



东莞市宏凯光电有限公司

DongGuan HONG KAI OPTO-ELECTRONIC Co., Ltd

触摸屏规格承认书

Specification of Touch Panel

机种编号 / Model No.:HK70D R2459-COF

版本号/ Customer's P/N: V1

客户名称 /Customer Name:

客户型号 /Customer No.:

Approve by	Designed by

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Warranty

Products manufactured to these specifications shall be capable of meeting all characteristics delivery onwards or for a minimum period of 1 year of the customer received when stored and used as specified under normal conditions within the contents of these sheets.

保质期

此规格触摸屏，从出货之日起或客户收到产品后，至少一年内应符合下列正常条件下的储存和使用规格。

1 Sample Specification 样品规格

1.1 Product name Code No.: Transparent touch panel

品名编号：透明轻触开关

1.2 Scope

适用范围

This specification shall apply to metal pen or finger input transparent capacitive touch panel.

本规格书为用专用金属笔或手指操作的**电容式**透明轻触开关。

1.3 Features and General Specifications

特征和规格

- **Features** 特征

Construction 结构	Materials used 所用材料	Comment 注释
Graphic overlay pet 面板	PET	Thickness: 0.25mm 厚度:0.25mm
Graphic overlay OCA 透明胶	Adhesive 粘胶	Thickness: 0.125mm 厚度:0.125mm
TOP Glass	ITO 玻璃	Thickness: 1.1mm 厚度:1.1mm
Back tape	背胶	Thickness: 0.175mm 厚度:0.175mm

● General Specifications 规格 (L=long 长; W=wide 宽; T= thickness 厚)

Item 项目	Specifications 规格	Unit 单位
TP Outline 外形尺寸	184.44 (L) × 104.24 (W) × 1.5 (T)	mm
TP Sensor 外形尺寸	176.94 (L) × 98.74 (W) × 1.5 (T)	mm
Viewing Area 可视区	154.96 (L) × 86.42 (W)	mm
Active Area 驱动区	155.96 (L) × 87.42 (W)	mm

1.4 Environment Conditions 环境参数

Items 项目	Value 值
Operating temperature & Humidity 工作温湿度范围	-20°C-+70°C:
Storage temperature & Humidity 储存温湿度范围	-30°C-+80°C:

1.5 Mechanical characteristics 机械性能

Items 项目	Value 值
Optical characteristics 光学特性	Transparency 透明度 大于 85%
Hardness 表面硬度	3H

1.6 Electric characteristics 电气性能

Items	Value 值
Supply voltage	2.8-3.6V (DC)

2 Appearance limit standard

外观检验标准

2.1 Scope 范围

Touch panel visible side. 产品的可视区

2.2 Inspection conditions 检测条件

(1) The brightness in text site:500LUX

光照条件:500LUX

(2) Inspection distance:30cm

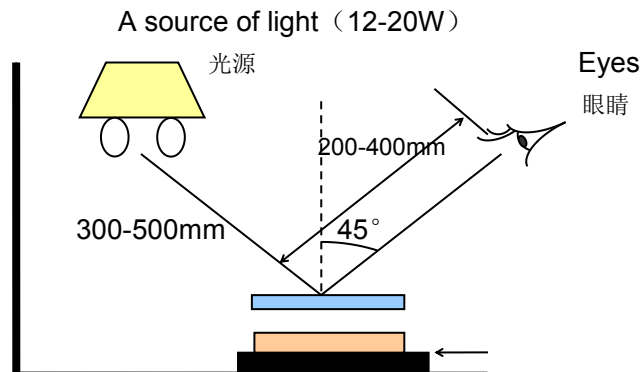
检测距离:30cm

(3) visual angle:>60 度

检测角度: >60 度

(4) light source:40W natural light

电源强度: 40W

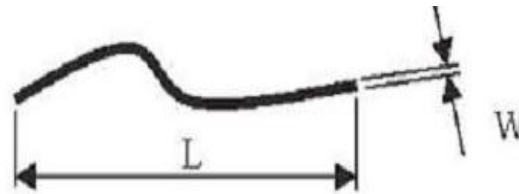


(Remark: D=diameter 直径; L=length 长度; W=width 宽; GT=glass thickness 玻璃总厚)

