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

MODEL	:	**TY070WSH02CF**
ISSUED DATE	:	**2025-04-11**
VERSION	:	**1.1**

Version Record

Issued Date	Description	Version	Editor	Audit
2024-05-22	Final release	1.0	Xenia	WPY
2025-04-11	Final release(Adding debugging tools)	1.1	Xenia	

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1. Hardware Introduction

This chapter mainly introduces the product appearance diagram and hardware configuration diagram.

1.1. Product Appearance

The following is the appearance of the product corresponding to this model (hardware interfaces, etc., vary according to the specific model of backplane components), as shown in Figure 1.1-1/1.1-2.

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 product appearance. The specific items are subject to the received goods.

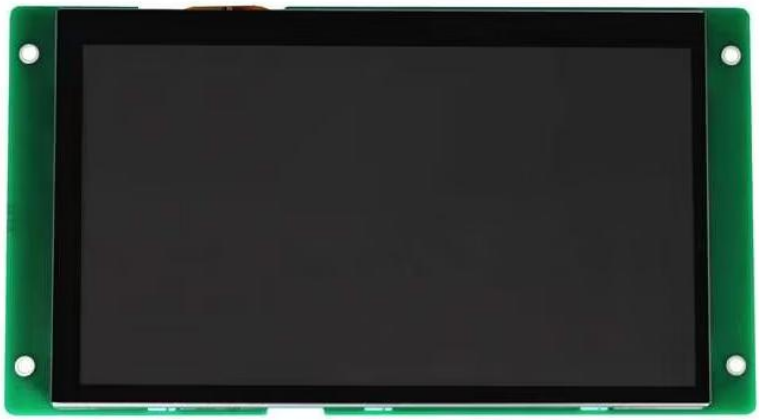


Figure 1.1-1 TY070WSH02CF appearance reference diagram

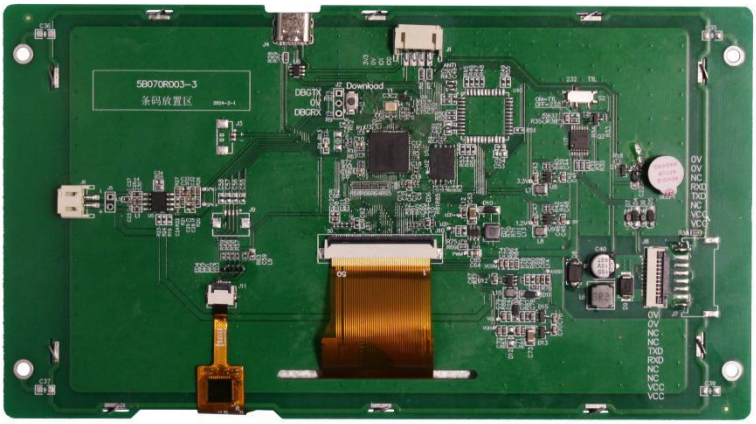


Figure 1.1-2 TY070WSH02CF structure appearance reference diagram

1.2. Pinout IO Definitions

Pin Name	Type	Reset state	Internal Configurable Pull-up and Pull-down Resistors	Default drive capability (mA)	Voltage	Function
3V3	OUTPUT	3.3V	√	500	3.3V	POWER-OUTPUT, DC3.3V
0V	POWER	0V	√	-	0V	POWER-GND
IO1	I/O	Z	√	20	3.3V	PE16
IO0	I/O	Z	√	20	3.3V	PE17

1.3. Connector Pin Definitions

Pin Name	Type	Reset state	Internal Configurable Pull-up and Pull-down Resistors	Default drive capability (mA)	Voltage	Function
0V	POWER	0V	-	-	0V	POWER-GND
0V	POWER	0V	-	-	0V	POWER-GND
NC	-	-	-	-	-	Not connected
NC	-	-	-	-	-	Not connected
TXD	-	-	-	-	5V	UART3-TX (to user's RX)
RXD	-	-	-	-	5V	UART3-RX (to user's TX)
NC	-	-	-	-	-	Not connected
NC	-	-	-	-	-	Not connected
VCC	POWER	-	-	-	-	POWER-INPUT, DC4.1-5.5V
VCC	POWER	-	-	-	-	POWER-INPUT, DC4.1-5.5V

2. Product Specifications

● Product parameter	
Model	TY070WSH02CF
Product serial	Standard Series
Core processor	TR660
Size	7.0 inch
Resolution	1024RGB×600
Active area(mm)	154.21(W)×85.92(H)
Product size(mm)	190.5(W)×105.4(H)×19.15(T)
Color	24-bit 8R8G8B
Storage	Customer available 60M
Pictures format	JPG/PNG
Video player	MP4 format video only
Audio player	Support
Download pictures	USB / U DISK
Firmware update	USB
● LCD screen	
Display type	TFT LCD IPS
Back light	LED
Brightness(cd/m²)	400
Backlight life(hour)	20000

