

Datasheet

Distec

TP-DD1010-A04

10.1" wide PCAP Touch Panel

COF, I²C Interface

TO-09-014R1.1

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1、产品变更记录 Revision sheet

| 版本号 Revision No. | 日期 Date | 变更内容 Content | | 变更原因 Reason | 签名 Sig. |
|------------------------|------------|----------------|-----------------|------------------------|------------|
| | | 变更前 Before | 变更后 After | | |
| REV.1 | 2015.05.05 | -- | -- | 初版 First edition | |
| REV.2 | 2015.06.15 | 5 Touch Points | 10 Touch Points | Page 5 | |
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Remark/备注:



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2、样品规格 Sample Specification

2.1 品名编号 Product name Code No

电容性的透明轻触面板 Capacitive transparency touch panel

2.2 适用范围 Scope

这份说明书的目的就是为 multi-touch 功能的触摸感应模组提供常规规定和品质需求。这份文件和模组装配图纸是该产品的最高等级说明书，它包括产品介绍、支持文件和规格。

The purpose of this specification is to define the general provisions and quality requirements that apply to the supply of capacitive-type multi-touch function TOUCH SENSOR MODULE. This document and the Module Assembly Drawing are the highest-level specification for this product. It concludes description of product, supporting documents and related specifications.

2.3 功能 Function

消费者将电容式触摸感应模组用于类似 TFT-LCD 的平面显示器上，当使用者用手指触摸时，TOUCH SENSOR 电路就显示出与触摸位置对应的点。TOUCH SENSOR MODULE is a capacitive-type that customer uses on the flat panel display likes TFT-LCD. Once user touches it by FINGER, the circuitry of this TOUCH SENSOR indicates corresponding point at the contact area.

2.4 结构 Construction

| 结构 Construction | 所用材料 Materials used | 注释 Comment |
|-----------------------|------------------------|-----------------------------------|
| 面版 Graphic overlay | 0.7mm Glass | 厚度:0.7mm Thickness : 0.7mm |
| 双面胶 Adhesive | OCA1 | 厚度:0.125mm Thickness : 0.125mm |
| | OCA2 | 厚度:0.05mm Thickness : 0.05mm |
| SENSOR | ITO FILM | 厚度:0.125mm Thickness : 0.125mm |
| | ITO FILM | 厚度:0.125mm Thickness : 0.125mm |



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3、产品规格 General Specifications

3.1 产品尺寸 Size of product

| 项目 Item | 规格 Specifications (mm) | 备注 Note |
|---------------------|-----------------------------|---------|
| 面板外形 Cover lens OD | 251 (L) ×174 (W) ×0.7(T) | |
| 可视区 View Area | 218 (L) ×136.8 (W) | |
| 驱动区 Active Area | 219 (L) ×137 (W) | |
| 功能片外形 Sensor OD | 250 (L) ×173 (W) ×0.425 (T) | |
| 总厚度 Total thickness | 1.125±0.1 | |

3.2 电器特性 Electric characteristics

| 项目 Item | | 规格 Specifications | 备注 Note |
|--------------------------------|------------------------------|-------------------|---------|
| 操作电压 Operation Vortage | | 2.8~3.3V | |
| 操作电流 Operation Current | 正常模式 Nomal Operation Mode | | |
| | 睡眠模式 Sleep Mode | | |
| 触点数量 (Number of touchpoint) | | 10 Points | |
| 控制器类型 Control Type | | GT9271 | |

引脚定义 (Pin Configuration) :

参照 TPDD1010-A04 工程图 PIN 定义



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3.3 光学特性 Optical characteristics

| 项目 Items | 规格 Specifications | 备注 Note |
|------------------|-------------------|---------|
| 透光率 Transparency | $\geq 86\%$ | |
| Glass Surface | glare | |

3.4 机械特性 Mechanical characteristics

| 项目 Items | 值 Value | 备注 Note |
|---------------|-----------|---------|
| 表面硬度 Hardness | $\geq 6H$ | |

