上海冠显光电科技有限公司
Shanghai Top Display Optoelectronics Co., LTD

规格书
Pre-specfication

型号 MODEL:	TY050FWC02CJ
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版本 VERSION:	1.2

● 版本记录

日期 Issued Date	描述 Description	版本 Version	编写 Editor	审核 Audit
2026-3-18	初版本 First release	1.0	ZP	
2026-4-8	新增测试报告 New test report	1.1	ZP	
2026-5-7	更正 ESD 测试结果 Correction ESD test results	1.2	ZP	

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1. 硬件介绍 Hardware introduction

1.1. 连接器定义 Connector Definitions

引脚名称 Pin Name	类型 Type	复位状态 Reset status	内部可配置上下拉电阻 Internally configurable pull-down resistors	默认驱动能力(mA) Default drive capability (mA)	电压 Voltage	功能 Function
VCC	POWER	-	-	-	-	POWER-INPUT, DC5~15V
VCC	POWER	-	-	-	-	POWER-INPUT, DC5~15V
NC	-	-	-	-	-	Not connected
TX	-	-	-	-	5V	UART2-TX (to user's RX)
RX	-	-	-	-	5V	UART2-RX (to user's TX)
NC	-	-	-	-	-	Not connected
GND	POWER	-	-	-	-	GND
GND	POWER	-	-	-	-	GND

2. 产品规格 Product Specifications

● 产品参数 Product parameter	
型号 Model	TY050FWC02CJ
产品系列 Product serial	basic series
核心处理器 Core processor	TR240
尺寸 Size	5.0inch
分辨率 Resolution	480RGB*854
屏幕有效显示区(mm) Active area(mm)	61.78 (W) × 109.91 (H)
产品尺寸(mm) Product size(mm)	66.40(W)×138.30(H)×12.01(T)
颜色 Color	16bit-RGB
存储空间 Storage	用户可用 16 M Bytes Customer available 16 M Bytes
图片格式 Pictures format	JPG/PNG

固件升级方式 Firmware update	TF Card (Needs to be combined with a debugging tool)
UI 下载方式 Download pictures	TF Card (Needs to be combined with a debugging tool)
● **屏幕参数 LCD screen**	
显示器类型 Display type	TFT LCD IPS
背光 Back light	LED
亮度（cd/㎡） Brightness(cd/m²)	320
对比度 Contrast	1500
背光寿命（小时） Backlight life(hour)	30000
视角(T/B/L/R) Perspective(T/B/L/R)	(80/80/80/80)
● **触摸盖板 Touch panel**	
触摸类型 Touch mode	电容触摸屏 Capacitive touch screen
● **环境电气参数 Environmental electrical parameters**	
输入电压	5-15V

Voltage	5-15V
功耗 Power consumption	5V/252mA (最大值，启动电流) 5V/252mA (Max Max brightness) 5V/80mA (关闭背光) 5V/80mA (Backlight off)
工作温度 Working temperature	-20℃～70℃
存储温度 Storage temperature	-30℃～80℃
工作湿度 Working humidity	10%~90%
存储湿度 Storage humidity	10%~90%
● **通讯接口参数 Communication interface parameters**	
通讯方式 Communication mode	RS232/5V TTL
通讯波特率 Baud	2400~115200，典型值 115200 2400~115200，typical value is 115200
数据帧格式 Data frame format	8N1
通讯插件规格 Communication plug-in specification	HY2.0 8pin

