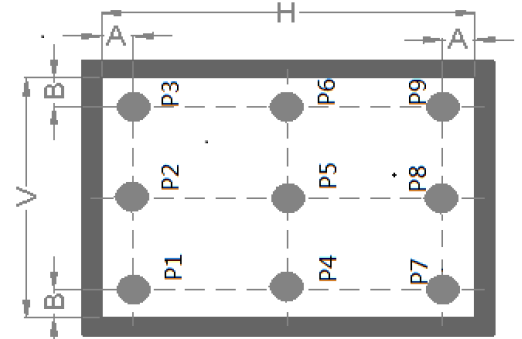


FIG. 2. The definition of Response Time 相应时间定义方式

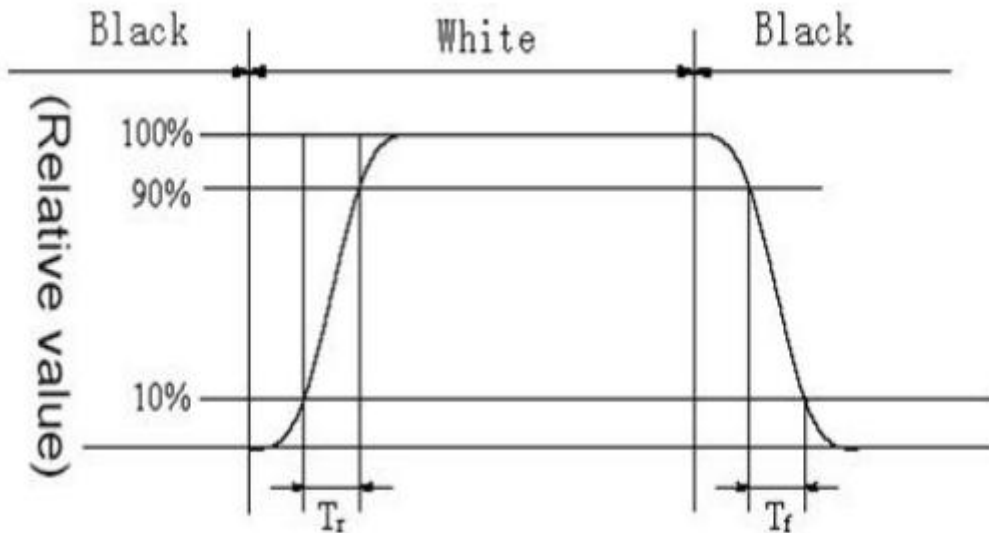
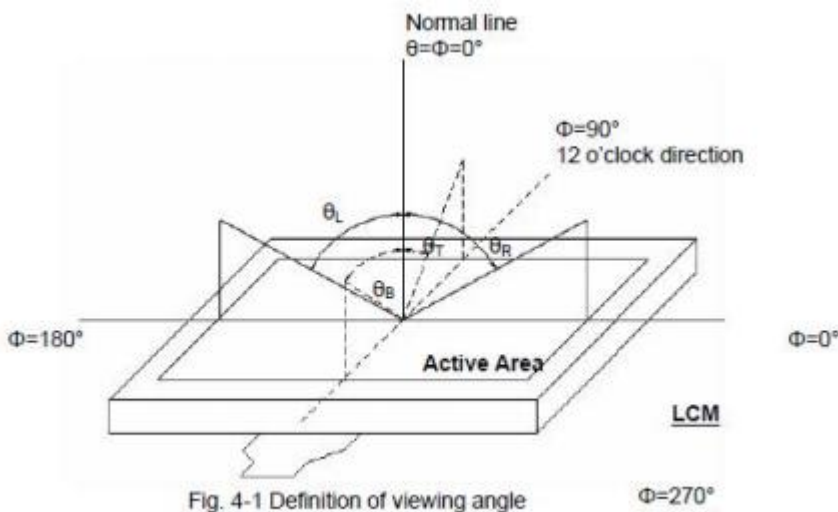


