

深圳市万天源光电有限公司

Shenzhen Wanty Photoelectric Co.,Ltd

Specification

CUSTOMER NAME:

CUSTOMER CODE:

DESCRIPTION: Capacitive Touch panel

PRODUCT CODE: WTY070144A02

SAMPLE DATE:

APPROVAL SHEET NO. :

WANTY COMPANY			
Signature by the person in charge	Engineering audit	Quality assurance audit	Approval

CUSTOMER COMPANY			
APPROVAL SHEET NO.		Material Number	
Signature by the person in charge	Engineering audit	Quality assurance audit	Approval
Date:	Date:	Date:	Date:
Address :			
TEL:			
FAX:			
Website :			

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Specification Revision Record

规格修订表

No. 序号	Version版本	Date日期	Summary of changes变更概要	Page页码
1	Ver0		New Created	1-11
2				
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1. GENERAL SPECIFICATION 产品规格

Item 项目	Specification 规格	Remarks 备注
Product name 产品名称	电容式触摸屏	
Product No. 产品编号	WTY070144A02	
Drawing No. 图纸编号	WTY070144A02	
Code No. 样品编号		

2. BASIFC FEATURES 基本特征

Item 项目	Specification 规格	Remarks 备注
Dimension 厚度尺寸	1.45+/-0.15mm	No DST
Outline Dimension 外形尺寸	99.4*164.3+/-0.1mm	
Viewing Area 可视区	85.92*154.08+/-0.15mm	
Construction 结构	Materials used 所用材料	Remarks 备注
First Layer 第一层	0.7mm GLASS LENS	
Second Layer 第二层	0.2mm LOCA	
Third Layer 第三层	0.55mm DITO	
Fourth Layer 第四层		
Fifth Layer 第五层		
Sixth Layer 第六层		
Seven Layer 第七层		
Surface Hardness 表面硬度	6H	
Scope 应用方式	手指触摸输入	
Application 应用范围	MID	

3. MECHANICAL CHARACTERISTICS 机械性能

Item 项目	Specification 规格	Remarks 备注
Diagonal of contact area 手指接触面对角线	More than 7mm	
Package drop 包装后 跌落测试	No damage to the product.(Drop from 50cm height) 包装从高处50cm无损伤	
FPC bending test FPC弯折测试	≥3 times bending (by R1 mm), Electrical performance should be OK. FPC弯折3次以上, 电气性能OK	

4. ELECTRICAL CHARACTERISTICS 电气参数

Item 项目	Specification 规格	Remarks 备注
Insulation 绝缘性	20MΩ or over (DC 25V)	
Supply voltage for logic 电压	2.8-3.3V	
Supply current for logic 电流	10mA	

5. OPTICS CHARACTERISTICS 光学特性

Item 项目	Specification 规格	Remarks 备注
Light transmissivity 光透过率	>85%	

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6. RELIABILITY 可靠性

Item 项目	Specification 规格	Remarks 备注
Operating temperature and humidity 操作温度和湿度	-20~70°C, 20~85% RH	Except for dew gathering 无结露
Storage temperature and humidity 存储温度和湿度	-30~80°C, 20~85% RH	Except for dew gathering 无结露
Humidity resistance 高温高湿	The requirement in 6 shall be satisfied after exposing at 60°C, 90%RH for 240 hours and at normal temperature and humidity for 24 hours. 在60°C, 90%RH条件下存放240小时, 取出在常温常湿下, 再存放24小时后, 满足第6点所要求的各项电气参数	Except for dew gathering 无结露
Heat resistance 高温存储	The requirement in 6 shall be satisfied after exposing at 70°C, for 240 hours and at normal temperature and humidity for 24 hours. 在70°C条件下存放240小时, 取出在常温常湿下, 再存放24小时后, 满足第6点所要求的各项电气参数	Except for dew gathering 无结露
Cold resistance 低温存储	The requirement in 6 shall be satisfied after exposing at -20°C, for 240 hours and at normal temperature and humidity for 24 hours. 在-20°C条件下存放240小时, 取出在常温常湿下, 再存放24小时后, 满足第6点所要求的各项电气参数	Except for dew gathering 无结露
Thermal shock 冷热冲击	The requirement in 6 shall be satisfied after exposing under the conditions of -20°C (0.5 hour) → 70°C (0.5 hour), by 50 cycles, and at normal temperature and humidity for 24 hours. 在-20°C (0.5小时) → 70°C (0.5小时) 条件下循环50次, 取出在常温常湿下, 再存放24小时后, 满足第6点所要求的各项电气参数	Except for dew gathering 无结露
Vibration resistance 抗振动	The requirement in "Operation force of the item 3-1 Mechanical Characteristics and 6 Electric characteristics shall be satisfied after sweep vibration of 20m/s ² , 10 Hz to 55 Hz (1 min) is given for 30 min. Each in the directions of X, Y, Z 在X, Y, Z三个方向上, 用20m/s ² , 10 Hz ~ 55 Hz (1 分钟) 条件测试30分钟, 满足第3-1点和第6点所要求的各项电气参数	

