

 <b>福瑞达</b> 深圳市福瑞达显示技术有限公司 SHENZHEN FRIDA LCD CO.,LTD	Doc.No.: FRD070LLW1Q-CK	
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<b>SPEC TITLE</b> DOCUMENT CONTROL SPECIFICATION	EFFECTIVE DATE : 2023-12-12	

## 产品型号：FRD070LLW1Q-CK

客户确认	
批 准	意 见

	签 名	日 期
设 计	Yuan Bao Long	2023.12.12
审 核	Feng Ya Hui	2023.12.12
批 准	Zheng Bin	2023.12.12

深圳市福瑞达显示技术有限公司

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1. 修改记录 :

版本	日期	描述	发行者
A	2023-12-12	首次发行	YBL

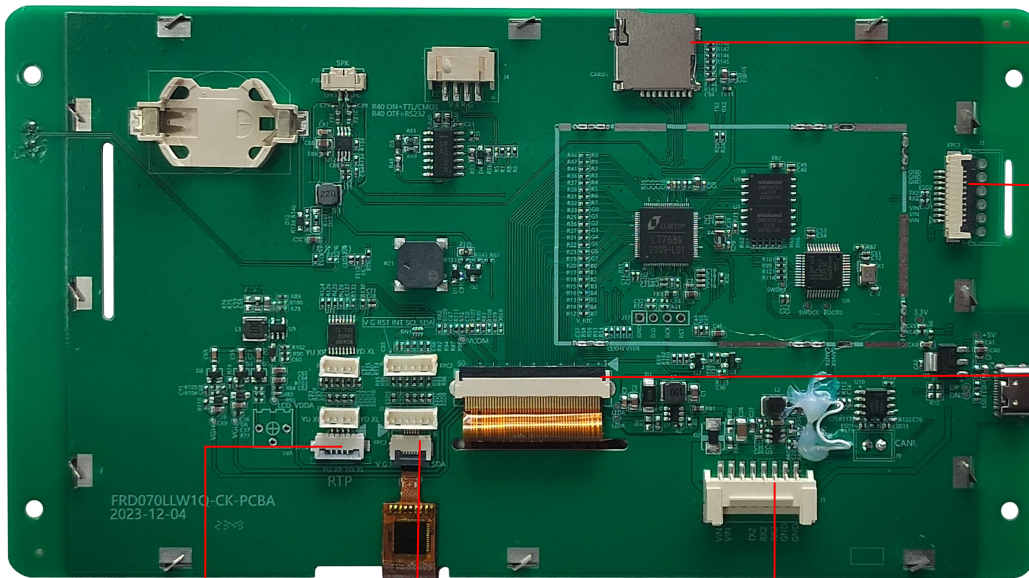
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## 2. 产品概述:

FRD070LLW1Q-CK 是一款 7.0 寸 800\*480 智能显示模块，带电容触摸屏。

本产品应用于充电桩类

- 800 \*480 分辨率支持 24bit 真彩触摸显示屏实现人机交互
- 操作系统: Linux
- 通信接口支持: 串口 TTL、CMOS 、RS232、CAN  
UART 通信最高支持 2m bps 通信速率支持 TTL/COMS 电平
- 内存: 64M 到 128 可选  
存储容量可定制 128M ~ 512M 可选择
- 支持 RTC 时钟功能
- 支持 UNICODE 编码字库显示
- 触摸屏实现人机交互，电阻电容触摸可选择
- 支持语音播报
- 部分型号支持 WiFi 接入网络
- 支持宽电压输入: 5V ~ 15V



SD 卡

用户接口

显示屏接口

电阻触摸屏  
接口

电容触摸  
屏接口

用户接口

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### 3. 产品特性:

#### 3.1 显示性能参数

项目	参数	说明
LCM 尺寸	7.0 寸	
显示尺寸 (A. A)	154.08*85.92	
分辨率	800*480 像素	
背光模式	LED	
LCM 亮度	1000 cd/M2	
LCD 接口	RGB888	

#### 3.2 电性能参数

项目	测试条件	最小值	典型值	最大值	单位
工作电压	正常工作: VCC=5V to 15V; Ta=25°C; Vbl=High(背光常开)	5	12	15	V
工作电流		640	270	220	mA
功耗		3.20	3.25	3.30	W

