WINSTAR Display

OLED SPECIFICATION

Model No:

TSL012864K4111XXXX00

Represented by:

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SPECIFICATION Version: 0

CUSTOMER :
MODULE NO. : TSL012864K4111XXXX00

APPROVED BY: (FOR CUSTOMER USE ONLY)	

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
first FC components			
RELEASE DATE:			

■APPROVAL FOR SPECIFICATIONS ONLY

□APPROVAL FOR SPECIFICATIONS AND SAMPLE

MODEL NO：

RECORDS OF REVISION			DOC. FIRST ISSUE
VERSION	DATE	REVISED PAGE NO.	SUMMARY
0	2022/10/03		First release

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1.General Specification

1.1. Type: capacitive touch panel

1.2. Input mode: finger

1.3. Structure and material:

Structure	Material	Thickness	Remark
Cover lens	Glass	0.7mm	-
Upper circuits	ITO Glass	0.55mm	-
Back tape	Adhesive	0.175mm	3M9495-300

1.4. Dimension:

Item	Description	Unit
Outline dimension	74.80×44.16±0.1	mm
View Area	63.41×32.69±0.2	mm
Total thickness	1.38±0.15	mm
Length of FPC	37.93±0.3	mm
Thickness of FPC terminal	0.3±0.05	mm

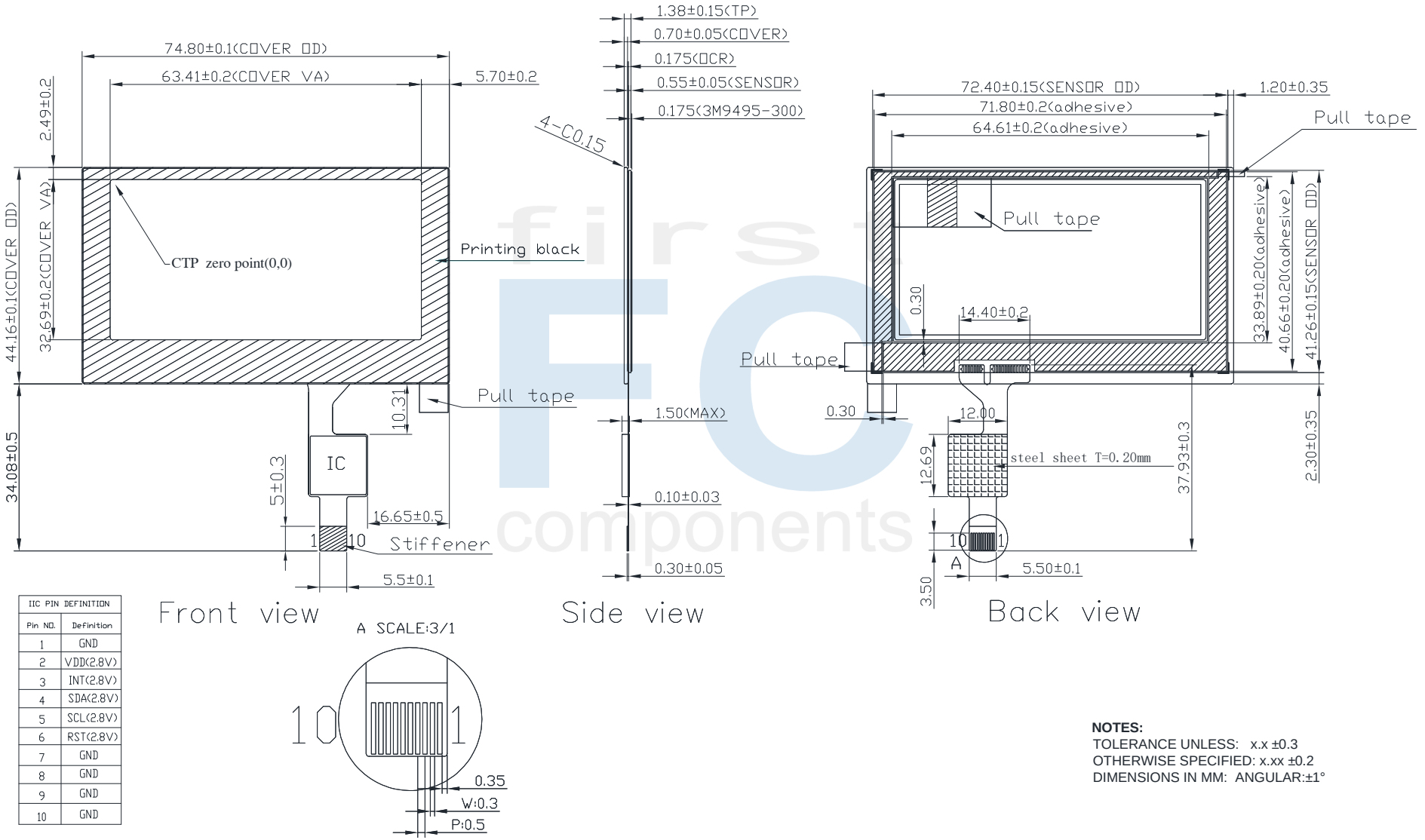
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2.Electrical Characteristics