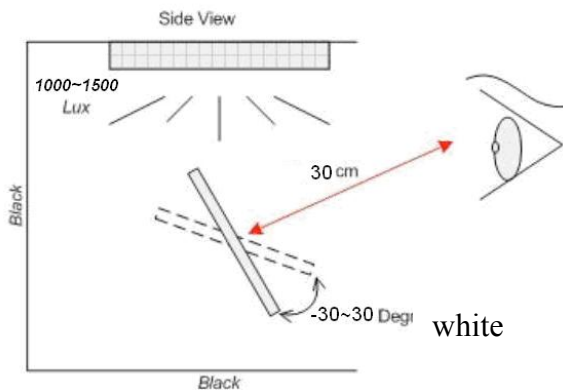
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7. APPEARANCE LIMIT STANDARD 外观检验标准及功能检查

7.1 Appearance Inspection Standards

Black Booth or Black Background



7.1.1 Regional division:

A part: It includes the front viewing area and the front BM (Black Mask) area, the blue box area as shown below includes the front and back transparent area of the whole cover plate.

B Part: It includes four side edges (viewed from side) and FPC area, the green box area in the following figure;



7.2 Defect classification:

A part Defect classification:

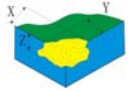
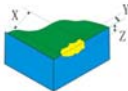
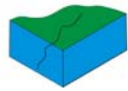
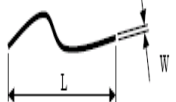
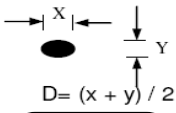
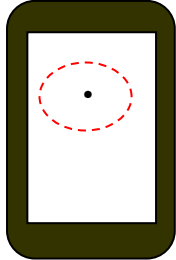
Linear defects (scratches, dandruff, fibers), spotted defects (white, black, homochromatic, heterochromatic, dust particles, bubbles), dirty surface, pinholes, light leakage, scratches

B part Defect classification:

Damage, crack edge/break angle, FPC defect

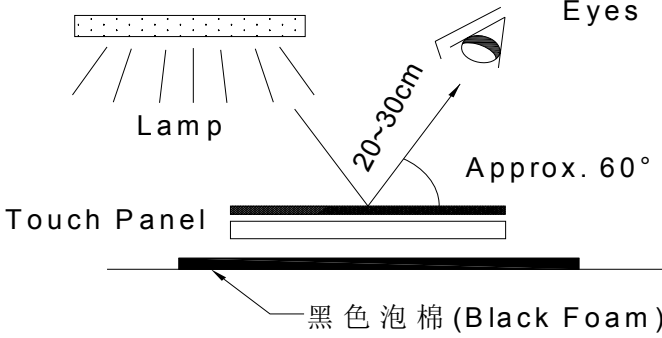
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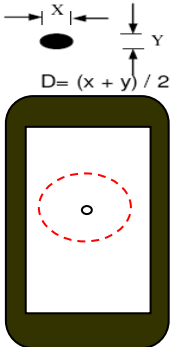