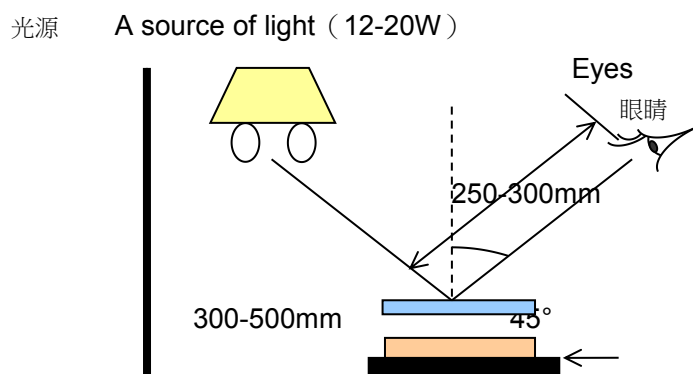


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4、外观检验标准 Appearance limit standard

4.1 外观检验条件 Appearance limit conditions

| 项目 Items | 规格 Specifications | |
|--------------------------------|--|--------------------------------|
| 照度 Source of light | 800-1500LUX | |
| 与材料间的距离 Inspection Distance | 25-30cm(见下图 see following drawing) | |
| 检测时间 Inspection Time | $\leq 10s/pcs$ | |
| 检查环境 Inspection Environment | 温度 Temperature : $22 \pm 5^{\circ}\text{C}$ | 湿度 humidity : $50 \pm 10\%$ |



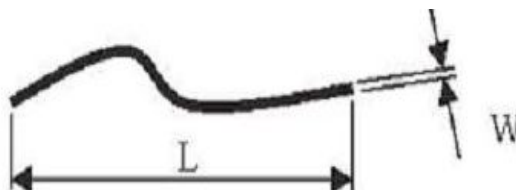
(Remark: D=diameter 直径 ; L=length 长度 ; W=width 宽 ; GT=glass thickness 玻璃总厚)



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4.2 产品的可视区 Touch panel view area

4.2.1 刮伤 Scratch



| 标准 CRITERIA | 条件 conditions |
|--|---|
| 宽 $\leq 0.05\text{mm}$ $W \leq 0.05\text{mm}$ | $W \leq 0.05\text{mm}$, one object is ignored. 宽 $\leq 0.05\text{mm}$, 允许一条 |
| $W \leq 0.05$ 或 $L \leq 2\text{mm}$ $0.05\text{mm} \leq \text{宽} \leq 0.1\text{mm}$ $0.05\text{mm} \leq W \leq 0.1\text{mm}$ | $L \leq 2\text{mm}$, $W \leq 0.05$, one 不计. 长 $\leq 5\text{mm}$, $W \leq 0.05$, 允许一条; $L > 5\text{mm}$ the T/P is regarded as a defect. 长 $> 5\text{mm}$ 的 T/P 属不良品; |
| 宽 $> 0.1\text{mm}$ $W > 0.1\text{mm}$ | The T/P is regarded as a defect. T/P 属不良品。 |

4.2.2 点状杂物 Dot-like Foreign Matter

| 标准 CRITERIA | 条件 conditions |
|--|---|
| 直径 $\leq 0.15\text{mm}$ $D \leq 0.15\text{mm}$ | 不计 |
| $0.15\text{mm} \leq \text{直径} \leq 0.25\text{mm}$ $0.15\text{mm} \leq D \leq 0.25\text{mm}$ | 粒状杂物与另一杂物之间的距离 $> 10\text{mm}$, 允许有一个存在; One object is in distance from the other foreign object more Than 10mm. One object is allowed. |
| 直径 $> 0.25\text{mm}$ $D > 0.25\text{mm}$ | T/P 属不良品。 The T/P is regarded as a defect. |