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### 3.3 可靠性参数

项目	测试环境	最小值	典型值	最大值	单位
工作温度	12V DC 电压下, 湿度 60%	-20	25	70	°C
储存温度	正常环境	-30	25	80	°C
工作湿度	25°C	10%	60%	90%	RH

### 3.4 接口性能参数

项目	测试环境	最小值	典型值	最大值	单位
串口波特率	-	-	9600	115200	bps
串口输出电平	正常环境	-	3.3	-	v
串口输入电平	25°C	-	3.3	-	v
串口模式	全双工 UART	-	-	-	-
用户接口方式	串口	-	-	-	-
USB 接口	烧录用	-	-	-	-
SD 卡接口	预留离线升级用	-	-	-	-

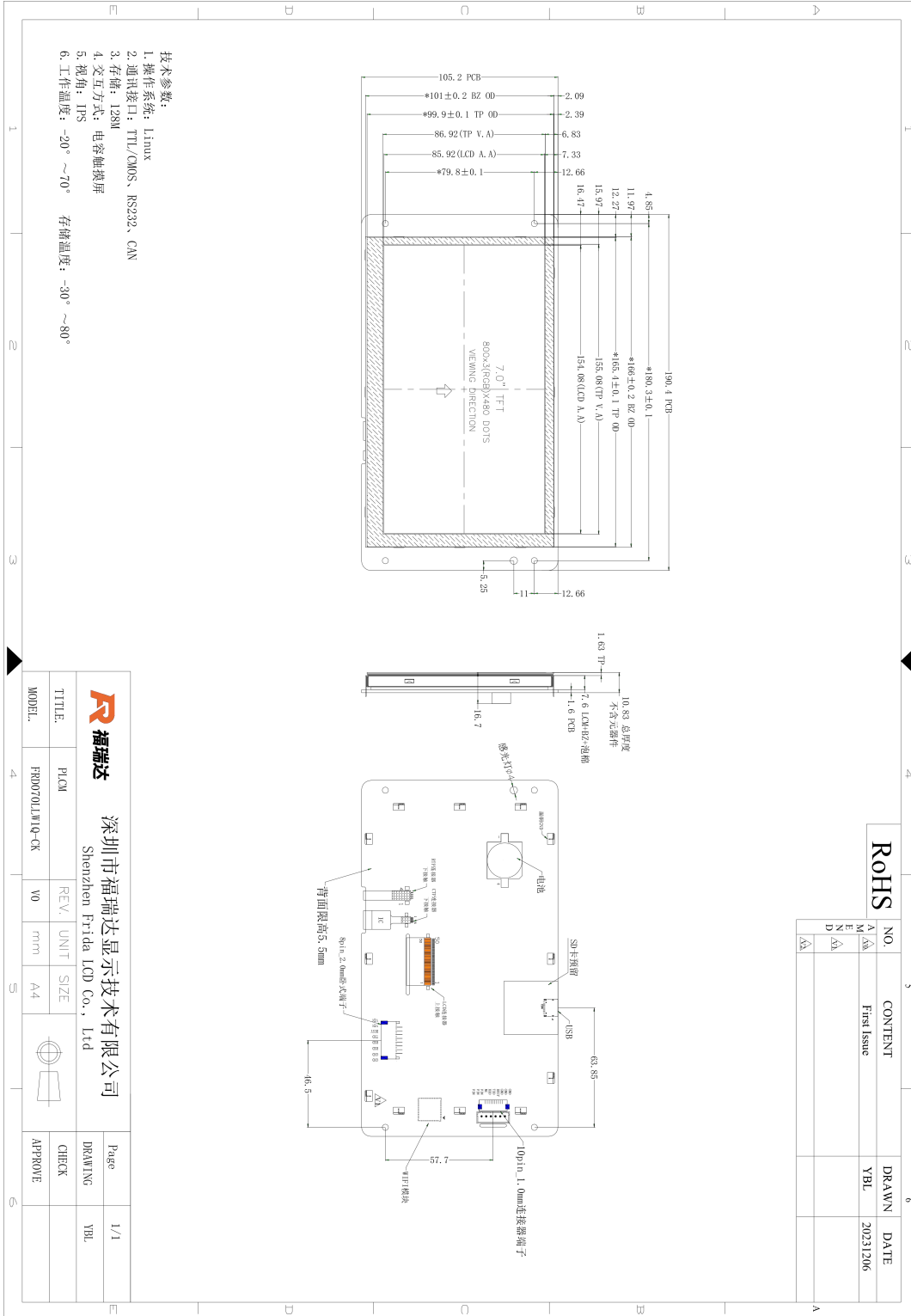


### 3.5 储存器特性

储存器类型	项目	最小值	典型值	最大值	单位
FLASH 储存器	总容量	-	128	512	MB
	全屏图片储存数量	-	130	390	幅



### 4. 产品尺寸图



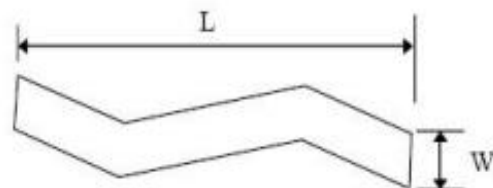
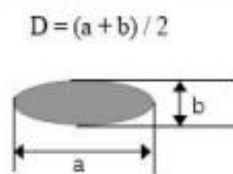
## 5. 品质标准

### 5.1 Appearance inspection

Item	Acceptable standards for defects	Defect level
Broken	Not allowed	critical defects
Cracks	Not allowed	critical defects
Insufficient UV glue entering	Not allowed	critical defects
Liquid crystal seal leakage	Not allowed	critical defects
Liquid crystal bubbles	Not allowed	critical defects
Surface scratch(mm)	W ≤ 0.02, ignored	minor defects
	0.02 < W ≤ 0.04      L ≤ 4,      N ≤ 2	
	0.03 < W ≤ 0.05      L ≤ 3,      N ≤ 1	
	0.05 < W      Not allowed	
Black/white spot(mm)	D ≤ 0.15, ignored;      0.15 < D ≤ 0.25, N ≤ 4	minor defects
	0.25 < D ≤ 0.30, N ≤ 2;      0.3 < D, Not allowed	
The seal pollution	Not allowed	minor defects
Liquid crystal residues	Not allowed	minor defects
Surface stains	Stains that cannot be cleaned or erased are not allowed	minor defects
size	Refer to the product specification corresponding to each product, overall size(including length, Width, thickness) or partial size exceeding the drawing size is not allowed	major defects

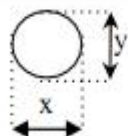