● 其他外设 Other external equipment	
蜂鸣器 Buzzer	支持 Support
RTC	预留 Reserve

3. 可靠性测试 Reliability Test

3.1. ESD 测试 ESD Test

3.1.1. 执行标准 Implementation Standards

执行标准 Implementation standards	GB/T 17626.2
性能判据 Performance criteria	B

3.1.2. 测试环境 Test Environment

测试环境温度：25℃

Test ambient temperature: 25℃

测试环境湿度：**50%**

Test environment humidity: 50%

大气压力：**86~106KPa**

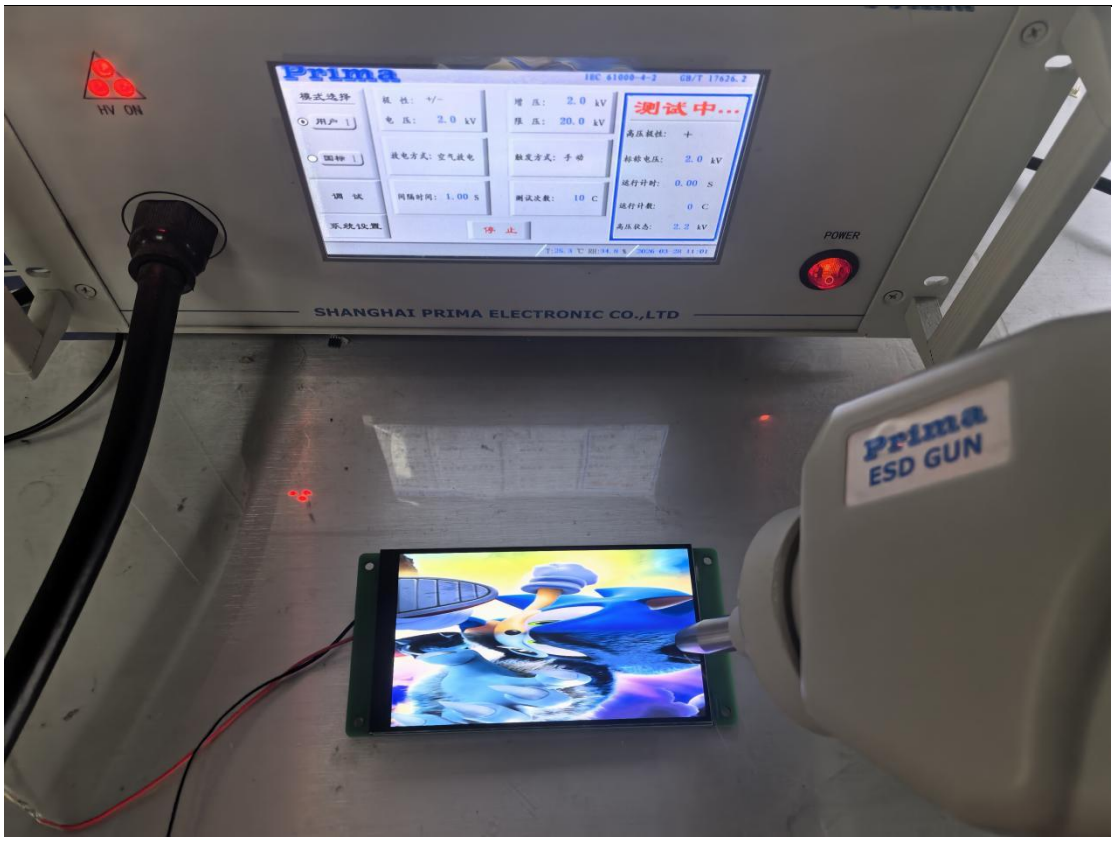
Atmospheric pressure: 86 ~ 106Kpa

测试过程：将产品放置于测试台，针对串口屏铁框周边以及显示区域依次进行接触和空气放电，测试过程观察屏幕有无死机、黑屏、白屏、花屏、重启等异常现象。

Test process: place the product on the test bench, conduct contact and air discharge in turn around the iron frame of the serial port screen and the display area, and observe whether there is any abnormal reset and restart display.

测试备注：当前试验测试均为产品裸露测试，实际产品装配机器上，保持屏幕和机器良好接地，或触摸板表面有 PVC 或盖板保护，整机 ESD 性能指标会更高。

Test remarks: The current tests are all bare product tests. On the actual product assembly machine, keep the screen and the machine well grounded, or the touch panel surface is protected by PVC or a cover plate, the ESD performance index of the whole machine will be higher.



3.1.3. 测试数据结果：Test Date Results

放电类型 Discharge type	放电值 Discharge value	测试结果 Test Results	性能判据 Performance Criteria
接触放电 Contact	±4KV	测试通过 Test Passed	A
空气放电 Air Discharge	±8KV	测试通过 Test Passed	B

3.2. 电快速瞬变群脉冲测试(EFT)