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4.2.3 线状杂物 Linear Foreign Matter

| 标准 CRITERIA | 条件 conditions |
|--|--|
| 宽 $\leq 0.05\text{mm}$ L $\leq 2\text{mm}$ | W $\leq 0.05\text{mm}$, L $\leq 2\text{mm}$ 不计; |
| 0.05mm \leq 宽 $\leq 0.1\text{mm}$ 0.05mm \leq W $\leq 0.1\text{mm}$ | 长 $\leq 3\text{mm}$, 与另一杂物之间的距离 $>10\text{mm}$, 可以忽略; 长 $\leq 3\text{mm}$, 与另一杂物之间的距离 $<10\text{mm}$, 只允许有两个存在; L $\leq 3\text{mm}$, One object is in distance from the other foreign object more than 10mm. It is ignored. L $\leq 3\text{mm}$, One object is in distance from the other foreign object less than 10mm. Two objects are allowed. |
| 宽 $>0.1\text{mm}$ W $>0.1\text{mm}$ | T/P 属不良品。 The T/P is regarded as a defect. |

4.2.4 透明胶气泡/变形 OCA bubbles and distortion

| 标准 CRITERIA | 条件 conditions |
|--|---|
| V/A 区点状气泡直径 0.3mm 以下, 允许 3 个, OCA 轻微波浪纹变形不影响 FILM 变形可接受。 V/A Dot-like air-bubble, numbers ≤ 3 , D $\leq 0.3\text{mm}$ are allowed, OCA Slight wave does not cause film distortion, It is accepted. | OCA 点状气泡用检验规量测, OCA 轻微波浪纹变形需将产品平放于检验光源下 250~300mm 检验观察 FILM 有无变化。 OCA Dot-like air-bubbles are measured with gauge, OCA Slight wave need to check under lights of 250~300mm whether it causes the film distortion or not |



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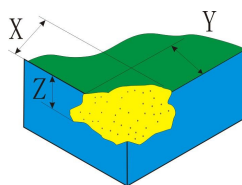
4.3 碎裂、破损 Chip And Crack

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。

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.

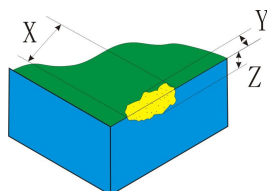


边断裂: $X < 5.0\text{mm}$, $Y < 1.0\text{mm}$ 和 $Z < GT$, 可以忽略。

- 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。

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.





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5、信赖性条件 Reliant condition

| 编号 No. | 项目 Item | 测试环境 Test Condition | 注释 Note |
|--------|--|--|-------------------|
| 1 | 高温 High Temperature Operating | +80℃ | |
| 2 | 低温 Low Temperature Operating | -30℃ | |
| 3 | 高温高湿 High Temperature\ High Humidity | +60℃, 90% RH, 120H | tested and passed |
| 4 | 抗振动 Vibration resistance | The requirements in “Operation force” of the item 3-1 Mechanical Characteristics and 6 Electric characteristics shall be of 20 m/s ² , 10 Hz to 55 Hz (1 min) is given for 30 min .each in the directions of X , Y , Z; | 检测功能 (外观不作评判) |
| 5 | 操作温度和湿度 Operating temperature with higher humidity | -30~70℃, ≤, 0% RH | |
| 6 | 存储温度和湿度 Storage temperature with higher humidity | -30~80℃, ≤90% RH | |
| 7 | FPC 折弯测试 FPC bending test | total cycles:3cycles ,bending range: 0°->+90°->-90°->0° | pass |
| 8 | 包材落下测试 Drop-test-with package | 重 0-20kg, 落下高度: 30cm Packing weight, 0-20kg, drop height 30cm | pass |
| 9 | 成品冲击测试 Drop-test-with Finished product | 产品悬空, 60g 钢球, 40cm 高度自由落 下, 产品中间无裂痕。 The product is suspended, 110g balls, 30cm height of free falling, product of intermediate cracks | pass |