Item	Specification
IC model	GT911
Interface	I2C
Surface hardness	≥6H
Supply voltage	DC 2.8V
Support touch mode	5 points

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3.Contour Drawing



IIC PIN DEFINITION	
Pin NO.	Definition
1	GND
2	VDD(2.8V)
3	INT(2.8V)
4	SDA(2.8V)
5	SCL(2.8V)
6	RST(2.8V)
7	GND
8	GND
9	GND
10	GND

NOTES:
TOLERANCE UNLESS: x.x ±0.3
OTHERWISE SPECIFIED: x.xx ±0.2
DIMENSIONS IN MM: ANGULAR:±1°

4. Interface Pin Function

Pin No.	Symbol	I/O	Description
1	GND	---	System ground
2	VDD	---	Power supply
3	INT	---	Interrupt signal, active low, asserted to request Host start a new transaction
4	SDA	I/O	I2C clock signal
5	SCL	I/O	I2C clock signal
6	RST	---	External reset signal, active low
7	GND	---	System ground
8	GND	---	System ground
9	GND	---	System ground
10	GND	---	System ground

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5.Other

5.1. Environmental characteristics

Item	Specification
Operating Temp.	-20℃～70℃
Storage Temp.	-30℃～80℃

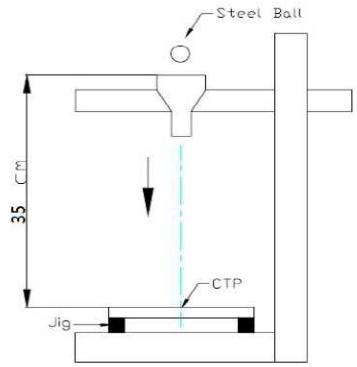
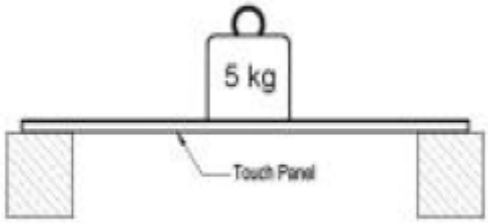
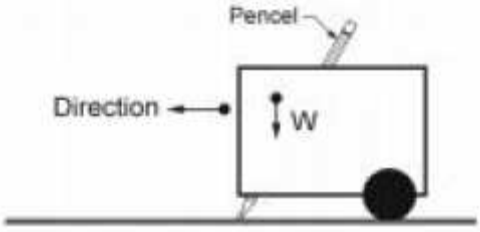
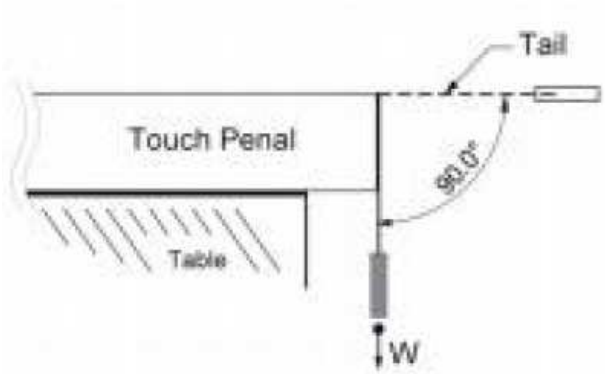
Note: Testing environment is under normal atmospheric pressure. When the ambient temperature is above 65℃,the humidity is allowed to be below 50%RH