2.2-1

visual area 透明可视区

Scratch 刮伤



CRITERIA	DECISION
线状缺陷 (刮伤) Linear Defects(Scratch)	<p>允收:[accept]</p> <p>1. 3.5 寸~5.0 寸</p> <p>1.1 $W \leq 0.03 \text{ mm}$ 忽略不计.[ignore it]</p> <p>1.2 $0.03 \text{ mm} < W \leq 0.05 \text{ mm}$, $L \leq 8.0 \text{ mm}$, 允许 2 个, 但间 $\geq 10 \text{ mm}$. [allow 2 ,but distance $\geq 10 \text{ mm}$]</p> <p>1.3 $0.05 \text{ mm} < W \leq 0.07 \text{ mm}$, $L \leq 8 \text{ mm}$ 允许 1 条.[allow 1]</p> <p>2. 5.0 寸以上</p> <p>2.1 $W \leq 0.03 \text{ mm}$ 忽略不计. [ignore it]</p> <p>2.2 $0.03 \text{ mm} < W \leq 0.05 \text{ mm}$, $L \leq 8.0 \text{ mm}$, 允许 4 个, 但间距 $\geq 10 \text{ mm}$. [allow 2 ,but distance $\geq 10 \text{ mm}$]</p> <p>2.3 $0.05 \text{ mm} < W \leq 0.07 \text{ mm}$, $L \leq 8 \text{ mm}$ 允许 2 条.[allow 2]</p> <p>拒收:[Reject]</p> <p>$W > 0.07 \text{ mm}$, $L > 8 \text{ mm}$</p>

2.2-2 Dot-like Foreign Matter 点状杂物

CRITERIA	DECISION
点状不良（白点、黑点、凹凸点、尘埃粒子） Dot defect (White dot, Black dot, Particle)	允收:[accept] 1. 3.5 寸~5.0 寸 1.1 $\varnothing \leq 0.15 \text{ mm}$, 忽略不计, 但不能聚集; [ignore it, But not together] 1.2 $0.15 \text{ mm} < \varnothing \leq 0.30 \text{ mm}$, 允许 2 个, 最小间距 $\geq 10 \text{ mm}$ [Allow 2, Distance $\geq 10 \text{ mm}$] 1.3 $0.30 \text{ mm} < \varnothing \leq 0.40 \text{ mm}$, 允许 1 个 [Allow 1] 2. 5.0 寸以上 2.1 $\varnothing \leq 0.15 \text{ mm}$, 忽略不计, 但不能聚集; [ignore it, But not together] 2.2 $0.15 \text{ mm} < \varnothing \leq 0.30 \text{ mm}$, 允许 4 个, 最小间距 $\geq 10 \text{ mm}$ [Allow 4, Distance $\geq 10 \text{ mm}$] 2.3 $0.30 \text{ mm} < \varnothing \leq 0.40 \text{ mm}$, 允许 2 个 [Allow 2] 拒收: 超过上述范围拒收 Reject: not in above criterion

2.2-3 Linear Foreign Matter 线状杂物

CRITERIA	DECISION
线状缺陷（毛屑等异物） Linear Defects(Fiber)	允收:[accept] 1. 3.5 寸~5.0 寸 1.1 $W \leq 0.03 \text{ mm}$ 忽略不计.[ignore it] 1.2 $0.03 \text{ mm} < W \leq 0.04 \text{ mm}$, $L \leq 5.0 \text{ mm}$, 允许 2 个, 但间距 $\geq 10 \text{ mm}$. [allow 2 ,but distance $\geq 10 \text{ mm}$] 1.3 $0.04 \text{ mm} < W \leq 0.06 \text{ mm}$, $L \leq 5.0 \text{ mm}$ 允许 1 条.[allow 1] 2. 5.0寸以上 2.1 $W \leq 0.03 \text{ mm}$ 忽略不计. [ignore it] 2.2 $0.03 \text{ mm} < W \leq 0.04 \text{ mm}$, $L \leq 5.0 \text{ mm}$, 允许 4 个, 但间距 $\geq 10 \text{ mm}$. [allow 2 ,but distance $\geq 10 \text{ mm}$] 2.3 $0.04 \text{ mm} < W \leq 0.06 \text{ mm}$, $L \leq 8 \text{ mm}$ 允许2 条.[allow 2] 拒收:[Reject] $W > 0.06 \text{ mm}$, $L > 5 \text{ mm}$

2.2-4 OCA bubbles and bend 透明胶气泡/变形

CRITERIA	DECISION
4.气泡 Bubble	允收:[accept] 1. 3.5 寸~5.0 寸 1.1 $\varnothing \leq 0.15 \text{ mm}$, 忽略不计, 但不能聚集[ignore it, But not together] 1.2 $0.15 \text{ mm} < \varnothing \leq 0.20 \text{ mm}$, 允许 2 个, 最小间距 $\geq 10 \text{ mm}$ [Allow2,Distance $\geq 10 \text{ mm}$] 1.3 $0.20 \text{ mm} < \varnothing \leq 0.30 \text{ mm}$, 允许1个 [Allow 1]