Contrast	800
Perspective(T/B/L/R)	(80/80/80/80)
● Touch panel	
Touch mode	Capacitive touch screen
Input mode	Finger
Touch type	Single point, sliding touch
● Environmental electrical parameters	
Voltage	4.1~5.5V, typical 5V DC
Power consumption	5V/710mA (Max brightness) 5V/290mA (Backlight off)
Working temperature	-20℃~70℃
Storage temperature	-30℃~80℃
Working humidity	10%~90%RH
Storage humidity	10%~90%RH
● Communication interface parameters	
Communication mode	RS-232/5V TTL
Baud	2400~115200,typical value is 115200
Data frame format	8N1
Communication plug-in specification	FPC1.0mm-10P-H2.0 Flip-down connector
● Other hardware specifications	

RTC	Reserved
Speaker	Support
Buzzer	Support
Wifi	Reserved
● Product certification	
Environmental protection grade	RoSH II

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	±4KV	Test Passed	B
Air Discharge	±8KV	Test Passed	B

3.2. Electrical fast transient group pulse testing (EFT)

3.2.1. Implementation standards

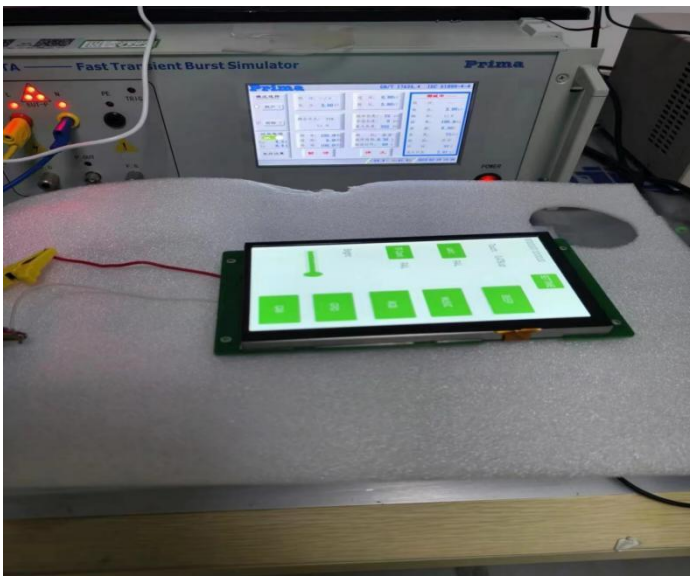
Implementation standards	GB/T 17626.4

3.2.2. Test Environment

Test ambient temperature: 25℃

Test environment humidity: 50%

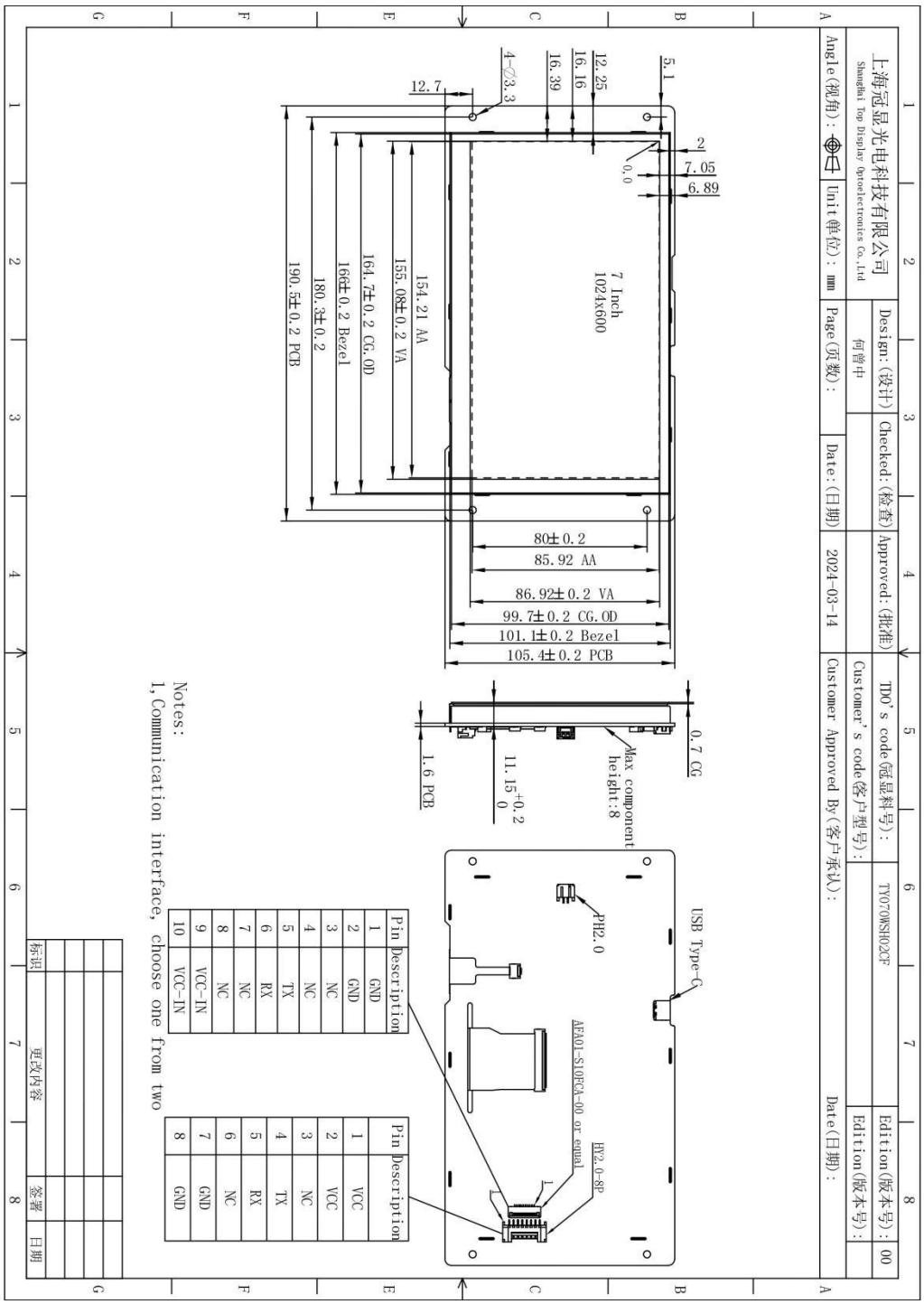
Test process: place the product in the high and low temperature test box, and power the screen through the power supply after the pulse group is coupled by the group pulse generator, and observe whether there is abnormal reset and restart display and other phenomena**.**