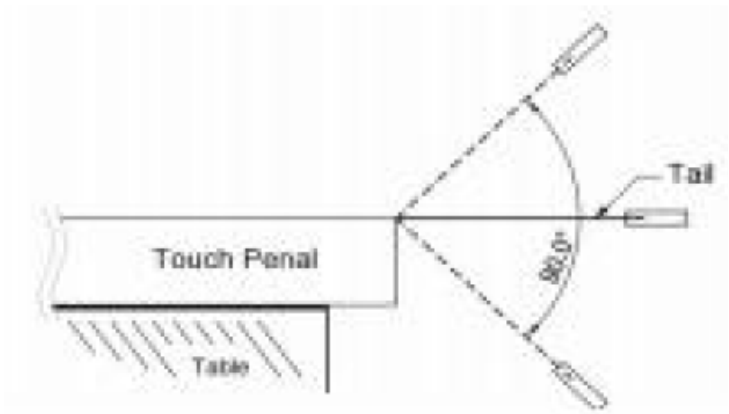
5.2. Optical characteristics

Item	Specification	Remark
Light transmission	≧85%	-
Haze	＞3%	-

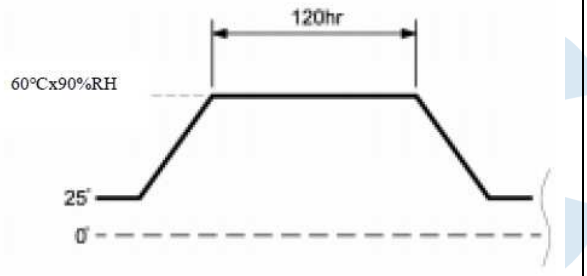
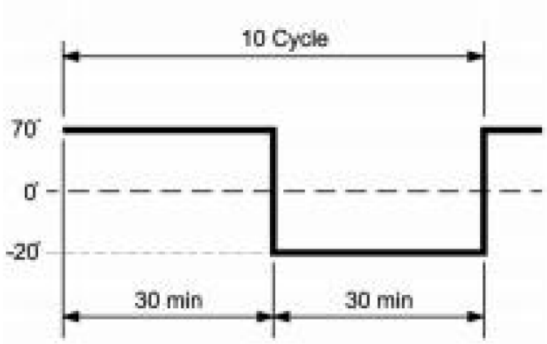
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5.3 Mechanical Characteristic

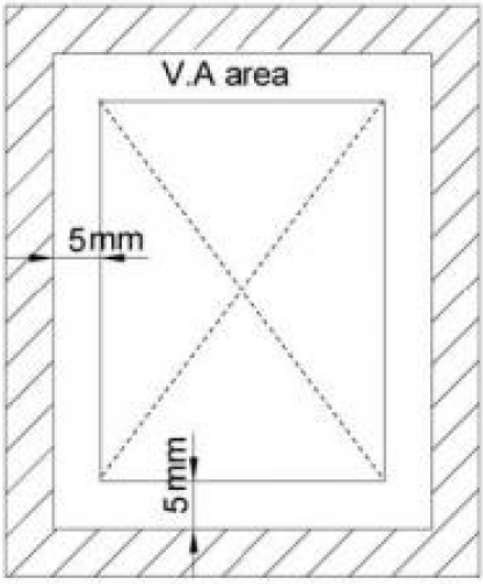
NO.	Item	Condition	Specifications
1	Operating Force	Finger≦10g	Satisfy- 1.Optical Characteristics 2.Electrical Characteristics Appearance- 1.Ignore test area 2.No mechanical damage
2	Impact	30.0ΦDIA. Steel Ball/65g/Height=35cm/1 time, Impact at center area	
			