	<p>2. 5.0寸以上</p> <p>2.1 $\varnothing \leq 0.15 \text{ mm}$, 忽略不计, 但不能聚集[ignore it, But not together]</p> <p>2.2 $0.15 \text{ mm} < \varnothing \leq 0.20 \text{ mm}$, 允许4 个, 最小间距$\geq 10\text{mm}$ [Allow4,Distance$\geq 10\text{mm}$]</p> <p>2.3 $0.20 \text{ mm} < \varnothing \leq 0.30 \text{ mm}$, 允许2个[Allow 2]</p> <p>拒收:[Reject]</p> <p>$D > 0.30\text{mm}$</p>
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➤ **Non- visual area(overlay)非透明可视区(面版)**

2.2-5 Dot-like Foreign Matter 点状杂物

CRITERIA	DECISION
$D < 0.2\text{mm}$ 直径 $< 0.2\text{mm}$	Ignored 可忽略
$0.2\text{mm} \leq D \leq 0.3\text{mm}$ $0.2\text{mm} \leq \text{直径} \leq 0.3\text{mm}$	Two objects are allowed. 允许有两个存在;
$D > 0.3\text{mm}$ 直径 $> 0.3\text{mm}$	The T/P is regarded as a defect. T/P 属不良品。

2.2-6 Chip And Crack 碎裂、破损

Corner fragment: $X < 2.0\text{mm}$ and $Y < 2.0\text{mm}$ and $Z < GT$ it is ignored

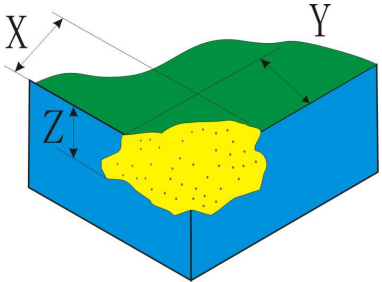
1) Corner fragment in the golden finger that seriously affects the product function is regarded as a defect.

2) Corner fragment in the circuit that seriously affects product function is regarded as a defect.

角断裂: $X < 2.0\text{mm}$, $Y < 2.0\text{mm}$ 和 $Z < GT$, 可以忽略

1) 若角断裂位于金手指处, 严重影响产品的功能, T/P 属不良品;

2) 若角断裂位于线路上, 严重影响产品的功能, T/P 属不良品。



Side fragment: $X < 5.0\text{mm}$ and $Y < 1.0\text{mm}$ and $Z < GT$ it is ignored

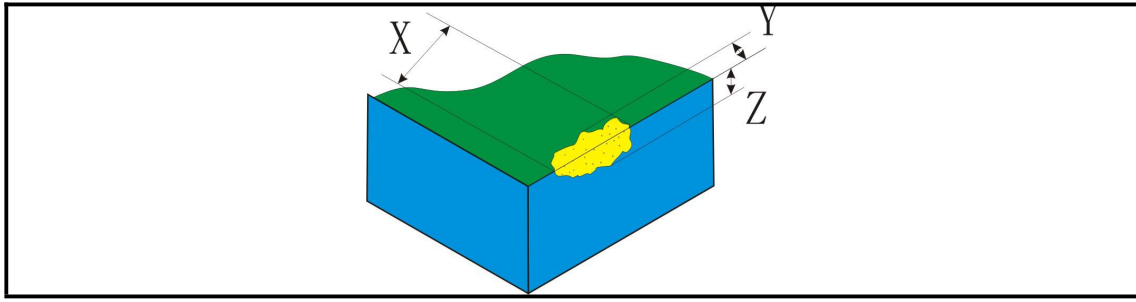
1) Side fragment in the golden finger that seriously affects the product function is regarded as a defect.

2) Side fragment in the circuit that seriously affects product function is regarded as a defect.

边断裂: $X < 5.0\text{mm}$, $Y < 1.0\text{mm}$ 和 $Z < GT$, 可以忽略。

1) 若边断裂位于金手指处, 严重影响产品的功能, T/P 属不良品;

2) 若边断裂位于线路上, 严重影响产品的功能, T/P 属不良品。



2.2-7 others: This specification is considered as basic on the products, but details are subject to discussion upon individual customer requirement.