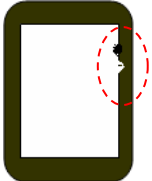
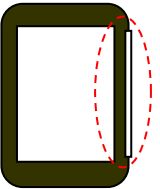
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Undesirable Item	3.5-8 Inch	9-15.6 Inch	Defect Type		Decision
			MA	MI	
Break angle 	$X \leq 0.3\text{mm}, Y \leq 0.4\text{mm}$	$X \leq 0.4\text{mm}, Y \leq 0.5\text{mm}$		★	OK
	$X > 0.3\text{mm}, Y > 0.4\text{mm}$	$X > 0.4\text{mm}, Y > 0.5\text{mm}$		★	NG
Break edge 	$X \leq 0.3\text{mm}, Y \leq 0.4\text{mm}$	$X \leq 0.4\text{mm}, Y \leq 0.5\text{mm}$		★	OK
	$X > 0.3\text{mm}, Y > 0.4\text{mm}$	$X > 0.4\text{mm}, Y > 0.5\text{mm}$		★	NG
Glass crack 	Any crack		★		NG
Linear objects (including scratches, fibers)  W:wide L:long	$W \leq 0.1\text{mm}$ Neglect	$W \leq 0.15\text{mm}$ Neglect		★	OK
	$0.10\text{mm} < W \leq 0.15\text{mm},$ $L \leq 10\text{mm}$ Permissible 2, distance over 10 mm	$0.5\text{mm} < W \leq 0.2\text{mm},$ $L \leq 10\text{mm}$ Permissible 3, distance over 10 mm		★	OK
	$W > 0.15\text{mm}, L > 10\text{mm}$	$W > 0.2\text{mm}, L > 10\text{mm}$		★	NG
Heterochromatic spots (including bubbles): such as black spots in white areas D: diameter  	$D \leq 0.2\text{mm}$ Neglect	$D \leq 0.3\text{mm}$ Neglect		★	OK
	$0.2\text{mm} < D \leq 0.35\text{mm}$ Permissible 2, distance over 10 mm	$0.3\text{mm} < D \leq 0.4\text{mm}$ Permissible 3, distance over 10 mm		★	OK
	$D > 0.35\text{mm}$	$D > 0.4\text{mm}$		★	NG

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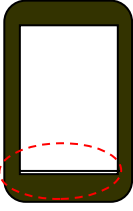

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<p>Inspection environment: Inspection under 20 ~ 30W cold white industrial light, visual inspection distance: 20 ~ 30cm, light source: 500 ~ 800lux; and under the product pad a black cardboard as a backing, each product detection time is 12 seconds. Right-hand chart</p>	 <p style="text-align: center;">Lamp Eyes 20~30cm Approx. 60° Touch Panel 黑色泡棉 (Black Foam)</p>
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<p>Homochromatic spots: white spots in white areas, for example D: diameter</p> 	$D \leq 0.2\text{mm}$ Neglect	$D \leq 0.30\text{mm}$ Neglect	★	OK
	$0.2\text{mm} < D \leq 0.35\text{mm}$ Permissible 2, distance over 10 mm	$0.30\text{mm} < D \leq 0.40\text{mm}$ Permissible 3, distance over 10 mm	★	OK
	$D > 0.35\text{mm}$	$D > 0.40\text{mm}$	★	NG
<p>Gel diffusion</p> 	Insulation oil entering V.A		★	NG
	The glue overflows over the edge of the black ink and enters VA		★	NG
	Sensor edge overflow shall not affect assembly		★	OK
<p>Printing saw tooth</p> 	Serrated Protrusion Width Near VA $\leq 0.35\text{mm}$		★	OK
	Serrated Protrusion Width Near VA $> 0.35\text{mm}$		★	NG
<p>Ink Light leakage</p> 	Leakage width of edge region is less than 0.2mm Only one side light leakage is allowed.		★	OK
	Leakage width of edge region $> 0.2\text{mm}$		★	NG

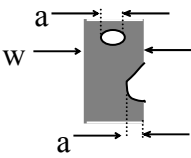


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Net imprinting 	$\leq 0.1\text{mm}$		★	OK
	$> 0.1\text{mm}$		★	NG
Ink pinhole 	Reflection conditions are not visible in areas 2 mm away from the edge of the VA		★	OK
	There are any pinholes within 3 mm near the edge of the VA area.		★	NG
Ink Layer Defects	The ink layer is scratched, there are fibers and impurities in it, and there is no light transmission on the front. $0.1\text{mm} < W < 0.2\text{mm}$, $L < 3\text{mm}$ Permissible 1		★	OK
	$W > 0.1\text{mm}$, $L > 3\text{mm}$		★	NG
Font, Mirror Silver(Ink pattern area)Line width0.2mm 	$D \leq 0.5\text{mm}$; $N \leq 2$		★	OK
	$D > 0.2\text{mm}$		★	NG
	Specific can refer to the limit template, exceeding the limit template requirements.		★	NG
Text/color error	Text or color does not correspond to drawings and patterns.		★	NG
Font incomplete ($W \leq 0.2\text{mm}$) 	$a \leq 1/4h$ $b \leq 1/2w$		★	OK
Deformation and uneven color of fonts 	According to the limit sample, exceeding the limit sample requirement		★	NG
Smear	No stain residues in the interior and surface of the product; and the surface can wipe the stain		★	OK