3	Static Load	5000g within 10cmΦ area for 30sec	
			
4	Hardness	6H pencil ,pressure 500g/45°	
			
5	Tail Peeling	500g/cm by vertical 90° for 30sec	
			

NO.	Item	Condition	Specifications
6	Tail Bending	90° 10times left & right 	Satisfy- 1. Optical Characteristics 2. Electrical Characteristics Appearance- 1. Ignore test area 2. No mechanical damage

5.4. Reliability test

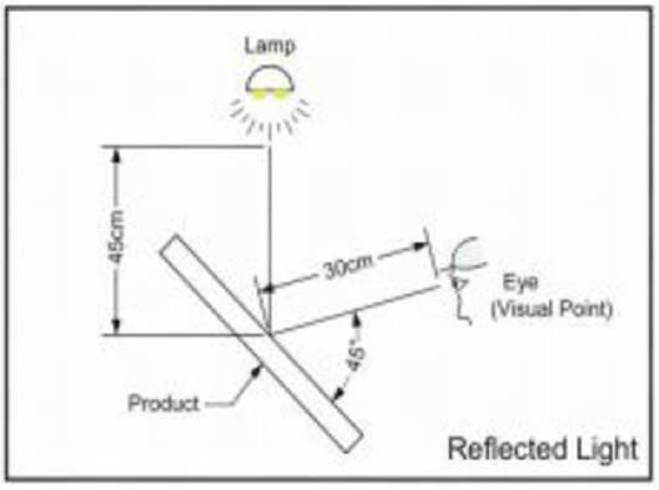
Item	Specification	Remark
Constant Temperature/Humidity	60℃ X 90%RH,120hrs and normalized for 24hrs 	Satisfy- 1、Electrical Characteristics
Heat Cycle	80℃/120hrs and normalized for 24hrs	
Cold Cycle	-30℃/120hrs and normalized for 24hrs	
Thermal Cycle	-20℃~70℃ [30min/cycle]*10cycles and normalized for 24hrs 	

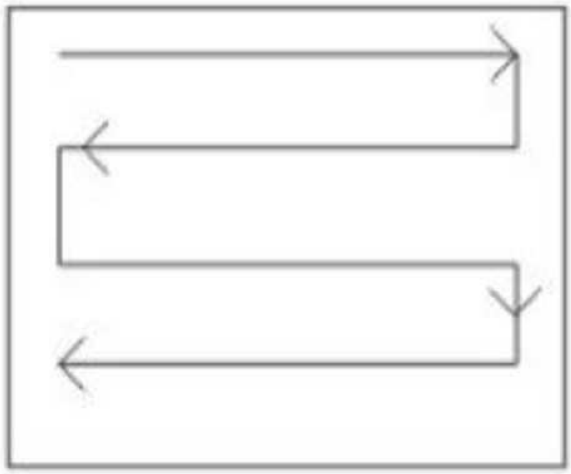
5.5.Function test

Item	Specification	Remark
Function Test	Test Method: Use Φ8 copper stick to draw the square diagonal line. Test Area: 5mm inward view area. Disapproval Criteria: It is NG when we see the off-liner or Jumping out spec shift.	

5.6. Appearance Inspection

The inspection is to be performed with 20W(800-1000 LUX)fluorescent lamp lighting from the back or side. The panel is to be placed 30cm away from eyes.





