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

MODEL	:	**TY061HDL02NF**
ISSUED DATE	:	**2025-09-12**
VERSION	:	**1.0**

● Version Record

Issued Date	Description	Version	Editor	Audit
2025-09-12	Final release	1.0	JJJ	

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1. Hardware Introduction

1.1. Pinout IO Definitions

Pin Name	Type	Reset state	Internal Configurable Pull-up and Pull-down Resistors	Default drive capability (mA)	Voltage	Function
5V	INPUT	-	-	-	-	POWER-INPUT, DC5V
5V	INPUT	-	-	-	-	POWER-INPUT, DC5V
PE9	I/O	-	-	-	-	GPIO-PE9
PE8	I/O	-	-	-	-	485-DIR
TX	-	-	-	-	3.3V	UART6-TX (to user's RX)
RX	-	-	-	-	3.3V	UART6-RX (to user's TX)
PE15	I/O	-	-	-	-	AUDIO-PA-EN (High with no audio output, low with audio output)
PE11	I/O	-	-	-	-	SPK (Connect to audio amplifier)
0V	POWER	0V	-	-	0V	POWER-GND
0V	POWER	0V	-	-	0V	POWER-GND

2. Product Specifications

● Product parameter	
Model	TY061HDL02NF
Product serial	MINI 板
Core processor	TR660
Size	6.1 inch
Resolution	280RGB×1424
Active area(mm)	29.988(W)×152.510(H)
Product size(mm)	LCD：36.39(W)×243.86(H)×4.25(T) MINI Board：32.20(W)×48.00(H)×5.8(T)
Color	24-bit 8R8G8B
Storage	Customer available 60M
Pictures format	JPG/PNG
Video player	MP4 format video only
Audio player	Support (Monophonic)
Download pictures	TYPE-C
Firmware update	TYPE-C
● LCD screen	
Display type	TFT LCD IPS
Back light	LED
Brightness(cd/m²)	450

Backlight life(hour)	30000
Contrast	1200
Perspective(T/B/L/R)	(85/85/85/85)
● Touch panel	
Touch mode	None
● Environmental electrical parameters	
Voltage	4.0~5.5V, typical 5V DC
Power consumption	5V/350mA (Max brightness) 5V/170mA (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	3.3V TTL
Baud	2400~115200,typical value is 115200
Data frame format	8N1
Communication plug-in specification	10 Pin_FPC_1.00mm connector
● Other hardware specifications	
RTC	Support (External button cell battery required for use, connector MX-2P x 1.25mm)
● 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	±6KV	Test Passed	A
Air Discharge	±8KV	Test Passed	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%

