



Magic Touch

Super Elite Technology Co., Ltd.

ISSUE NO : 2K1AA300

DATE : 08.15.2001

5 Wire Touch Panel Film/Glass Specification

APPROVAL BY	CHECKED BY	REPORTED BY

ISSUE BY :

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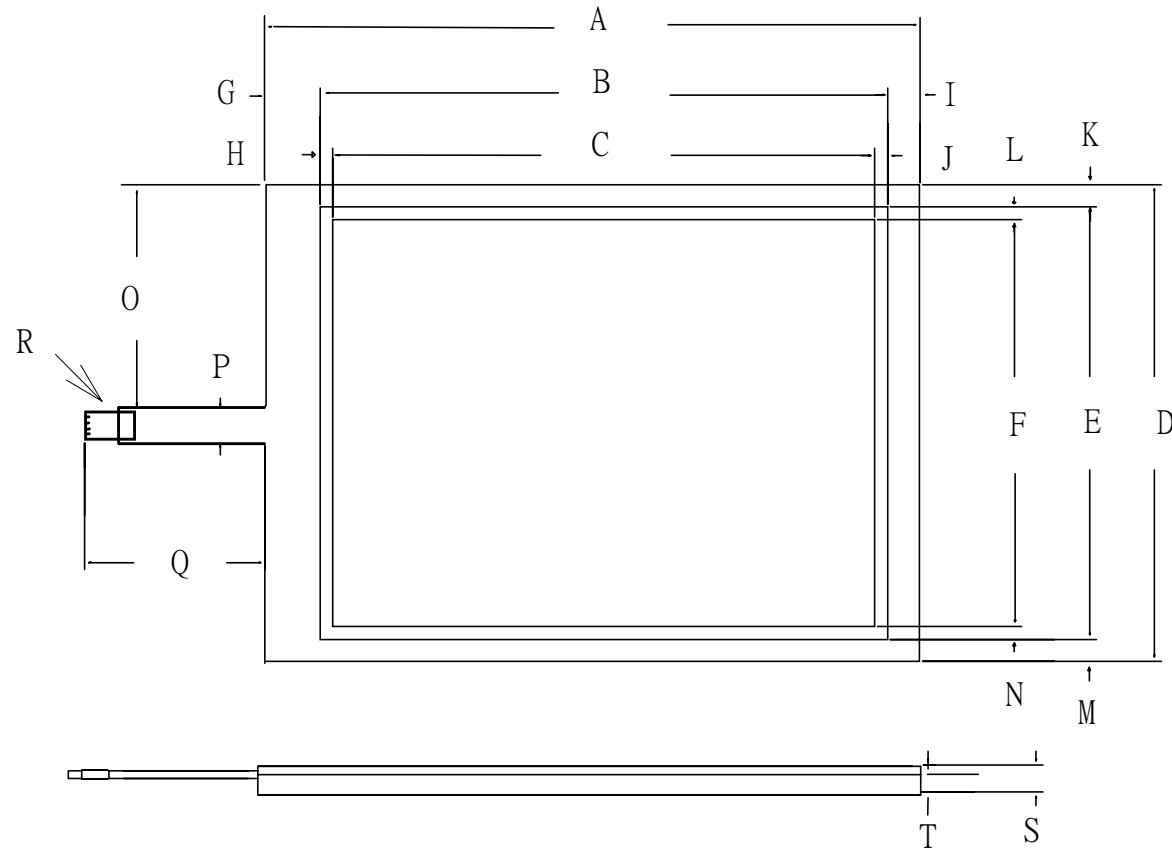
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<p>1. Suitability This specification suit analog resistance touch panel. which used in LCD module.</p> <p>2. Apply To Specification</p> <p>2.1.Surface Hardness : 3H</p> <p>2.2. Optical Clarity : 80 % ↑</p> <p>2.3 Operating Temperature : -10°C ~ 60°C</p> <p>2.4 Endurance Test strikes : Over 10 million</p> <p>2.5 Operating Voltage : DC5V</p> <p>2.6 Resistance : 30Ω ~ 300Ω</p> <p>2.7 Linearity< 1.5%</p> <p>2.8 Faceplate Surface : Anti-glare coating</p> <p>2.9 Operation Pressure : 15 ~ 70g</p> <p>2.10 Storage Temperature : -20°C ~ 70°C</p> <p>2.11 Message Noise : 5 m sec ~ 15 m sec</p> <p>2.12 Operating Current : 5mA ~ 25mA</p> <p>2.13 Isolation Resistance : 20MΩ ↑ @DC25V</p> <p>3. Dimension Size Refer diagram I</p>					
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A,D	TOUCH PANEL OUTSIDE
B,E	VIEW AREA
C,F	ACTIVE AREA