FIG. 3. The definition of viewing angle 视角定义方式





7. Power off sequence for external power

7.1

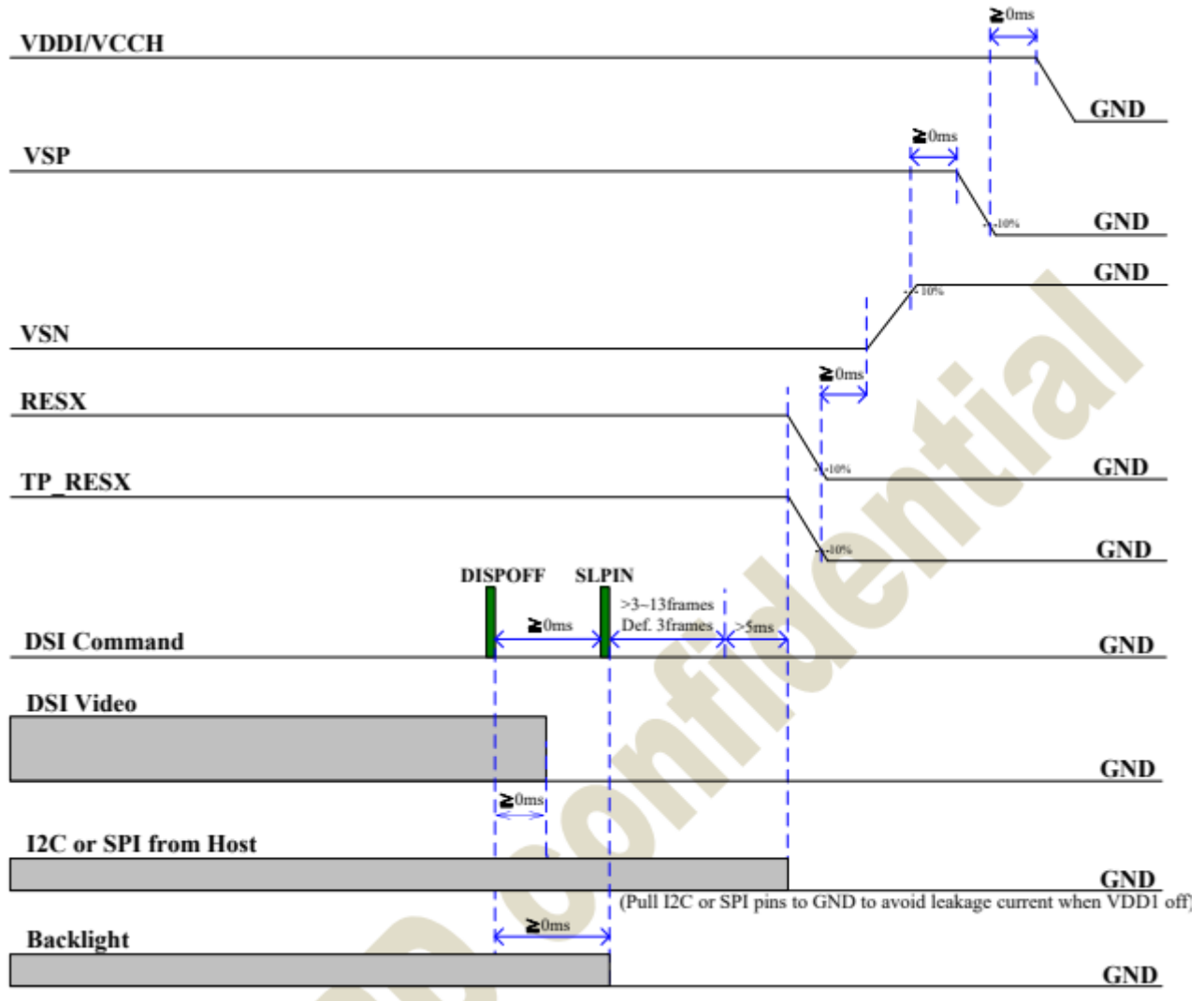


Table 8: Normal Write Mode (VCC = 2.8V IOVCC=1.8~2.8V)



