

电容式触摸屏承认书

SPECIFICATION FOR CAPACITIVE TOUCH PANEL

PRODUCT NAME 产品名称: 12.3 寸车载触摸屏

CUSTOMER 客户名称: _____

CUSTOMER MODEL 客户型号: _____

PRODUCT NO 项目编号: TX123180A0-V0

DATE 制作时间: 2022.06.24

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|------------------------|------------|-------------|
| | | |
| Written 制定 | Check 审核 | Approval 批准 |
| Tommy_li | | |
| CUSTOMER Approval 客户确认 | | |
| R&D 研发 | Quality 品质 | Purchase 采购 |
| | | |

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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

修订历史

| Rev.版本 | Description 描述 | Date 日期 |
|--------|---------------------|------------|
| A | Primary offering 初版 | 2022.06.24 |
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1.Scope 范围

This product is a capacitive touch panel, the direct use of finger operation, mainly used for industrial Products 本产品是一个电容式触控面板，直接用手指操作，主要用于工控产品

2. Features 特征

| Item 项目 | Specification 规格 |
|----------------------------|------------------------------|
| TP Structure 触摸屏结构 | Glass +Glass |
| Sensor Structure 功能片结构 | DITO |
| Controller IC 触控方案 | GT9271 |
| Sensing | Mutual |
| Touch Points 触点数量 | Max 10Points |
| Interface Type 通信方式 | I ² C |
| Connector (with Host) 连接器 | |
| TP OD (with Cover) 触摸屏外形 | 315.29mm*133.29mm |
| TP AA 触摸屏动作区 | 293.03mm*110.51mm |
| TP VA 触摸屏视窗区 | 292.03mm*109.51mm(12.3 inch) |
| Channel 通道 | 18*32 |
| Touch key 触摸按键 | 0 |
| Touch key controller IC | NC |
| Operation Temperature 操作温度 | -20~70℃ |
| Storage Temperature 储存温度 | -30~80℃ |
| Humidity 湿度 | 10~95%RH |

Detailed information refer to attachment drawings 详细信息参照附件图纸

3. Mechanical 机械特性

| Item 项目 | Description 描述 | Note 备注 |
|---------------------------|---|--|
| Operate 操作方式 | Finger 手指 | |
| Linearity 线性度 | <5% | |
| Surface hardness (H) 表面硬度 | ≥6H | 750g |
| FPC Peeling 柔性线路板剥离力 | 500g | Peeling direction: 90°; Velocity: 50mm/min. |
| FPC Bending 柔性线路板弯折 | ≤100 times bending (by R1 mm), Electrical performance should be OK. FPC 弯折 100 次以下, 电气性能 OK。 | |

| | | |
|-----------------------------------|--------------------------------------|---|
| Surface hydrostatic pressure test | No cracks or damages; Function OK | ∅8mm,R10mm Cylindrical steel bar, Pressure:160N,Velocity :1mm/min, Test points: VA average 9 points. |
|-----------------------------------|--------------------------------------|---|

4. Optical 光学特性

| Item 项目 | Description 描述 | Note 备注 |
|-------------------------|----------------|----------------------------|
| Light transmittance 透光率 | ≥85% | JIS-K7105,ASTMD1003,@550nm |

5.Environmental 可靠性

| Item 项目 | Description 描述 | Remarks 备注 |
|---|--|---------------------------------|
| 5-1 Operating temperature and humidity 操作温度和湿度 | -20~70℃, 10~95% RH | Except for dew gathering 无结露 |
| 5-2 storage temperature and humidity 存储温度和湿度 | -30~80℃, 10~95% RH | Except for dew gathering 无结露 |
| 5-3 Humidity resistance 高温高湿 | The requirement in 6 shall be satisfied after exposing at 80℃, 90% RH for 240 hours and at normal temperature and humidity for 24 hours. 在 80℃, 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 |
| 5-4 Heat resistance 高温存储 | The requirements in 6 shall be satisfied after exposing at 80℃, for 240 hours and at normal temperature and humidity for 24 hours. 在 80℃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 |
| 5-5 Cold resistance 低温存储 | The requirements in 6 shall be satisfied after exposing at -30℃, for 240 hours and at | Except for dew gathering |

| | | |
|---------------------------------|---|---------------------------------|
| | normal temperature and humidity for 24 hours 在-30℃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。 | 无结露 |
| 5-6 Thermal shock 冷热冲击 | The requirements in 6 shall be satisfied after exposing under the conditions of -30℃(0.5hour)→80℃(0.5hour) by 10 cycles ,and at normal temperature and humidity for 24 hours。 按照-30℃（0.5 小时）→80℃（0.5 小时）的条件循环 20 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 |
| 5-7 Vibration resistance 抗振动 | The requirements in “Operation force” of the item 3-1 Mechanical .Characteristics and 6 Electric characteristics shall be satisfied after sweep vibration. 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. | |