其它： 此承认书基本满足产品特性要求，若有其它问题可针对客户实际要求进行协商。

3 Reliant Condition 信赖性条件

No.	Item	Test Condition	Note
1	High Temperature Operating	After exposing at 60 °C for 64 hours and at normal temperature and humidity for 24 hours.	OK
2	Low Temperature Operating	After exposing at -10 °C for 64 hours and at normal temperature and humidity for 24 hours.(except for dew gathering)	OK
3	High Temperature 、 High Humidity Operating	After exposing at 60 °C ,80%RH for 64 hours(after dehumidifying in the chamber 60 °C and 50% max.) and at normal temperature and humidity for 24 hours.(except for dew gathering)	OK
4	High Temperature Storage	After exposing at 60 °C for 64 hours and at normal temperature and humidity for 24 hours.	OK
5	Low Temperature Storage	After exposing at -10 °C for 64 hours and at normal temperature and humidity for 24 hours.	
6	High Temperature 、 High Humidity Storage	After exposing at 60 °C ,90%RH for 64 hours and at normal temperature and humidity for 24 hours.(except for dew gathering)	OK
7	Touch panel Surface Intensity test	Testing condition: No glass breaks when 64g,30cm steel ball is dropped vertically on the center fo panel surface which glass thickness is 0.55-3.0mm from 30cm height one time	OK

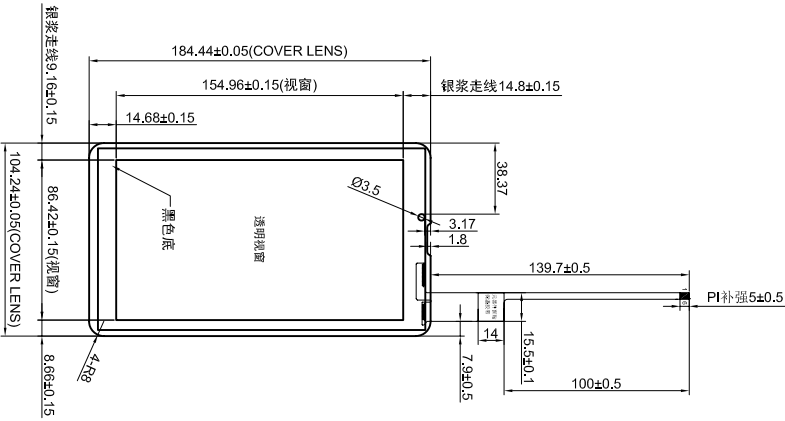
4.Attachment 附件

Engineering drawing 工程图

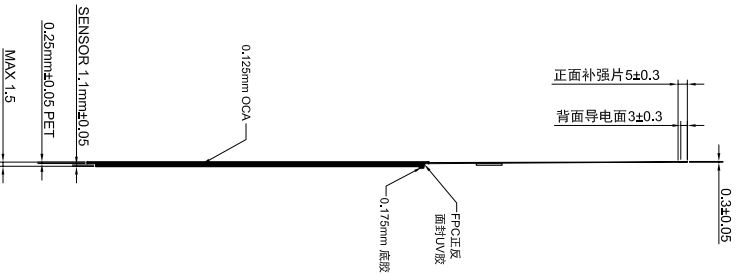
Rev	Date	Content	Approved
V1	2016-03-28	新图纸	YANG
V1	2016-04-26	FPC加长18mm	wang

NOTES:
1. ALL MATERIALS AND COMPONENTS MUST BE ROHS COMPLIANT.

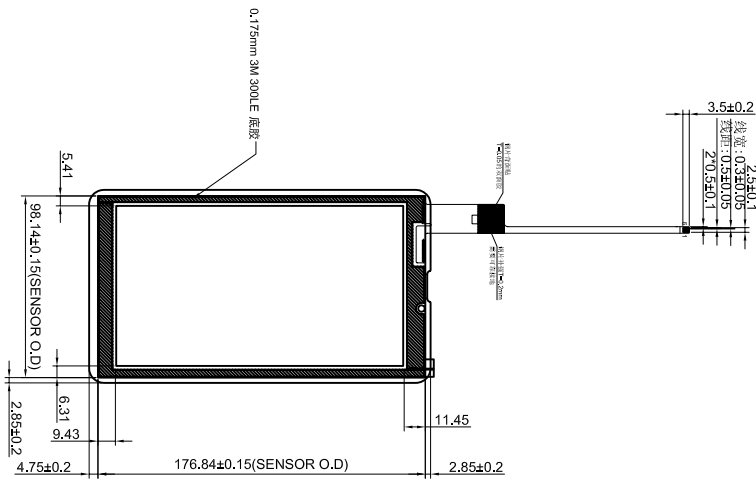
正视图



侧视图



背视图



产品逻辑图

Pin	Name
1	RST
2	INT
3	SCK
4	SDA
5	VDD
6	GND

E

D

B

A

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技术参数:
1. 产品结构:
COVER PET +ITO GLASS+FPC+背胶

- 透光率: ≥83%
- 表面硬度: ≥3H
- IC:GT911(通道TX15*RX10)
- 工作环境: -10°C~+60°C, ≤90%RH
- 储存环境: -20°C~+70°C, ≤90%RH
- 未注尺寸公差为±0.2mm

If You Have Any Question,Please Contact With Us /Please Confirm This Drawing On/Before

1

2

3

5

6

7

E

D

B

A

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