8. 可靠性试验项目 Reliability Test Item

测试项目 Test Item	测试条件 Test Condition	检测时间 Check Time	Inspection After Test 测试结果判定
高温存储 High temperature storage	60°C	96 小时 96 hrs	Inspection after 2~4hours storage at room temperature, the samples should be free from defects: 试验强束后, 已测试的 LCD 样品必须在室内正常温湿度环境下放置 2~4 个小时以上才能进行功能和外观检查, 样品不允许有以下缺陷: 1,Air bubble in the LCD.模块中有气泡; 2,Sealleak.漏液 3,Non-display.不显示 4,Missing segments.缺画 5,Glass crack.玻璃破碎 6,Current IDD is twice higher than initial value.大电流 7, The surface shall be free from damage.表面损坏 8, The electric Characteristics requirements shall be satisfied.需要满足模块电气性能
低温存储 Low temperature storage	-20°C	96 小时 96 hrs	
高温运行 High temperature operation	50°C	96 小时 96 hrs	
低温运行 Low temperature operation	-10°C	96 小时 96 hrs	
高温高湿运行 High temperature & humidity operation	50°C,90%RH	96 小时 96 hrs	
冷热冲击 Thermal Shock	-20°C/0.5H~+60°C /0.5H for a total 48 cycles	48 循环 48 cycles	
静电测试 ESD Test	Air Discharge: Apply ±8KV with 5 times ,150Pf/330 Ω Contact Discharge: Apply ±4KV with 5 times 150Pf/330 Ω	---	

备注 Note:

- (1) 环境温度
Ambient temperature
- (2) 所有显示判断均在面板温度恢复到室温后进行
All judgments of display are performed after temp of panel returns to room temperature
- (3) 显示功能在正常工作条件下不发生变化
Display function should be no change under normal operating condition.
- (4) 无露水凝结
Under no condensation of dew



9. 常规品质标准 Conventional Quality Standard :

9.1 密集定义:1mm 以内若有两点(圆形物)、两条(线状物)或圆形物与线状物, 则称之为密集。

Intensive definition: If there are two dots, two lines or circles and threads within 1 mm , called it intensively.

9.2 检验方案:

Inspection Scheme

AQL 允收水准: 主缺: 0. 40 次缺:0.65

AQL Acceptable Quality Level: Major defect: 0.40 Minor defect: 0.65

检验项目 Inspection Plan	抽样计划 Sampling Plan
外观、电讯 Visual and Electrical Inspection	GB/T 2828.1-2003 一般、单次抽样、II 级 GB/T 2828.1-2003, normal inspection, single Sampling. II Level
尺寸 Product Size	0.96 寸 (含) 以上 12.3 寸以下所有 TFT LCM TFT-LCM: 0.96" -12.3"

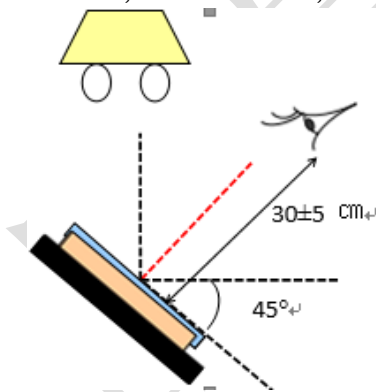
9.3 检验条件要求:

Inspection Requirements

检验者目视与产品距离 $30\text{cm} \pm 5\text{cm}$, 检验方向以垂直线前后左右 45° ,

电性测试以规定的视角: (12 点; 3 点; 6 点; 9 点) 判别.

The distance between eyes and products within 30cm and the viewing angle should be 45° from the vertical line. Electrical inspection viewing angle judged by 12 o' clock , 3 o' clock, 6 o' clock, 9 o' clock.



9.4 检验环境要求:

Environmental Requirements

照度: 距离灯管 30cm 量测照度 800lux 以上.

The inspection must be over 800lux and the distance of view must be at 30cm.



9.5 缺陷项目及接收标准 Defective items and acceptance standard

编号 No	缺陷名称 Defect name	接收标准 Acceptable Standard	分类 Defect Level
1	外形尺寸 (Outline size)	不能超出图纸公差范围 (Do not exceed drawing tolerances)	重缺陷 (Major defect)
2	漏笔、缺划 (Missing segment)	缺横线、缺竖线，不允许 (Missing horizontal line, Missing vertical line, not allowed)	重缺陷 (Major defect)
3	无显示(No display)	无画面显示，不允许 (No display, not allowed)	重缺陷 (Major defect)
4	显示异常 (Abnormal display)	显示乱码，不允许 (Display unreadable code, not allowed)	重缺陷 (Major defect)
5	背光不亮,死灯,背光不均 (Backlight is no brightness, dead light, uneven backlight)	背光不亮或是有一颗以上 LED 灯不亮，背光均匀性未达到标准要求不允许 (The backlight is not bright or more than one LED light is not bright, the backlight uniformity does not meet the standard requirements are not allowed)	重缺陷 (Major defect)
6	无触摸，触摸漂移(TP no function, shift)	不允许 Not allowed	重缺陷 (Major defect)
7	底色不均 (Uneven color)	以限度样板为准（前提是满足规格书中均匀性要求） Subject to the limit sample(The premise is to meet the uniformity requirements in the specification)	重缺陷 (Major defect)
8	显示淡 (Light display)	超出规格书中亮度及对比度，NG Exceeds the brightness and contrast of specification, NG	重缺陷 (Major defect)
9	TFT子像素点 坏死(dot defect)	<p>示意图：</p> <p>亮点/暗点的按照各型号亮点检查标准。 (The bright/dark spots shall be inspected according to the bright spot inspection standards of each model.)</p> <p>备注 Remark： 1) 亮点指暗画面时，一个子像素点显示发亮；</p>	轻缺陷 (Minor)