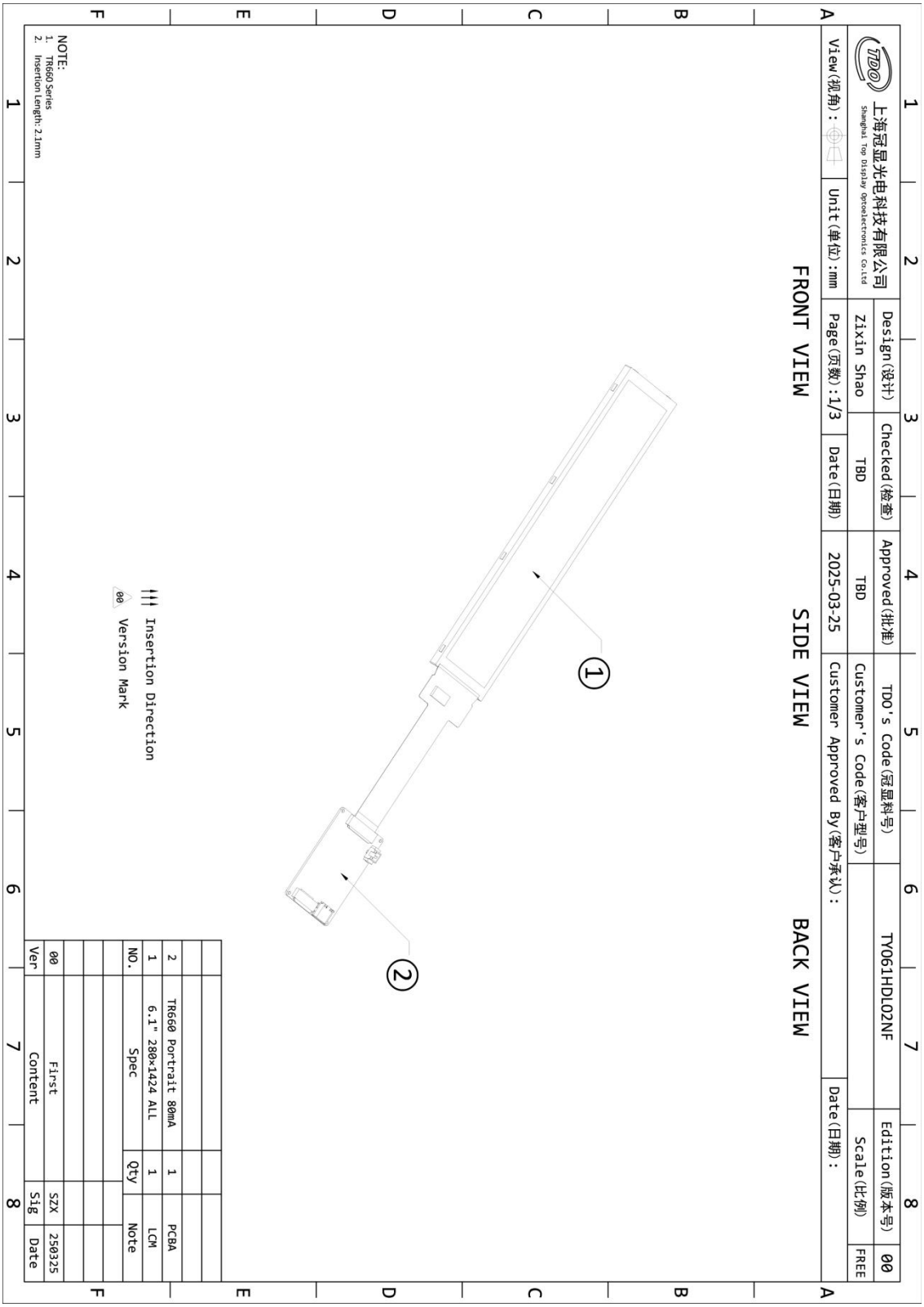
Test process: place the product in the high and low temperature test box, and power the screen through the power supply after the pulse group is coupled by the group pulse generator, and observe whether there is abnormal reset and restart display and other phenomena**.**