6. Electrical 电器参数

| Item 项目 | Description 描述 | Note 备注 |
|---|----------------|---------|
| Power supply voltage 供电电压 | 2.8V | |
| I/O supply voltage 芯片供电电压 | 2.8V | |
| Current consumption 正常电流 (Normal mode) | 6mA | |
| Current consumption 节能电流 (Green mode) | 4mA | |
| Current consumption 休眠电流 (Sleep mode) | 0.03mA | |
| Supply noise 电流噪声 | ≅ 100mV | |

Remark: The actual power consumption according to using environmental decision

注：根据环境决策的实际能耗

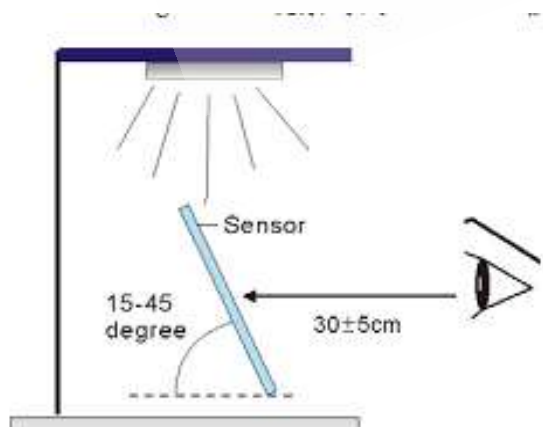
7. I/O Terminal 引脚定义

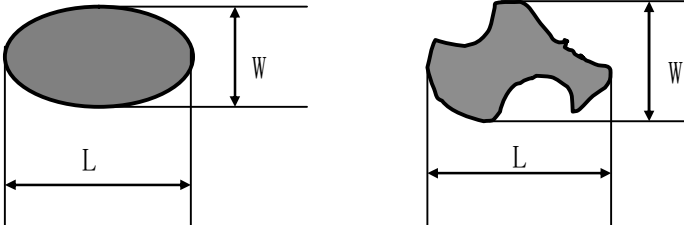
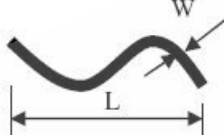
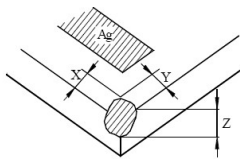
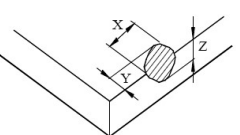
| PIN NO. | Symbol 符号 | Function Description 功能描述 |
|---------|-----------|--|
| 1 | RST | External reset |
| 2 | VDD | Supply voltage |
| 3 | GND | Ground |
| 4 | INT | External interrupt INT to the host, It is active low when finger touching on the screen. |
| 5 | SDA | I2C Serial Data |
| 6 | SCL | I2C Serial Clock |

8. Cosmetic Inspection 外观检验

Inspection Condition 检验条件

- 1). Light source: 800~1000Lux fluorescent lamps 光源：800~1000 lux 荧光灯
- 2). Environment: 22±3℃ 温度22±3℃
- 3). Inspection distance: 30±5cm 检测距离30±5cm
- 4). Humidity: 55±5%RH 湿度55±5%RH
- 5). Background color: Black 底色为黑色
- 6). Inspection equipment: Naked eye 裸眼检测
- 7). Angle of Visual: Vertical Rotation Angle: 45±15° from normal (top to bottom); Horizontal
- 8). Viewing time: Front surfaces: 10±5 Seconds, each side: 1~2 Seconds