		<p>(Bright point means that a sub-pixel lights up when the picture is dark;) 2) 暗点则指白色画面时，一个子像素点显示发暗； (Dark point means that when the screen is white, a sub-pixel appear dark;) 3) 当缺陷的部分大于 1/2 子像素点时，当作一个亮点/暗点。 (When the defect is greater than 1/2 sub-pixel, it is considered as a bright/dark point.)</p>	defect)																																											
10	<p>点状缺陷（黑点，白点，异物点）（Spot defect(Black spot, white spot, foreign object spot)）</p>	<table border="1"> <thead> <tr> <th colspan="4">点缺陷接收标准Point defect acceptance standard</th> </tr> <tr> <th rowspan="2">区域Area</th> <th colspan="3">允许个数Allowable number</th> </tr> <tr> <th colspan="3">8"≤Size≤12.3"</th> </tr> <tr> <th>尺寸Size</th> <th>AA</th> <th>VA</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>φ ≤ 0.1mm</td> <td colspan="3">不限 Ignore</td> </tr> <tr> <td>0.1mm < φ ≤ 0.25</td> <td>3</td> <td>3</td> <td rowspan="3">不限 Ignore</td> </tr> <tr> <td>0.25mm < φ ≤ 0.3</td> <td>2</td> <td>2</td> </tr> <tr> <td>0.3mm < φ</td> <td>0</td> <td>0</td> </tr> <tr> <td>像素亮点</td> <td>0</td> <td>0</td> <td></td> </tr> </tbody> </table> <p>1. 0.2mm以上点与点之间的距离在10mm以上，限制个数。 2. “不限”指不限制个数，但不允许密集点（直径5mm内，个数不超过3个），距离30±5cm，时间5~10秒，不可见的除外； 3. 点缺陷最多缺陷数5个，距离>10mm 1. Limit the number of points with a size greater than 0.2mm and a distance between points greater than 10mm. 2. "Ignore" means no limit on the number of points, but do not allow dense points (within 5m diameter, the number of no more than 3), the distance of 30±5cm, the time of 5~10 seconds, except invisible; 3. Point defects maximum number of defects 5, distance >10mm.</p> <p>选定最长的一边 a, 对应垂直方向的宽度为 b。点的直径为长加宽的一半。（Choose the longest side A, corresponding to the vertical width b. The diameter of the point is half the width and length.）</p>	点缺陷接收标准Point defect acceptance standard				区域Area	允许个数Allowable number			8"≤Size≤12.3"			尺寸Size	AA	VA	B	φ ≤ 0.1mm	不限 Ignore			0.1mm < φ ≤ 0.25	3	3	不限 Ignore	0.25mm < φ ≤ 0.3	2	2	0.3mm < φ	0	0	像素亮点	0	0		轻缺陷 (Minor defect)										
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11	<p>线状缺陷（毛线，细划伤等）Line Defect(Foreign material, scratch, etc.)</p>	<table border="1"> <thead> <tr> <th colspan="5">线缺陷接收标准Line defect acceptance standard</th> </tr> <tr> <th rowspan="2">区域Area</th> <th colspan="4">允许个数Allowable number</th> </tr> <tr> <th colspan="4">8"≤Size≤12.3"</th> </tr> <tr> <th>尺寸Size</th> <th>L</th> <th>AA</th> <th>VA</th> <th>B</th> </tr> </thead> <tbody> <tr> <td>W</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>W ≤ 0.03mm</td> <td>≤5</td> <td colspan="3">不限 Ignore</td> </tr> <tr> <td>0.03mm < W ≤ 0.05</td> <td>≤5</td> <td>3</td> <td>3</td> <td rowspan="2">不限 Ignore</td> </tr> <tr> <td>0.05 < W ≤ 0.08</td> <td>≤5</td> <td>2</td> <td>2</td> </tr> <tr> <td>L > 5mm 或者 W > 0.05mm</td> <td colspan="4">不允许</td> </tr> </tbody> </table> <p>1. W>0.08mm按点缺陷标准； 2. 线与线之间距离在10mm以上，整个屏幕线条缺陷数≤3个。 1. W>0.08mm according to the point defect standard; 2. If the distance between lines is more than 10mm, the number of line defects of the whole screen is less than or equal to 3.</p>	线缺陷接收标准Line defect acceptance standard					区域Area	允许个数Allowable number				8"≤Size≤12.3"				尺寸Size	L	AA	VA	B	W					W ≤ 0.03mm	≤5	不限 Ignore			0.03mm < W ≤ 0.05	≤5	3	3	不限 Ignore	0.05 < W ≤ 0.08	≤5	2	2	L > 5mm 或者 W > 0.05mm	不允许				轻缺陷 (Minor defect)
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12	模糊黑白团、贴合水印、黑影、 (Mura Fuzzy black and white blob, paste watermark, black shadow, Mura)	模糊点指不易发现的脏污，淡黑、白团、Mura。用 ND6%滤光片遮盖，不可见可接受。必要时可制定限度样板 Blurring point means dirt that is not easy to find, pale black, white blob, Mura. ND6% filter cover, invisible acceptable. Limit samples can be made if necessary	轻缺陷 (Minor defect)
13	玻璃崩角、崩边(The glass corners and edges broken)	以下接收标准的前提为 超出图纸尺寸不允许,裂缝不允许,崩伤线路不允许(FPC 邦定线路除外) The premise of the following receiving standards is that exceeding the drawing size is not allowed, cracks are not allowed, and broken lines are not allowed (except FPC bonding lines).	轻缺陷 (Minor defect)
14	偏光片气泡 (Polarizer bubbles)	<p>进入 VA 区，按照点线接收标准； Enter the VA area, according to the dot line reception standard;</p> <p>边沿气泡未进入 VA 区的，气泡最多不能超过环氧框 4/5； The edge bubbles do not enter the VA zone, and the bubbles cannot exceed 4/5 of the epoxy frame at most.</p> <p>备注 1：图纸无标注 VA 区的，应以客户机壳盖住后不可见为接收准则 Note 1: There is no marked VA area in the drawing. The acceptance criterion shall be that it is not visible after the customer enclosure is covered</p> <p>备注 2：气泡大到有扩大风险或偏光片翘起风险的，不允许 Note 2: Bubbles so large that there is a risk of expansion or the polarizer becoming warping are not allowed.</p>	轻缺陷 (Minor defect)
15	表面凹坑，凸点 (Surface pits or bumps)	$\Phi \leq 0.5\text{mm}$, 可接收； $\Phi > 0.5\text{mm}$, 不接收 $\varphi \leq 0.5\text{mm}$, can be received; $\Phi > 0.5\text{mm}$, not receiving	轻缺陷 (Minor defect)
16	偏光片贴附 (Attachment of polarizer)	<p>不允许超出玻璃边，不允许超出图纸尺寸 Do not allow beyond the glass edge, do not allow beyond the drawing size</p> <p>偏光片的边必须整齐，如成锯齿状，不能进入 1/2 环氧框 The edge of the polarizer must be neat. If it is jagged, it cannot enter the 1/2 epoxy frame</p> <p>偏光片的任何边角翘起不允许 Any warping of the edges of the polarizer is not allowed</p> <p>偏光片方向类别错误不允许 The polarizer direction category error is not allowed</p>	轻缺陷 (Minor defect)