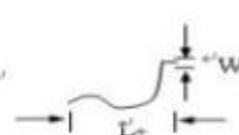
Remarks: 1) Surface scratches within 1.5mm of the glass edge are ignored:

2) D = diameter, L = length, W = width, N = qty;





5.2 Functional test criteria

Item	Judgment	Level																		
Display status	No Display、Incomplete image、line defect、wrong viewing angle、flickering、abnormal image, are not allowed.	major defects																		
	Display color, judged by approved samples, Or by limited samples	minor defects																		
	MURA or the phenomenon that is unable to describe in words, judged by ND 5% or limited samples	minor defects																		
Spot(bright/dark)defect	Definition of spot defect: $\Phi = (x+y) / 2$ 	minor defects																		
	<table border="1"> <thead> <tr> <th rowspan="2">Size(mm)</th> <th colspan="2">acceptable qty</th> </tr> <tr> <th>Active area</th> <th>View area</th> </tr> </thead> <tbody> <tr> <td><math>\Phi \leq 0.15</math></td> <td>ignored</td> <td rowspan="4">ignored</td> </tr> <tr> <td><math>0.15 &lt; \Phi \leq 0.25</math></td> <td><math>N \leq 2</math> (gap <math>\geq 5</math>)</td> </tr> <tr> <td><math>0.25 &lt; \Phi \leq 0.30</math></td> <td>1</td> </tr> <tr> <td><math>0.30 &lt; \Phi</math></td> <td>Not allowed</td> </tr> </tbody> </table>		Size(mm)	acceptable qty		Active area	View area	$\Phi \leq 0.15$	ignored	ignored	$0.15 < \Phi \leq 0.25$	$N \leq 2$ (gap $\geq 5$ )	$0.25 < \Phi \leq 0.30$	1	$0.30 < \Phi$	Not allowed				
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Black/white line	Definition of line defect: L: length, W: width 	minor defects																		
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