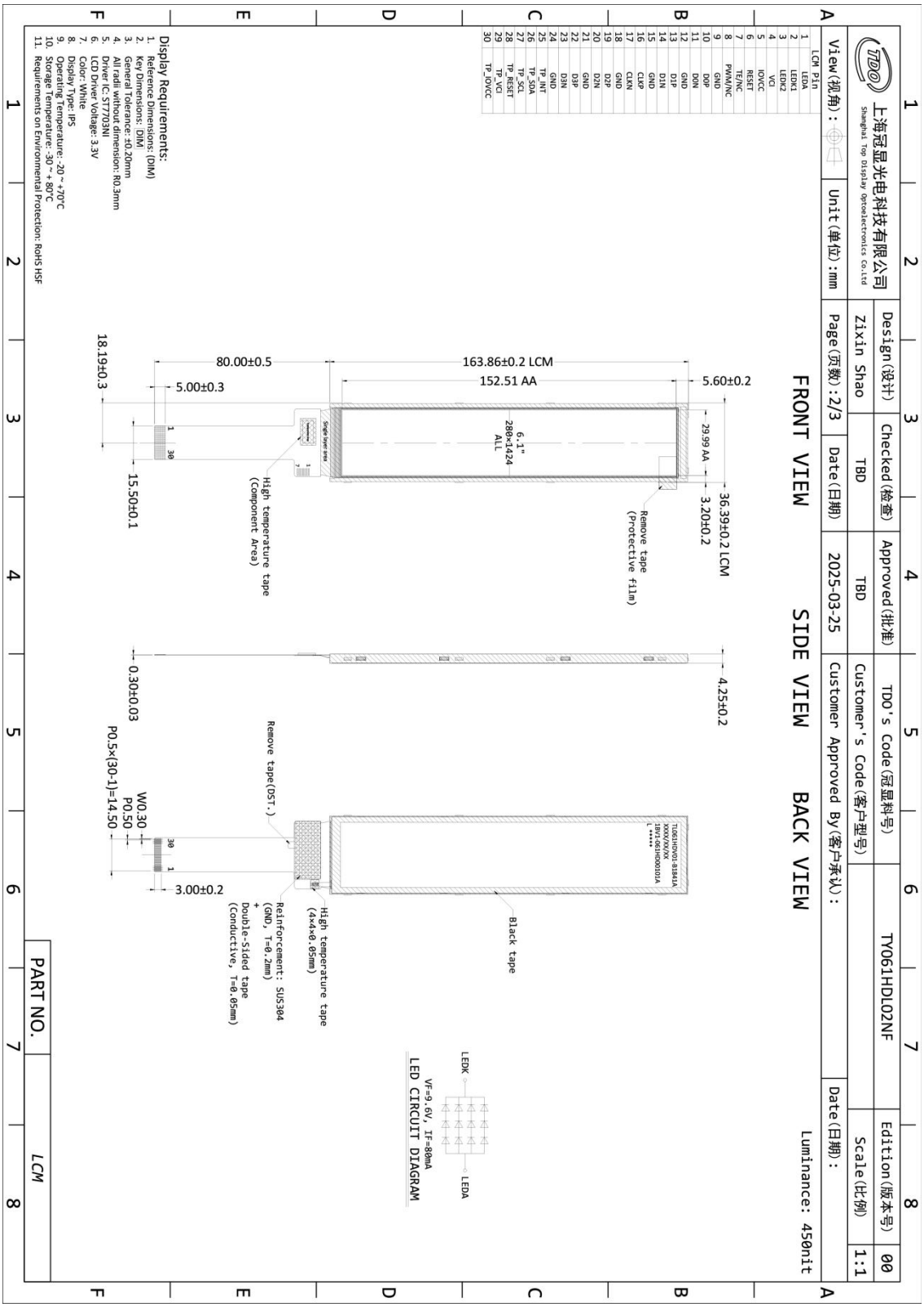


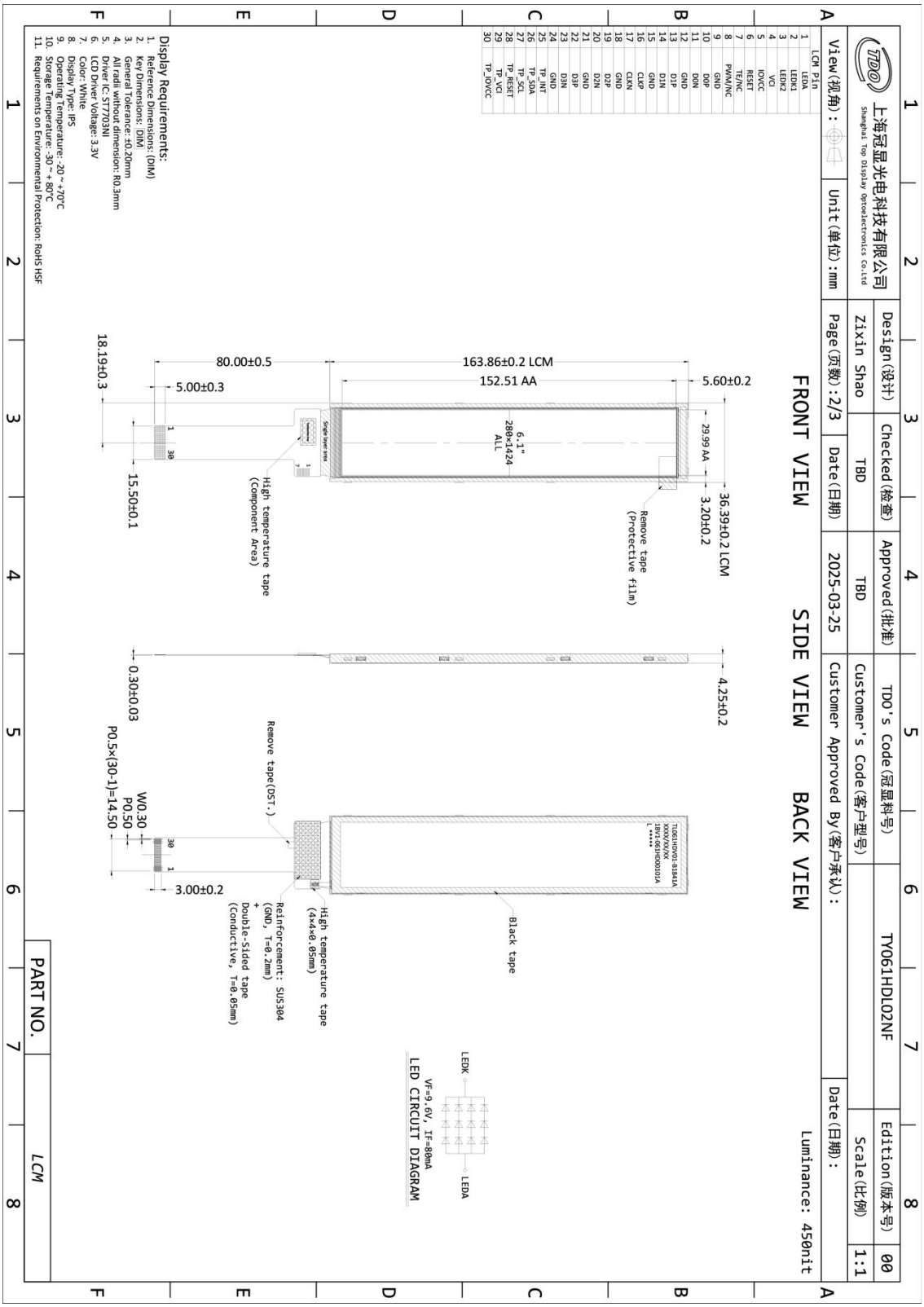
3.2.3. Test Data Results:

Implementation standards	GB/T 17626.4B
Performance criteria	A
Test Environment	±2.0KV ; 100KHZ ; 120S