17	边框胶（环氧树脂）缺陷 (Frame glue (epoxy frame) defect)	胶缺失及胶气泡或杂质不能超过 1/3 边框胶。 Glue loss and glue bubbles or impurities can not exceed 1/3 of the border glue. 边框胶突起不能进入视区。 Border glue protrusions cannot enter the viewing area.	轻缺陷 (Minor defect)
18	保护胶缺陷 (Defect of protective glue)	打胶高度不超过偏光片表面 The glue height shall not exceed the surface of the polarizer 胶必须完全覆盖 ITO 走线，且无贯穿气泡、针孔 The glue must completely cover the ITO line without bubbles and pinholes	轻缺陷 (Minor defect)
19	一线胶 (Line glue)	漏涂一线胶，NG Leak of line glue, NG	轻缺陷 (Minor defect)
20	点银浆 (Dot silver paste)	银浆需连通上下层，厚度不可高过偏光片 The silver paste should be connected to the upper and lower layers, and the thickness should not be higher than the polarizer	轻缺陷 (Minor defect)
21	FPC 折痕 (FPC crease)	死折(指没有弧度呈角度的弯折)不允许。 Dead folding (bending at an Angle without radians) is not allowed 备注：特殊要求允许死折的，以图纸要求为准。 Note: For special requirements that allow dead folding, the requirements of the drawing shall prevail.	轻缺陷 (Minor defect)
22	线路缺口、针孔、杂质(Line gap, pinhole, impurity)	线路缺口或杂质不允许超过 1/3 线路宽度，长度要小于线宽。 The line gap or impurity should not exceed 1/3 of the line width, and the length should be less than the line width 	轻缺陷 (Minor defect)
23	金手指厚度 (Gold finger thickness)	金手指厚度超出图纸要求，NG； Goldfinger thickness exceeds drawing requirements, NG; 金手指轻易从连接器松脱，NG；金手指无法插入连接器，NG；Goldfinger easily comes loose from connector, NG；Goldfinger cannot insert connector, NG；	轻缺陷 (Minor defect)
24	金手指划伤，异物 (Gold finger Scratches,	表面不可露铜、露镍、脱层及氧化 The surface is not allowed to expose copper, nickel, delamination and oxidation 金手指不允许有污渍、脏污。可擦除印记需退回清洁	轻缺陷 (Minor defect)