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Glue	Glue covers FPC binding location		★	OK
	Glue Highly beyond product thickness		★	NG
Silver thread	Silver line gap < 1/3 of the width of silver line, and no Functional issues		★	OK
	Interline impurities < 1/3 silver wire spacing, and no Functional issues		★	OK
Ink color difference	Compared with the sample, there is obvious color difference.		★	NG
FPC defect 	Indentation, pinhole $a < w / 3$		★	OK
	Opening/scratching/splitting	★		NG
	No glue in 2mm under FPC		★	OK
	Double-sided adhesive centrifugal paper on FPC is not peeled, but adhered to and fixed.		★	NG
	Deformation, shedding and warping of reinforcing plate		★	NG
	Damage, shedding, deformation, glue, oxidation, pollution of golden finger/clasp	★		NG
FPC fracture 	FPC breakage, component falling off, leakage, component welding back and breakage	★		NG
FPC warpage 	FPC warpage		★	OK
IR/camera/receiver/keyhole	Irregular hole position, dirty dirt, scratch, glue in hole, beyond hole size requirement, offset		★	NG
Protective film	The protective film should be clean, flat and attached without deviation.		★	OK
Double sided glue/foam/TOP printing	No offset, no visible area		★	OK
Cover Edge, Keyboard Hearing Hole ink overflow	Overflow of glue in the edges of cover and the holes of the receiver or keyboard leads to discoloration and is not allowed.		★	NG
Product surface	Any marks on fingerprints, dirty marks or products (except those with special requirements)		★	NG

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PC board/ double-sided glue/foamed cotton	Attachment beyond cover edge, overlap, wrinkle	★	NG
Blister tray	Blister tray dirty, broken and abnormal	★	NG

Functional inspection: using Wanty test stand, test program automatically determines test results, showing "OK", "PASS" or "NG". The final determination results of products need test program to show "OK", "PASS", and draw line test through requirements, referring specifically to "Test Procedure" or "Product Manufacturing Specification Book".

Short circuit	he test data show that it is short-circuited. The test value of short-circuited lines is obviously larger or smaller than that of normal lines, and Opreation can ghost	★	NG
Open circuit	The test data display is open-circuit, and the change value of open-circuit test data is 0. It varies according to different test procedures. Refer to "Test Procedure" and operate breaking lines.	★	NG
No response	When testing, the test program does not act, react and draw lines without effect	★	NG
Opreation can ghost or breaking lines	Test results show that OK, operation test has ghost, breakink line, bend and other abnormal phenomena.	★	NG

8. USE THE NOTE ITEM 使用注意项

ITEM	THE NOTE ITEM
Store	(1) Before installation, the storage temperature and humidity of the product should be less than 30 C and 60% RH. After installation, the product is stored in the range of temperature and humidity according to the environmental characteristics of Article 6 of the specification. (2) Please ensure that the product is well packed during storage. (3) Avoid direct sunlight products.
Unpacking	(1) Do not grasp the FPC to take or place the product. (2) Open the product package according to the direction of "up/down" mark on the packing box.
Operation	(1) Fingers or special pens should be used for input. (2) Do not pull the FPC forcefully in order to avoid the bad electrical connection inside the product; do not twist and bend the output of FPC to avoid the bad connection between the FPC and the controller. (3) The product should not be bended or decomposed.
Online production	(1) Do not put too much pressure on the touch screen to cause damage to the product; (2) When designing the whole machine, please avoid damaging FPC and bending FPC with sharp angle. (3) Do not put too much pressure on the connection part between FPC and screen, which will lead to unstable electrical connection inside the screen. (4) Avoiding tool damage during assembly; (5) Our products belong to electrostatic sensitive components. Please pay attention to electrostatic protection during use.