3.2.3. Test Data Results:

Implementation standards	GB/T 17626.4
Performance criteria	B
Test environment	4.0KV ; 100KHZ ; 120S

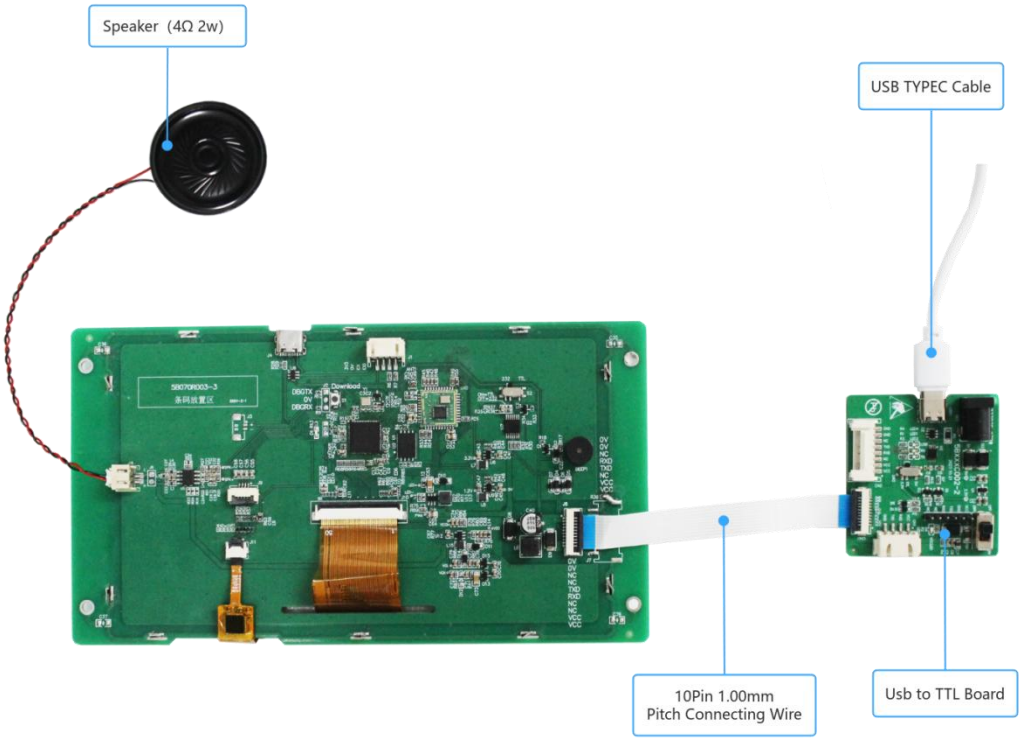
4. Product Size



(Product drawings)

5. Debugging Tools

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



(The above diagram shows the use of the debugging tools, not the product diagram. Please refer to document 1.1 for the physical drawing of this product.)

6. Model Definition

T	Y	070	WS	H	02	C	F
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.070->7.0 inch

④ : 2 position--resolution abbreviation

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

⑥ : 2 position---serial number

⑦ : 1 position---C (with capacitive touch panel)/R (with resistive touch panel)/N (without touch panel)

⑧ : 1 position-----Platform: F-TR660 / G-TR540 / H-TR230M /J -TR240 / K-TR661 / D-TR670 / 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.

7. Packaging and Physical Dimensions

Single product weight					
Net weight (G)	TBD				
Packaging standard and total weight					
Packing box model	Packing box size (length*width*height, unit: mm)	Layers	Quantity (PCS)/layer	Total quantity (pieces)	Total weight (KG)

8. Sale and Service



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9. 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.