DATA DISPLAY GROUP

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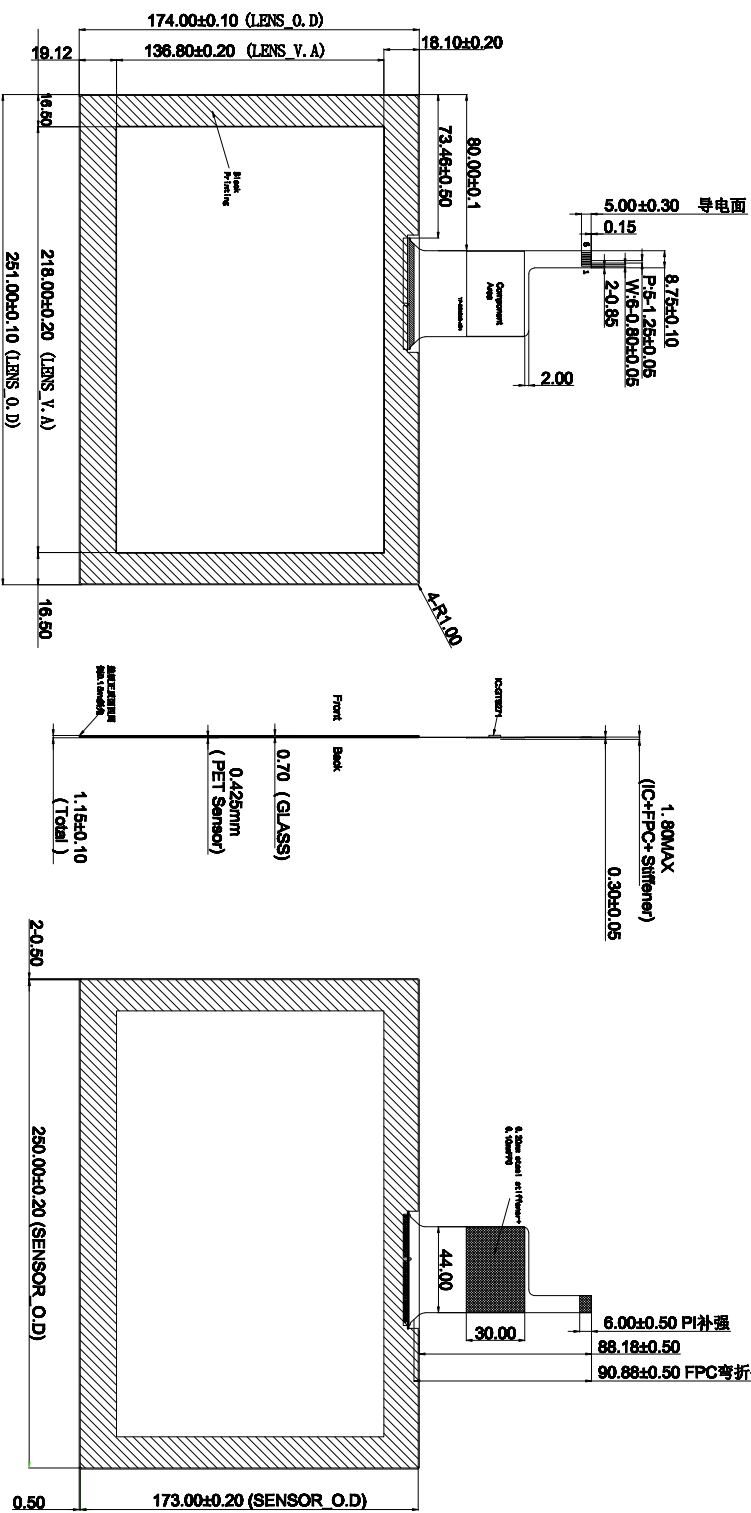
6、工程图