	foreign bodies)	Goldfinger is not allowed to be stained or smudged. Erasable marks need to be returned for cleaning	
25	插接金手指偏位 (Insert Goldfinger offset)	偏位超出图纸要求，NG； Deviation beyond the drawing requirements，NG 边沿残留金属铜，NG Metallic copper remains on the edge，NG	轻缺陷 (Minor defect)
26	覆盖膜与铜面间异物 (Foreign body between covering film and copper surface)	1.导电性异物 NG 2.目视可见的黑色异物 NG 3.横跨两根导体的异物 NG 1. Conductive foreign body NG 2. Visually visible black foreign body NG 3. Foreign object across two conductors NG	轻缺陷 (Minor defect)
27	焊接缺陷 (Weld defects)	假焊、虚焊，锡渣残留、短路等不可有 tack weld，cold joint，tin slag residual, short circuit is not allowed 焊接高度默认为不能超过 0.4mm，图纸有要求以图纸为准 The welding height should not exceed 0.4mm by default, and the requirements in the drawing shall prevail	轻缺陷 (Minor defect)
28	组装偏位 The (assembly deviation)	不可超出图纸要求 Do not exceed the drawing requirements	轻缺陷 (Minor defect)
29	卡扣变形 (Card buckle deformation)	卡扣失去作用，NG Buckles are out of action, NG	轻缺陷 (Minor defect)
30	产品喷码 (Product Spurt the code)	图纸有要求内容的，参照图纸要求。客户无要求的印流程单批号。If the drawings contain required contents, refer to the requirements of the drawings. If the customer does not require the printing process sheet batch number. 以能识别出喷码内容为接收标准。 To be able to identify the coding content as the receiving standard.	轻缺陷 (Minor defect)
31	泡棉胶 (Foam Tape)	视窗内的泡棉不可以超出显示区，以 45°角检验，看见泡棉胶 NG The foam in the window can not exceed the display area, check at 45° Angle, if the foam can be seen NG 背面泡棉胶必须检验，不可超出 TP 与 TFT 组合，目视不可见为 OK Back foam must be checked, not beyond the combination of TP and TFT, visual visibility is OK	轻缺陷 (Minor defect)
32	IC 遮光纸 (IC shading)	需完全覆盖 IC，不能超出玻璃边，不能搭到偏光片,不可翘起 The IC shall be completely covered, not beyond the glass edge, not against	轻缺陷 (Minor defect)



	paper)	the polarizer, and not warped	defect)
33	高温胶 (High temperature glue)	参考图纸,完全覆盖住焊接区, 不可超出模组边沿, 不可翘起. Refer to drawing, completely cover welding area, do not exceed module edge, do not warp.	轻缺陷 (Minor defect)
34	易撕贴 (Easy tear stick)	易撕贴要能将保护膜撕起 Pull tape can tear up the protective film	轻缺陷 (Minor defect)
35	保护膜 (protective film)	保护膜不能有破损,表面不可有明显胶状物, 可吹拭或可擦试的判 OK. The protective film can't be damaged, and the surface can't have obvious gelatinous material. which can be wiped or erasable is OK.	轻缺陷 (Minor defect)
36	标签 (The label)	1.标签的使用和贴附需符合规格要求。标签内容不能涂改 The label's must comply with specifications. The label content cannot be altered 2.如是条码或二维码,扫描内容需与要求一致 If the label is a bar code or two-dimensional code, the scan content must be consistent with the requirements	轻缺陷 (Minor defect)