4. Product Size



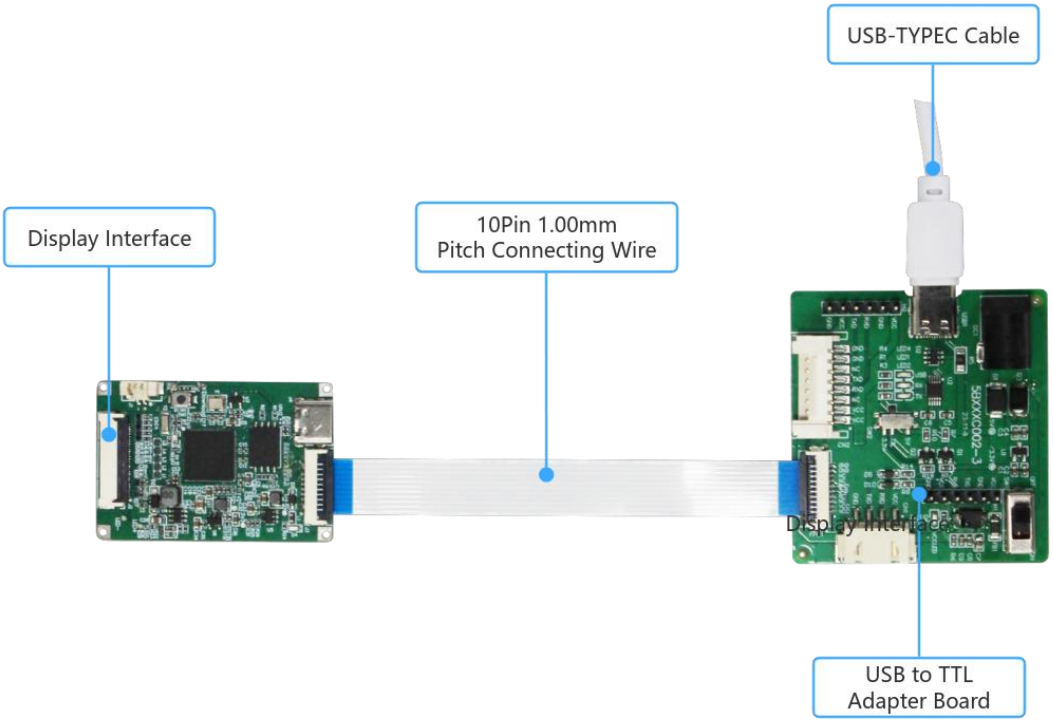

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Design(设计) Zixin Shao
Checked(检查) TBD
Approved(批准) TBD
TDO's Code(冠显料号) TY061HDL02NF
Edition(版本号) 00
Unit(单位):mm
Page(页数):2/3
Date(日期) 2025-03-25
Customer's Code(客户型号)
Customer Approved By(客户承认):
Date(日期):
Scale(比例) 1:1
View(视角):
FRONT VIEW
SIDE VIEW
BACK VIEW
Luminance: 450nit
LCM Pin
1 LEDA
2 LEDK1
3 LEDK2
4 VCI
5 IOVCC
6 RESET
7 TE/NC
8 PWM/NC
9 GND
10 D0P
11 D0N
12 GND
13 D1P
14 D1N
15 GND
16 CLKP
17 CLKN
18 GND
19 D2P
20 D2N
21 GND
22 D3P
23 D3N
24 GND
25 TP_INT
26 TP_SDA
27 TP_SCL
28 TP_RESET
29 TP_VCI
30 TP_IOVCC
163.86±0.2 LCM
152.51 AA
80.00±0.5
5.00±0.3
18.19±0.3
15.50±0.1
5.60±0.2
29.99 AA
3.20±0.2
36.39±0.2 LCM
6.1"
280×1424
ALL
Single layer area
High temperature tape
(Component Area)
Remove tape
(Protective film)
4.25±0.2
0.30±0.03
Remove tape(OST.)
High temperature tape
(4x4x0.05mm)
Black tape
Reinforcement: SUS304
(GND, T=0.2mm)
+
Double-Sided tape
(Conductive, T=0.05mm)
W0.30
P0.50
P0.5×(30-1)=14.50
3.00±0.2
LEDK
LEDA
VF=9.6V, IF=80mA
LED CIRCUIT DIAGRAM
Display Requirements:
1. Reference Dimensions: (DIM)
2. Key Dimensions: DIM
3. General Tolerance: ±0.20mm
4. All radii without dimension: R0.3mm
5. Driver IC: ST7703NI
6. LCD Driver Voltage: 3.3V
7. Color: White
8. Display Type: IPS
9. Operating Temperature: -20~+70°C
10. Storage Temperature: -30~+80°C
11. Requirements on Environmental Protection: RoHS HSF
PART NO.
LCM



(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.



6. Model Definition

T	Y	061	HD	L	02	N	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.061->6.1 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.