3.2.1. 执行标准 Implementation Standards

执行标准 Implementation standards	GB/T 17626.4

3.2.2. 测试环境 Test Environment

测试环境温度：25℃

Test ambient temperature: 25℃

测试环境湿度：50%

Test environment humidity: 50%

测试过程：将产品放置于测试台上，垫高 10CM,通过群脉冲发生仪耦合脉冲群后的电源对屏幕进行供电，观察是否有复位重启显示异常等现象。

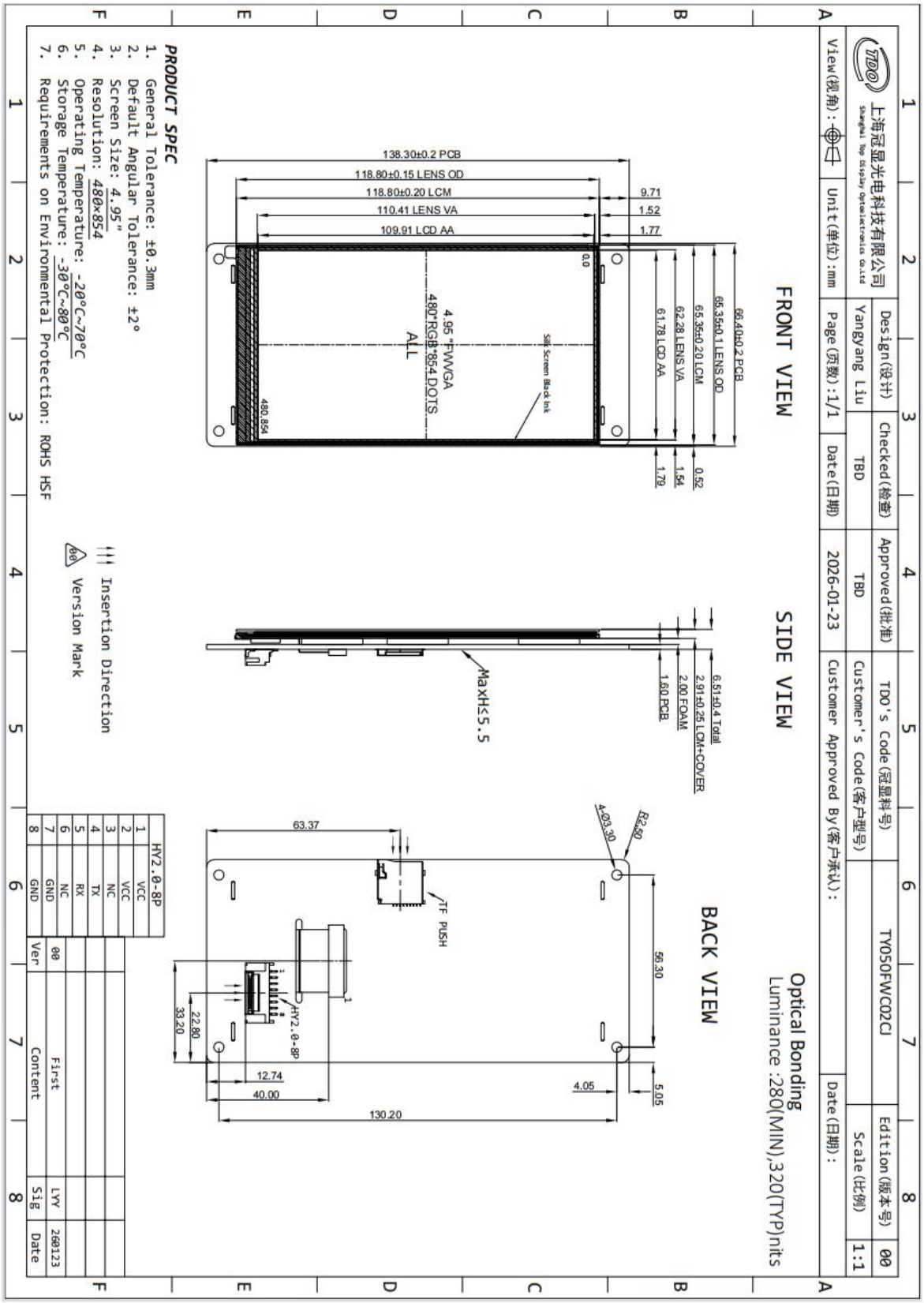
Test process: place the product in the high and low temperature test box, and power the screen through the power supply after the pulse group is coupled by the group pulse generator, and observe whether there is abnormal reset and restart display and other phenomena.