6.1 工程图 Engineering drawing

Front View

Front View **Side View**

**Back
View**



Main Parameters:

G+FF

1. Working Voltage: 2.8-3.3 V

2. Transmission : $\geq 86\%$

3.Hardness: 6H

4. Operating

environment: -30°C~+70°C, ≤80%RH

5.Storage



environment: -30°C~+80°C, ≤90%RH

6. Without individual tolerance: $\pm 0.2\text{mm}$

7. Glass Surface: Glare

| MATERIAL CHARACTERISTICS | |
|--------------------------|-------------|
| Property | Requirement |
| IC | GT8271 |
| Glass thickness | 0.70mm |
| Sensor thickness | 0.425mm |
| Glass surface | glare |

| PIN ASSIGNMENTS | |
|-----------------|-----|
| 1 | VCC |
| 2 | SDA |
| 3 | SCL |
| 4 | GND |
| 5 | INT |
| 6 | RST |

| | | | | | |
|-------------|-------|---|--|---|-------------------|
| Unit | mm |  | 10.1" Projected Capacitive Touchscreen |  | |
| Size | A4 | | | | |
| Scale | 1 : 1 | | | | |
| Approved By | | | | | Part Number |
| Check By | | | | | TO-09-014R1.1 |
| Design By | HZH | 2015-03-10 | | | Production Number |
| | | | TP-DD1010-A04 | | |



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7、特殊事项及注意事项 Special & Notice Precaution

7.1 特殊事项及注意事项 Special & Notice Precaution

(1) 产品要避免折伤或弯曲。(特别是 30 度以上的弯曲会给屏体操作造成致命的影响。 Avoid product crease or blending (Specially the product was blended over than 30° , it can deadly effect product' s operation.)

(2) 产品不可以叠放或在产品上放重物。 Do not overlap or stress the product.

(3) 要避免用尖锐物品扎伤产品或在产品上摆放重物。 Avoid aculated thing to prick product.

(4) 不可以直接用手触摸 Viewing Area , 防止在 Viewing Area 区域留下指纹与脏污, 擦拭时应该使用柔软、干净的布。产品贴完保护膜放置一段时间, 保护胶有可能粘在表面, 这时可以用酒精清除。除乙醇外, 不可用其它有机酸溶液或者碱性溶液擦拭产品。 Do not use figure to touch Viewing Area directly, Prevent fingerprint orstain attach on the Viewing Area, Clean the product using soft and neatness' s fabric. After the product was attached protect film for a period of time, the protect glue can leave in the surface, At this time it can use alcohol clean them. Do not use another organic acid solution or alkalescence solution clean the product , except ethanol .

(5) 不可以拉长或者弯曲 FPC, 组合时不向 FPC 施加多余的压力。 Do not elongate or blend the FPC, When assemble the product , Do not apply excessive forces to the flexible pattern.

(6) 产品的上下部 Edge 部相比左右部位容易产生特性不良, 要避免 VA 外观 lene 部位的按压行为。 Product' s top and bottom edge compared with the left and right edge can easy to cause characteristic defect, Avoid to stress the area of VA appearance lene.

(7) 除乙醇外, 不可用其它有机酸溶液或者碱性溶液擦拭产品。 Do not use another organic acid solution or alkalescence solution clean the product , except ethanol .

(8) 为保护产品在包装运输工程或客户组装前刮伤污染产品, TP 产品正反面出货时均有贴合低粘性保护膜, 由于受到外界温湿度环境影响, TP 产品放置一段时间后 TP 表面受低粘保护膜影响可能会出现白雾脏污现象, 只需轻微擦拭即可, 不作退货依据。

To protect products in packaging transportation engineering or before the customer assembly, the scrape contaminated the product. When the product outgoing , both side of TP affix low viscosity protective film. Due to the outside environment impact, After a period of time TP surface was effected by low viscosity protective film, It mayappear white mist phenomenon, just slightly wipe the dirt, not return.

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