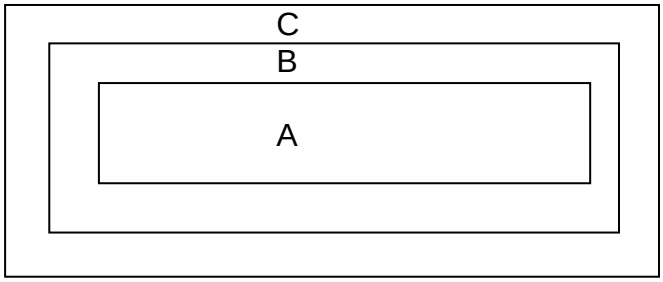
6. Inspection specification

Inspection Standard:

MIL-STD-105E table normal inspection single sample level II.

Definition

1 Major defect : The defect that greatly affect the usability of product.
2 Minor defect : The other defects, such as cosmetic defects, etc.
Definition of inspection zone:

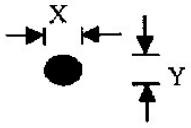


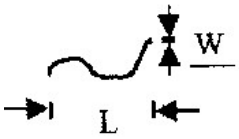
Zone A: Active Area
Zone B: Viewing Area except Zone A
Zone C: Outside Viewing Area
Note: As a general rule, visual defects in Zone C are permissible, when it is no trouble of quality and assembly to customer`s product.

Inspection Methods

1 The general inspection : Under fluorescent light illumination: 750~1500 Lux, about 30cm viewing distance, within 45º viewing angle, under 25±5°C.
2 The luminance and color coordinate inspection : By SR-3 or BM-7 or the equal equipments, in the dark room, under 25±5°C.

NO	Item	Criterion	AQL
01	Electrical Testing	No function	0.65
02	Black or white spots on OLED (display only)	2.1 White and black spots on display ≦0.25mm, no more than four white or black spots present. 2.2 Densely spaced: No more than two spots or lines within 3mm.	2.5

<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>AQL</th></tr>
<tr><td rowspan="2">03</td><td>OLED black spots, white spots, contamination (non-display)</td><td>3.1 Round type :
As following drawing
Φ=(x + y) / 2


<table><tr><th>SIZE</th><th>Acceptable QTY</th><th>Zone</th></tr><tr><td>Φ≦0.10</td><td>ignore</td><td>A+ B</td></tr><tr><td>0.10＜Φ≦0.20</td><td>3</td><td>A+ B</td></tr><tr><td>0.20＜Φ≦0.25</td><td>1</td><td>A+ B</td></tr><tr><td>0.25＜Φ</td><td>0</td><td>A+ B</td></tr></table></td><td>2.5</td></tr>
<tr><td>3.2 Line type : (As following drawing)


<table><tr><th>Length</th><th>Width</th><th>Acceptable Q TY</th><th>Zone</th></tr><tr><td>---</td><td>W≦0.02</td><td>ignore</td><td>A+B</td></tr><tr><td>L≦3.0</td><td>0.02＜W≦0.03</td><td rowspan="2">4</td><td>A+B</td></tr><tr><td>L≦2.5</td><td>0.03＜W≦0.05</td><td>A+B</td></tr><tr><td>---</td><td>0.05＜W</td><td>As round type</td><td></td></tr></table></td><td>2.5</td></tr>
<tr><td>04</td><td>bubbles</td><td>If bubbles are visible, judge using black spot specifications, not easy to find, must check in specify direction.
<table><tr><th>Size Φ</th><th>Acceptable Q TY</th><th>Zone</th></tr><tr><td>Φ≦0.20</td><td>ignore</td><td>A+B</td></tr><tr><td>0.20＜Φ≦0.50</td><td>2</td><td>A+B</td></tr><tr><td>0.50＜Φ≦1.00</td><td>0</td><td>A+B</td></tr><tr><td>Total Q TY</td><td>2</td><td></td></tr></table></td><td>2.5</td></tr>
<tr><td>05</td><td>Scratches</td><td>Follow NO.3 OLED black spots, white spots, contamination.</td><td></td></tr>
</table>

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