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

Specification

MODEL	:	**TY035HVH04CH**
ISSUED DATE	:	**2024-12-24**
VERSION	:	**1.0**

Version record

Issued Date	Description	Version	Editor	Audit
2024-12-24	First version	1.0	HXY	WPY

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1. Hardware Introduction

1.1.Connector Pin Definitions

No.	Pin Name	Reset state	Function	Note
1	VCC	-	POWER-IPUT, 5~15V	All multiplexed functions can be forced to be converted to GPIO functions when not in use
2	VCC	-	POWER-IPUT, 5~15V	
3	PA2	Z	Default I2C1-SCL function (2~5KΩ pull-up resistor required)	
4	PA3	Z	Default I2C1-SDA function (2~5KΩ pull-up resistor required)	
5	PA5	Z	Default UART2-RX function, connect to user's TX	
6	PA4	Z	Default UART2-TX function, connected to user's RX	
7	PB6	Z	Default AUDIO-PA-EN (high with no audio output, low with audio output)	
8	PE13	Z	Default SPK to audio amplifier	
9	GND	-	POWER-GND	
10	GND	-	POWER-GND	

2. Product Specifications

● Product parameter	
Model	TY035HVH04CH
Product serial	MINI Board
Core processor	TR230M
Size	3.0 inch
Resolution	320RGB×480
Active area(mm)	48.96(W)×73.44(H)
Product size(mm)	56(W)×103.5(H)×11.33(T)
Color	262K
Storage	Customer available 16M Bytes
Pictures format	JPG/PNG
Download pictures	TF card (requires debugging tool)
Firmware update	TF card (requires debugging tool)
● LCD screen	
Display type	TFT LCD IPS
Back light	LED
Brightness(cd/m²)	450
Contrast	1000
Life time(hour)	30000
Perspective(T/B/L/R)	(85/85/85/85)
● Touch panel	
Touch mode	Capacitive touch screen
Input mode	Finger
● Environmental electrical parameters	
Input voltage	3.3~5.5V，typical 5V
Power consumption	5V/164mA (Maximum starting current)

	5V/38mA (Turn off the backlight)
Working temperature	-20℃～70℃
Storage temperature	-30℃～80℃
Working humidity	10%~90%RH
Storage humidity	10%~90%RH
● Communication interface parameters	
Communication mode	3.3V TTL
Baud	2400~3Mbps,typical value is 115200
Data frame format	8N1
Communication plug-in specification	10Pin_FPC_1.0mm
● Other hardware specifications	
RTC	Support
Buzzer	Support

3. Reliability Test

3.1. ESD Test

3.1.1. Implementation Standards

Implementation standards	GB/T 17626.2
Performance criteria	B

3.1.2. Test Environment

Test ambient temperature: 25℃

Test environment humidity: 50%

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.

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. Test Data Results:

Discharge type	Discharge value	Test Results	Performance criteria
Contact	±8KV	Pass	B
Discharge	±6KV	Pass	A

3.2.Electrical fast transient group pulse testing (EFT)

