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: | TY104SVC01NJ |
| 日期 ISSUED DATE: | 2025-04-21 |
| 版本 VERSION: | 1.0 |

## ● 版本记录

| 日期<br>Issued Date | 描述<br>Description | 版本<br>Version | 编写<br>Editor | 审核<br>Audit |
|---|---|---|---|---|
| 2025-4-15 | 初版本 First release | 1.0 | ZP | |
| | | | | |
| | | | | |

# 目录

1. 硬件介绍 Hardware introduction ..... 1

1.1. 连接器定义 Connector Definitions(J6) ..... 1

2. 产品规格 Product Specifications ..... 3

3. 可靠性测试 Reliability Test ..... 7

3.1. ESD 测试 ESD Test ..... 7

3.2. 电快速瞬变群脉冲测试 Electrical fast transient group pulse testing (EFT) ..... 9

4. 产品尺寸 Product Size ..... 11

5. 型号定义 Model Definition ..... 12

6. 包装与物理尺寸 Packaging and Physical Dimensions ..... 13

7. 销售与服务 Sale and Service ..... 14

8. 免责声明 Disclaimer ..... 15

# 1. 硬件介绍 Hardware introduction

## 1.1. 连接器定义 Connector Definitions(J6)

| 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, DC5~16V |
| VCC | POWER | - | - | - | - | POWER-INPUT, DC5~16V |
| NC | - | - | - | - | - | Not connected |
| TXD | - | - | - | - | 5V | UART2-TX (to user's RX) |
| RXD | - | - | - | - | 5V | UART2-RX (to user's TX) |
| NC | - | - | - | - | - | Not connected |
| GND | POWER | 0V | - | - | 0V | POWER-GND |
| GND | POWER | 0V | - | - | 0V | POWER-GND |

## 连接器定义 Connector Definitions(J9)

| 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 |
|---|---|---|---|---|---|---|
| 5V | POWER | - | - | - | 5V | POWER-OUT |
| GND | POWER | - | - | - | 0V | POWER-GND |
| UART3_RXD | - | - | - | - | 3.3V | UART3-RXD/PB11 (to user's TX) |
| UART3_TXD | - | - | - | - | 3.3V | UART3-TXD/PB10 (to user's RX) |
| PB9 | I/O | - | - | - | - | PB9 |
| PB7 | I/O | - | - | - | - | PB7 |

## IO 引脚定义 Pinout IO Definition(J8)

| 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 |
|---|---|---|---|---|---|---|
| 3V3 | POWER | - | - | - | 3.3V | POWER-OUT |
| GND | POWER | - | - | - | 0V | POWER-GND |
| I2C0_SCL | - | - | - | - | - | I2C0_SCL/PC4 |
| I2C0_SDA | - | - | - | - | - | I2C0_SDA/PC5 |

# 2. 产品规格 Product Specifications

| ● 产品参数 Product parameter | |
|---|---|
| 型号<br>Model | TY104SVC01NJ |
| 产品系列<br>Product serial | basic series |
| 核心处理器<br>Core processor | TR240 |
| 尺寸<br>Size | 10.4inch |
| 分辨率<br>Resolution | 800RGB×600 |
| 屏幕有效显示区(mm)<br>Active area(mm) | 158.4(W)×211.2(H) |
| 产品尺寸(mm)<br>Product size(mm) | 247.8(W)×176.9(H)×18.1(T) |
| 颜色<br>Color | 24-bit 8R8G8B |
| 存储空间<br>Storage | 用户可用 16 M Bytes<br>Customer available 16 M Bytes |
| 图片格式<br>Pictures format | JPG/PNG |

| | |
|---|---|
| 固件升级方式<br>Firmware update | TF Card<br>( Needs to be combined with a debugging tool ) |
| UI 下载方式<br>Download pictures | TF Card<br>( Needs to be combined with a debugging tool ) |
| ● **屏幕参数 LCD screen** | |
| 显示器类型<br>Display type | TFT LCD TN |
| 背光<br>Back light | LED |
| 亮度（cd/㎡）<br>Brightness(cd/m²) | 400 |
| 对比度<br>Contrast | 800 |
| 背光寿命（小时）<br>Backlight life(hour) | 20000 |
| 视角(T/B/L/R)<br>Perspective(T/B/L/R) | (70/70/60/70) |
| ● **触摸盖板 Touch panel** | |
| 触摸类型<br>Touch mode | 无<br>None |
| ● **环境电气参数 Environmental electrical parameters** | |
| 输入电压 | 5~16V，典型值 5V |