| Item项目 | Specification Unit: mm W=Width;L=Length;GT=Glass thickness | |
|--------------------------|--|--|
| Circular Defects 圆形缺陷 | 1、 $D < 0.20\text{mm}$; Can't string of point; Disregard | |
| | 2、 $0.20\text{mm} \leq D \leq 0.25\text{mm}, N \leq 2$; the defect gap $> 10\text{mm}$ | |
| | Other is not allowed | |
| | Circular Defect  | |
| Linear Defects 线状杂物 | 1、 $W < 0.01\text{mm}$; Disregard | |
| | 2、 $0.01\text{mm} \leq W \leq 0.03\text{mm}; L \leq 2\text{mm}; N \leq 3$; the defect gap $> 10\text{mm}$ | |
| | 3、 $0.03\text{mm} < W < 0.05\text{mm}; L \leq 2\text{mm}; N \leq 2$; the defect gap $> 15\text{mm}$ | |
| | Other is not allowed. Linear Defect  | |
| Dent 粒状杂物 | 1、 $D < 0.20\text{mm}$; Disregard | |
| | 2、 $0.20\text{mm} \leq D \leq 0.25\text{mm}, N \leq 2$; the defect gap $> 10\text{mm}$ | |
| | Other is not allowed. | |
| | | |
| Scratch 刮痕 | 1、 $W < 0.01\text{mm}$; Disregard | |
| | 2、 $0.01\text{mm} \leq W \leq 0.03\text{mm}; L \leq 5\text{mm}; N \leq 3$; the defect gap $> 10\text{mm}$ | |
| | 3、 $0.03\text{mm} < W < 0.05\text{mm}; L \leq 2\text{mm}; N \leq 2$; the defect gap $> 15\text{mm}$ | |
| | Other is not allowed. | |
| Conner Chipping 崩角 | $X \leq 0.5\text{mm}, Y \leq 0.5\text{mm}, Z \leq 1/2\text{GT}$; Disregard |  |
| | X: Length; Y: Width; Z: Thickness | |
| Edge Chipping 崩边 | $X \leq 0.5\text{mm}, Y \leq 0.5\text{mm}, Z \leq 1/2\text{GT}$; Disregard |  |
| | X: Length; Y: Width; Z: Thickness | |
| rake angle | Don't exceed the CG edge | |
| Crack | Not allowed | |

| | |
|-----------------|--|
| Light leakage | The defect is not found in the black background. |
| Color and style | TP color is as standard sample |
| | Style and pattern is clear, Style is identical |
| | Error<0.2mm, Disregard |
| | The grounding is secluded |
| Remark | 1、 Other circular/linear defect refer to Spc. For circular/linear defect |
| | 2、 Total defect: N≤15; the defect gap≥5mm |
| | 3、 Circular Defects、 Linear Defects、 Dented/bulge,Edge、 Scratch's inspection standard is for Cover lens AA area., None AA area bottom side defect would be acceptable unless the client's special requirement on it. |

Sampling Plan & Definition of Defect Classification

Sampling Plan:Adopt <GB2828.1—2003> (Equal to MIL-STD-105/E) General Inspection Level II.

AQL Definition:Major: AQL=0.65 (Refer to the definition in “3. Inspection Standard”)

Minor: AQL=1.0 (Refer to the definition in “3. Inspection Standard”)

9. Packing Method 包装方式

9.1 All the products delivery should be packed in bubble bags; 所有的产品交付应该用气泡袋包装

9.2 Product label content should conform to the requirements of the customers; 产品标签需满足客户要求

9.3 Packing should be in line with customer requirements; 包装需满足客户要求

9.4 Before shipment, OQC should conform that every shipment is ok; 出货前, 需确认产品的质量

9.5 More than 3 months of inventory should be conformed OK before shipment;

超过3个月的库存品, 出货前需重新确认产品质量

10. Precautions 注意事项

When using the touch panel, please note the following: 当使用触摸屏时, 请注意以下要求

1.When testing and installing the touch panel, please pay attention to high voltage and electrostatic, electrostatic protection, wearing electrostatic bracelet and the workbench's grounding

在测试和安装触摸屏时, 请注意高压及静电, 需佩戴静电手环且工作台面要接地

2. To avoid damage of the touch panel,please notice no collision, buckling, or falling

为防止损害触摸面板, 请不要碰撞、弯折、跌落产品

3. Please do not stress when storage or handling and use special boxes and packing way of HAPPY

在储存或者搬运过程中, 请使用专用包装方式且禁止重压。

4. To avoid poor electrical of short circuit ,avoid direct contact of the FPC of touch panel and Other metals

为防止电器短路, 请不要使用导电材料接触触摸屏的排线

5. To avoid poor electrical of broken stitching,donot bend and pull the FPC when testing and installing the touch pannel;

在测试和安装触摸屏时, 为了避免电器性能损伤, 请不要随意弯曲、拉扯排线

6. To avoid ink scratch, donot touch the ink area of touch pannel with hard matter;

为防止油墨损伤，请不要使用坚硬材料接触触摸屏

7. To avoid smudginess, donot touch the active area of touch panel

不要接触触摸屏有效区域，造成脏污

8.Please operate touch pannel with finger or soft conductive pen;

请用手指和软性导电笔操作触摸屏

9.To tear off the protective film and Clean before installing the touch pannel.The protective film which is covered

在安装触摸屏之前，若表面覆有保护膜，需撕掉进行全面清洁



11. 成品图