3.2.1. Implementation standards

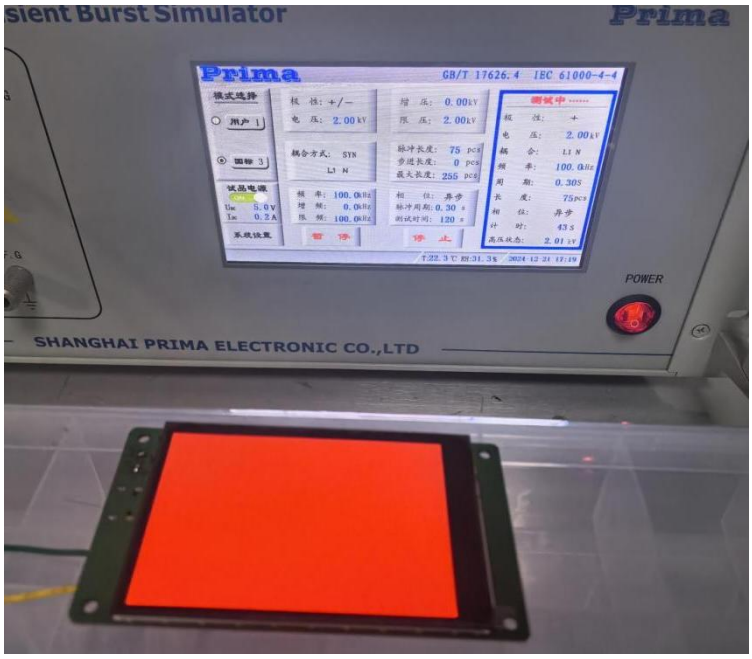
Implementation standards	GB/T 17626.4

3.2.2. Test Environment

Test ambient temperature: 25℃

Test environment humidity: 50%

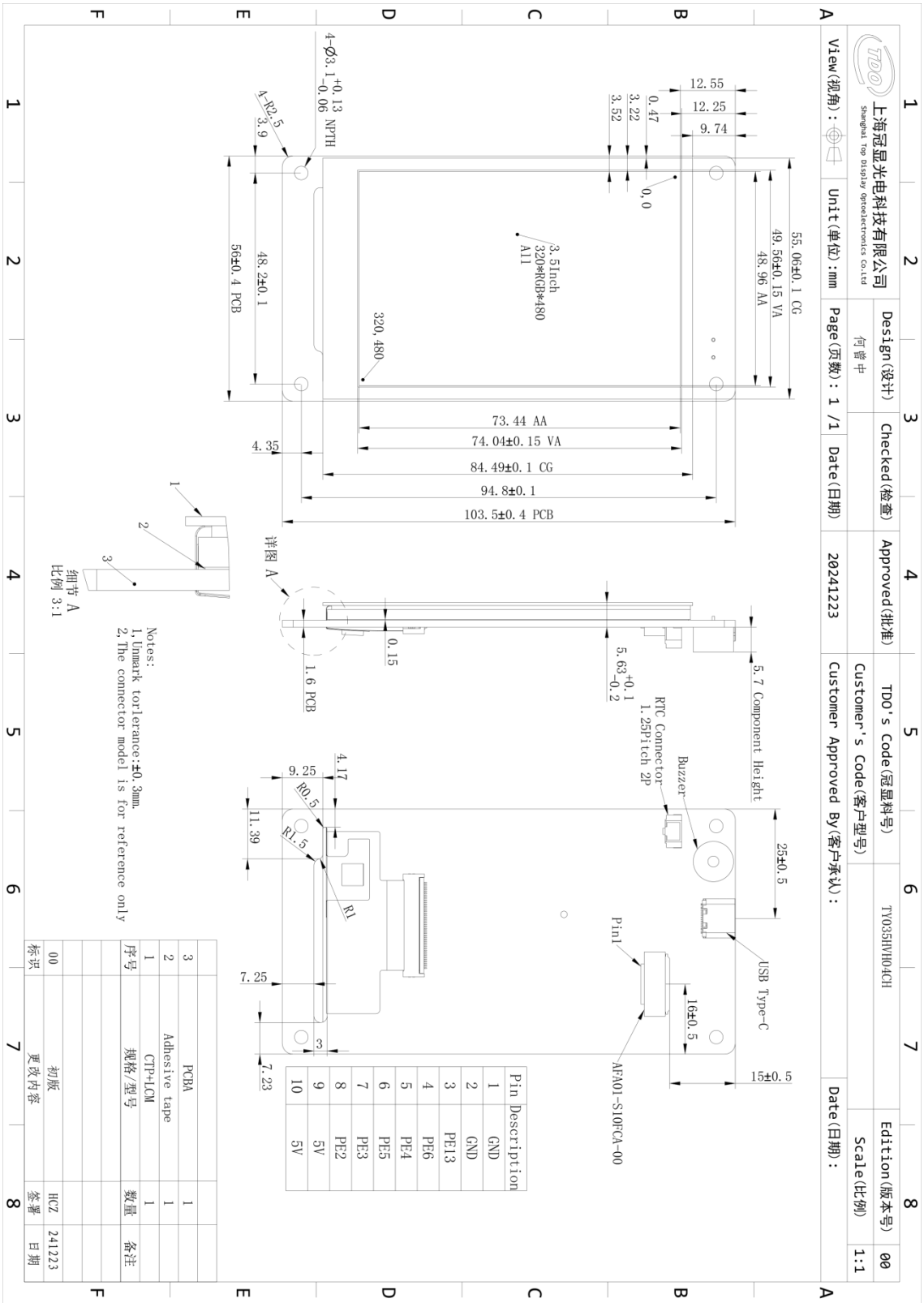
Test process: place the product in the high and low temperature test box, and power the screen through the power supply after the pulse group is coupled by the group pulse generator, and observe whether there is abnormal reset and restart display and other phenomena**.**



3.2.3. Test Data Results:

Implementation standards	GB/T 17626.4
Performance criteria	B
Test Environment	±4KV;100KHZ;120S

4. Product Size



5. Model Definition

T Y 035 HV H 04 C H

1 2 3 4 5 6 7 8

① : 1 position--TDO abbreviation, fixed。

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

③ : 3 position--size,eg.035->3.5 inch

④ : 2 position--resolution abbreviation

⑤ : 1 position--C (Consumer Grade) / H (Commercial Grade) / T (Industrial Grade) / M (Medical Grade) / L (MINI Board) / P (With Case)

⑥ : 2 position---serial number

⑦ : 1 position---CT (with capacitive touch panel)/RT (with resistive touch panel)/NT(no touch panel)

⑧ : 1 position-----Platform: F-TR660 / G-TR540 / H-TR230M /J -TR240 / K-TR661 / DTR670 / 0-Android / 1-Linux

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. Sale and Service



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7. Disclaimer

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.