| | |
|---|---|
| Voltage | 5~16V, typical 5V DC |
| 功耗<br>Power consumption | 5V/551mA (最大值，启动电流)<br>5V/551mA (Max Max brightness)<br>5V/108mA (关闭背光)<br>5V/108mA (Backlight off) |
| 工作温度<br>Working temperature | -20℃～70℃ |
| 存储温度<br>Storage temperature | -30℃～80℃ |
| 工作湿度<br>Working humidity | 10%~90% |
| 存储湿度<br>Storage humidity | 10%~90% |
| ● **通讯接口参数 Communication interface parameters** | |
| 通讯方式<br>Communication mode | 5V TTL/RS232 |
| 通讯波特率<br>Baud | 2400~115200，典型值 115200<br>2400~115200，typical value is 115200 |
| 数据帧格式<br>Data frame format | 8N1 |
| 通讯插件规格<br>Communication | 8PIN HY2.0/6PIN PH2.0/4PIN PH2.0 |

| | |
|---|---|
| plug-in specification | |
| ● **其他外设 Other external equipment** | |
| RTC | 预留<br>Receive |
| 蜂鸣器<br>Buzzer | 支持<br>Support |

# 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<br>Implementation standards | GB/T 17626.2 |
| 性能判据<br>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<br>Discharge type | 放电值<br>Discharge value | 测试结果<br>Test Results | 性能判据<br>Performance Criteria |
|---|---|---|---|
| 接触放电<br>Contact | ±8KV | 测试通过<br>Test Passed | B |
| 空气放电<br>Air Discharge | ±6KV | 测试通过<br>Test Passed | B |