9. Mechanical Drawing

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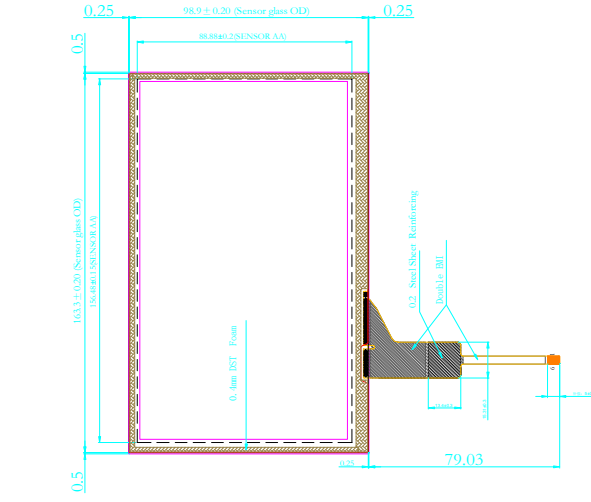
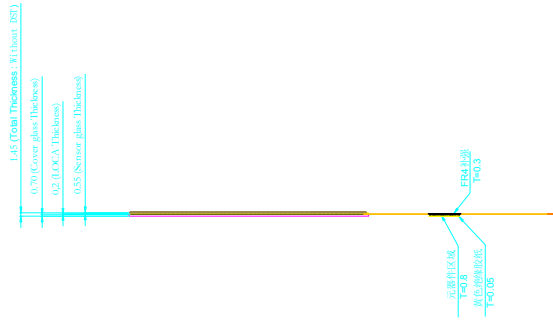
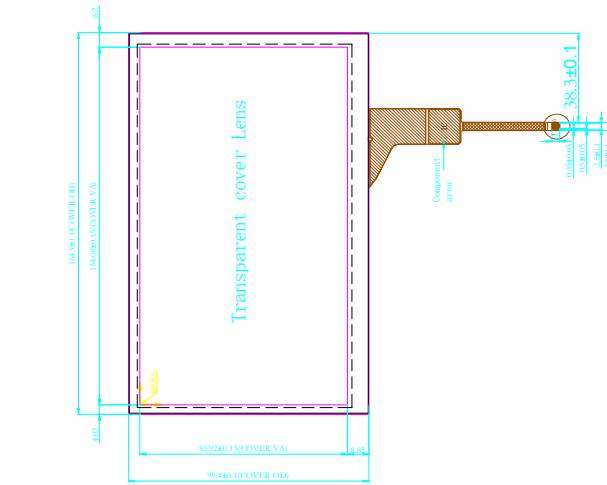
Drawing name:

Version: A/0

Front view

Side view

Back view



Technical parameters:

1. IC: IGT911
- Cover GLASS: 0.7mm
- OCA: 0.2mm
- ITO SENSOR: 0.55mm
- Lead line: FPC (PINCH=0.5mm)
- Total thickness: 1.45±0.15mm
2. Working voltage: 2.8V-3.3
3. Light transmittance: ≥82%
4. Surface hardness: 6H
5. Operating temperature: -20°C~+70°C, ≤90%RH
6. Storage temperature: -30°C~+80°C, ≤90%RH

Instructions:

1. Structure type: Glass+Glass.
2. Unmarked tolerance: ±0.20;
3. Comply with ROHS standards;

TP PIN SYMBOL

Pin	SYMBOL
1	VDD
2	Shutdown
3	SDA
4	SCL
5	INT
6	GND

MR	Describe	Date
001	New design	2017/2/6

Company ID	Item
WTY	WTY070144A02

Company ID	Item	Version
WTY	WTY070144A02	2017/2/6

Dimension	Unit
0.05-5.00	±0.1
5.00-10.00	±0.15
10.00-30.00	±0.2
30.00-50.00	±0.3
50.00-100.00	±0.4
100.00-200.00	±0.5
200.00-500.00	±0.6
500.00-1000.00	±0.8
1000.00-2000.00	±1.0
2000.00-5000.00	±1.2
5000.00-10000.00	±1.5
10000.00-20000.00	±2.0
20000.00-50000.00	±2.5
50000.00-100000.00	±3.0
100000.00-200000.00	±4.0
200000.00-500000.00	±5.0
500000.00-1000000.00	±6.0
1000000.00-2000000.00	±8.0
2000000.00-5000000.00	±10.0
5000000.00-10000000.00	±12.0
10000000.00-20000000.00	±15.0
20000000.00-50000000.00	±20.0
50000000.00-100000000.00	±25.0
100000000.00-200000000.00	±30.0
200000000.00-500000000.00	±40.0
500000000.00-1000000000.00	±50.0