10. 注意事项 General Precautions

10.1 操作注意事项 Handling

- 液晶显示屏是由玻璃制成的。不要给予过度的外部冲击，或从高处掉下来。
The LCD screen is made of glass. Don't give excessive external shock, or drop from a high place.
- 如果液晶显示屏损坏，液晶泄漏，不要舔和吞咽。当液体附着在你的手，皮肤，布等，用肥皂和水彻底和立即洗掉它。
If the LCD screen is damaged and the liquid crystal leaks out, do not lick and swallow. When the liquid is attach to your hand, skin, cloth etc, wash it off by using soap and water thoroughly and immediately.
- 不要在 LCM 表面施加过多的力。
Don't apply excessive force on the surface of the LCM.
- 如果表面被污染，用软布清洗。如果 LCM 受到严重污染，使用异丙醇/乙醇清洗。其他溶剂可能损坏偏光剂。特别禁止以下溶剂：水、酮芳香溶剂等。
If the surface is contaminated ,clean it with soft cloth. If the LCM is severely contaminated , use Isopropyl alcohol/Ethyl alcohol to clean. Other solvents may damage the polarizer . The following solvents is especially prohibited: water , ketone Aromatic solvents etc.
- 注意尽量减少电极的腐蚀。在高湿环境中，水滴、水分凝结或电流流动会加速电极的腐蚀。
Exercise care to minimize corrosion of the electrode. Corrosion of the electrodes is accelerated by water droplets, moisture condensation or a current flow in a high-humidity environment.



6. 使用安装孔安装液晶显示模块。安装液晶模块时，确保其没有扭曲、扭曲和变形。特别是不要强行拉或弯曲 I/O 电缆或背光电缆。

Install the LCD Module by using the mounting holes. When mounting the LCD module make sure it is free of twisting, warping and distortion. In particular, do not forcibly pull or bend the I/O cable or the backlight cable.

7. 不要拆卸 LCM。

Don't disassemble the LCM.

8. 为了防止静电破坏元件，请注意保持最佳的工作环境。

- 在处理液晶显示模块时，一定要身体接地。
- 组装所需的工具，如焊锡熨斗，必须适当接地。
- 为了减少静电产生的数量，不要在干燥条件下进行组装和其他工作。
- 液晶模块涂上了一层薄膜---为了保护显示表面。运动时要小心剥离这个保护膜，因为可能产生静电。

To prevent destruction of the elements by static electricity, be careful to maintain an optimum work environment.

- Be sure to ground the body when handling the LCD modules.
- Tools required for assembling, such as soldering irons, must be properly grounded.
- To reduce the amount of static electricity generated, do not conduct assembling and other work under dry conditions.
- The LCD module is coated with a film to protect the display surface. Exercise care when peeling off this protective film since static electricity may be generated.

9. 除焊接接口外，不要用烙铁进行任何修改；焊接温度保证在 320°C—350°C，焊接时间控制在 10S 以内，焊接时注意不要在同一处停留时间太久以免烫伤 FPC。

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 10S, welding note don't stay too long in the same place to avoid scald FPC

10. 其它事项在不清楚使用之前，请联系我司人员进行指导。

Other matters in not clear before use, please contact our staff to guid.

10.2 Storage

1. 贮存于环境温度 23°C ± 5°C，相对湿度为 55% ± 15%，存储不能超过 12 个月，不要长时间暴晒。

Store in an ambient temperature of 23°C ± 5°C, and in a relative humidity of 55% ± 15%. Don't exceed 12 months and expose to sunlight or fluorescent light.

2. 储存在清洁的环境中，不含灰尘、活性气体和溶剂。

Storage in a clean environment, free from dust, active gas, and solvent.

3. 存放在抗静电容器中。

Store in antistatic container.