## 3.2. 电快速瞬变群脉冲测试 Electrical fast transient group pulse testing (EFT)

### 3.2.1. 执行标准 Implementation Standards

| | |
|---|---|
| 执行标准<br>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。

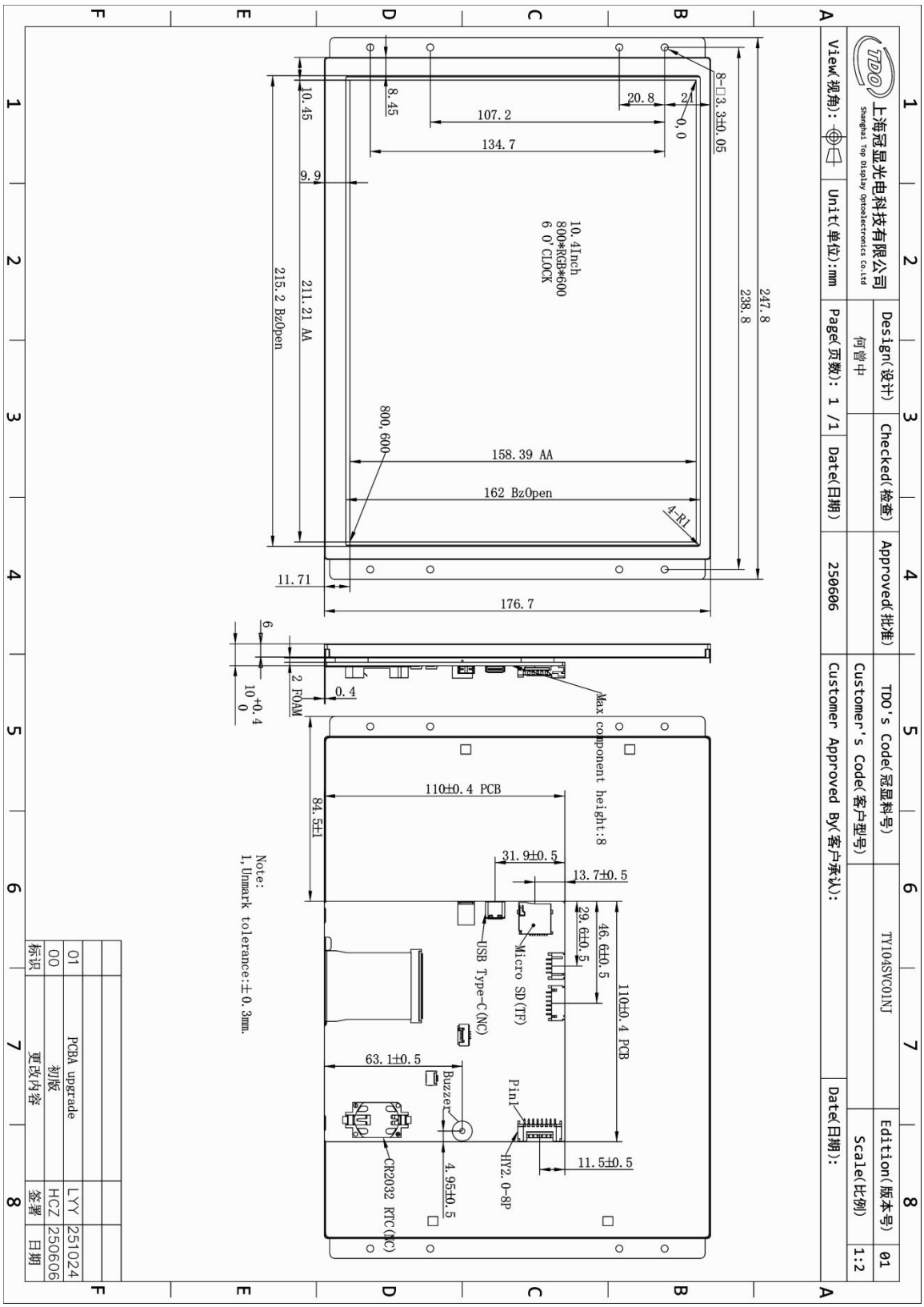
**Test process:** place the product in the high and low temperature test box, and power the screen through the power supply after the pulse group is coupled by the group pulse generator, and observe whether there is abnormal reset and restart display and other phenomena.



### 3.2.3. 测试数据结果 Test Date Results

| | |
|---|---|
| 执行标准<br>Implementation standards | GB/T 17626.4 |
| 性能判据<br>Performance criteria | B |
| 测试环境<br>Test environment | 4.0KV ; 100KHZ ; 120S |

# 4. 产品尺寸 Product Size



# 5. 型号定义 Model Definition

TY 104 SV C 01 N 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.104->10.4 寸
3 position--size,eg.104->10.4 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.

# 6. 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) |
| | | | | | |
| | | | | | |

# 7. 销售与服务 Sale and Service

电话:021-64297098

传真:021-64297089

Email:sales@shtdo.com

官网:www.shtdo.com

地址:上海市闵行区新骏环路88号13A栋4楼

官方旗舰店:shop163014679.taobao.com




**TEL:021-6429098**

**FAX:021-6429089**

**EMAIL:sales@shtdo.com**

**WEB:www.shtdo.com**

**ADDR:Shanghai, Minhang district, Xinjunhuan Road 88, Building13A, 4th floor**

**Online shop:http://shtdo.en.alibaba.com/**

## 8. 免责声明 Disclaimer

本文档提供有关于上海冠显光电科技有限公司（以下简称 上海冠显）的产品信息，旨在协助客户加快产品研发进度所短开发周期，在服务过程中或者其他渠道所提供的任何例程程序、技术文档、数据手册、产品图纸等资料和信息都仅供参考使用，客户请自行参考修改使用。本司不提供任何可靠性保证，如若客户在使用过程中因任何原因造成特别的、偶然的或者间接的损失，请自行承担连带责任。

This document provides product information about Shanghai Top Display Optoelectronics Technology Co., Ltd. (hereinafter referred to as Shanghai Top Display), which aims to assist customers to speed up product development progress, short development cycles, any routine programs provided in the service process or other channels , technical documents, data manuals, product drawings and other materials and information are for reference only, and customers have the right not to use or to modify and use for their own reference. The company does not provide any guarantee of completeness and reliability. If the customer causes special, incidental or indirect losses for any reason during the use process, the company does not assume any responsibility.