3.2.3. 测试数据结果 Test Date Results

执行标准 Implementation standards	GB/T 17626.4
性能判据 Performance criteria	A
测试环境 Test environment	4.0KV ; 100KHZ ; 120S

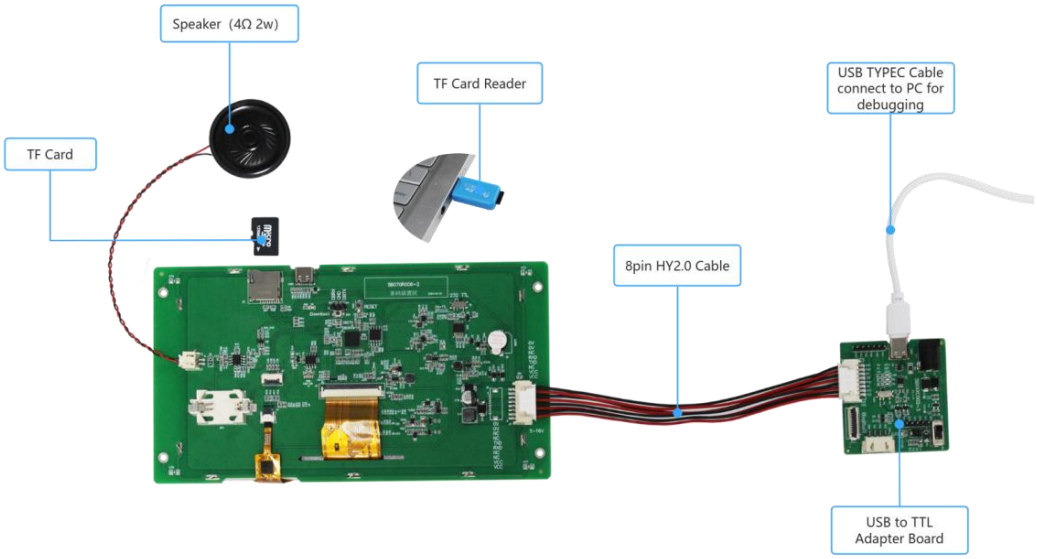
4. 产品尺寸 Product Size



5. 调试工具 Debugging Tools

建议首次使用 TDO 智能显示串口屏的用户购买标准配件。详细信息可联系客服人员。

It is recommended for new users of TDO smart LCMs to purchase official accessories. For more details, please refer to customer service center.



上图为调试工具的使用示意图，非产品图。本产品实物图请参考文档 1.2

(The above diagram shows the use of the debugging tools, not the product diagram. Please refer to document 1.2 for the physical drawing of this product.)

6. 型号定义 Model Definition

TY 050 FW C 02 C J

12 3 4 5 6 7 8

① ： 1 码--TDO 缩写，固定。

1 position--TDO abbreviation, fixed。

② ： 1 码---U(U 系列串口）/P(并口)/Y(Y 系列串口)/H(HDMI 接口类)/S(转接板)

1 position--U(U series serial port)/P(parallel port)/Y(Y series serial port)/H(HDMI interface type)/S(adapter board)

③ ： 3 码--尺寸,eg.043->4.3 寸

3 position--size,eg..043->4.3 inch

④ ： 2 码--分辨率缩写

2 position--resolution abbreviation

⑤ ： 1 码--C（消费级）/ H（商业级）/ M（医疗级）/ L（MINI 板）/ P（带外壳）

1 position--H (standard series)/C (basic series)/L (MINI board series)/P (with housing series)/M (medical series)/A (AV series)

⑥ ： 2 码--流水号

2 position---serial number

⑦ ： 1 码--C(带电容触摸面板)/R(带电阻触摸面板)/N(不带触摸面板)

1 position---C (with capacitance touch panel)/R (with resistive touch panel)/N(with NO touch panel)

⑧ ： 1 码--平台号 F-TR660 / G-TR540 / H-TR230M / J -TR240 / K-TR661 / D-TR670 / 0-Android / 1-Linux

1 position-----Platform: F-TR660 / G-TR540 / H-TR230M /J -TR240 / K-TR661 / D-TR670 / 0-Android / 1-Linux

注意：未涉及关键结构工艺修改或布局大调整，仅产品工艺或可靠性方面的更迭，公司不对外发起变更，具体以收到的实物为准

Note: There is no key structural process modification or major layout adjustment, only changes in product process or reliability. The company will not initiate changes to the outside world. The specific items are subject to the received items.

7. 包装与物理尺寸 Packaging and Physical Dimensions

单品重量 **Single product weight**					
净重量（G）Net weight (G)	TBD				
包装标准和总重量 **Packaging standard and total weight**					
包装箱型号 Packing box model	包装箱尺寸（长*宽*高,单位：mm）Packing box size (length*width*height, unit: mm)	层数 Layers	数量（PCS）/层 Quantity (PCS)/layer	总数量（片）Total quantity (pieces)	总重量（KG）Total weight (KG)

8. 销售与服务 Sale and Service

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