Model No.				SUPER ELITE TECHNOLOGY CO., LTD	Unit : mm	DATA:	03 - 12 - 1997
						AMEND DATE	11 - 02 - 1998

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<p>4. Optical Performance</p> <p>Light transparency should keep above 80% ↑ under the visible wave when the wave length is 550nm</p> <p>5. Electrical Performance</p> <p>5.1 Connector Resistance</p> <p style="padding-left: 40px;">$30\Omega < X \text{ Axis} < 300\Omega$</p> <p style="padding-left: 40px;">$30\Omega < Y \text{ Axis} < 300\Omega$</p> <p>5.2 Insulation Resistance</p> <p style="padding-left: 40px;">$20M\Omega \uparrow @ DC 25V$</p> <p>5.3 Electrostatic Endurance</p> <p style="padding-left: 40px;">No abnormal appearance after 10kv, 100Ω,250PF electrostatic used.</p> <p>5.4 Linearity</p> <p style="padding-left: 40px;">X Axis : 1.5% ↓</p> <p style="padding-left: 40px;">Y Axis : 1.5% ↓</p> <p>5.5 Operating Voltage</p> <p style="padding-left: 40px;">3V ~ 12V DC</p> <p>5.6 Operating Current</p> <p style="padding-left: 40px;">5mA ~ 25mA °</p>					
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6. Environment Test

6.1. High Temperature Test

after putting panels at 70°C for 240 hours, then leaving for 24 hours at room temperature.

A. Resistance between leads

$$30\ \Omega < X\ \text{Axis} < 300\ \Omega$$

$$30\ \Omega < Y\ \text{Axis} < 300\ \Omega$$

B. Linearity

$$X\ \text{Axis} : \pm 1.5\% \downarrow$$

$$Y\ \text{Axis} : \pm 1.5\% \downarrow$$

C. Insulation Resistance

$$20M\ \Omega \uparrow \quad @\ DC25V$$

6.2. Low Temperature Test

after putting panels at -20°C for 240 hours, then leaving for 24 hours at room temperature.

A. Resistance between leads

$$30\ \Omega < X\ \text{Axis} < 300\ \Omega$$

$$30\ \Omega < Y\ \text{Axis} < 300\ \Omega$$

B. Linearity

$$X\ \text{Axis} : \pm 1.5\% \downarrow$$

$$Y\ \text{Axis} : \pm 1.5\% \downarrow$$

C. Insulation Resistance

$$20M\ \Omega \uparrow \quad @\ DC25V$$

6.3. Temperature and Humidity Test

after putting panels at 40°C, 90%RH for 240 hours, then leaving for 24 hours at room temperature.

A. Resistance between leads

$$30\ \Omega < X\ \text{Axis} < 300\ \Omega$$

$$30\ \Omega < Y\ \text{Axis} < 300\ \Omega$$

B. Linearity

$$X\ \text{Axis} : \pm 1.5\% \downarrow$$

$$Y\ \text{Axis} : \pm 1.5\% \downarrow$$

C. Insulation Resistance

$$20M\ \Omega \uparrow \quad @\ DC25V$$

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6.4 Repetition of High and Low Temperature and Test

after putting panels at the condition of -20°C for 30 minutes and then 70°C for 30 minutes and this process is repeated by 20 cycles , then leaving for 24 hours at room temperature.

A. Resistance between leads

$$30\ \Omega < X\ Axis < 300\ \Omega$$

$$30\ \Omega < Y\ Axis < 300\ \Omega$$

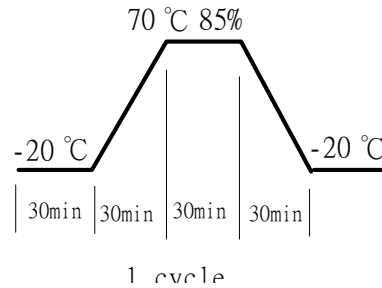
B. Linearity

$$X\ Axis : \pm 1.5\% \downarrow$$

$$Y\ Axis : \pm 1.5\% \downarrow$$

C. Insulation Resistance

$$20M\ \Omega \uparrow \quad @\ DC25V$$



6.5 punching life

After punching 10,000,000 times with the R8.0 silicon rubber Force : 60g , Speed : 5/sec

A. Resistance between leads

$$30\ \Omega < X\ Axis < 300\ \Omega$$

$$30\ \Omega < Y\ Axis < 300\ \Omega$$

B. Linearity

$$X\ Axis : \pm 1.5\% \downarrow$$

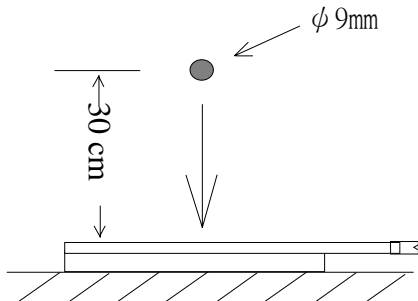
$$Y\ Axis : \pm 1.5\% \downarrow$$

C. Insulation Resistance

$$20M\ \Omega \uparrow \quad @\ DC25V$$

6.6 Impact Resistance

No damage when ϕ 9mm steel ball is dropped on the surface from 30cm height at 1 time.



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7. Appearance

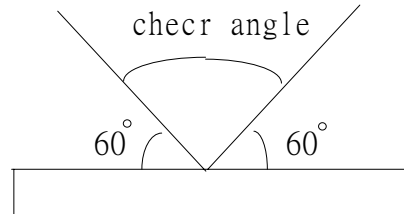
7.1 Inspection condition

(A).The lightness of place: 500 LUX

(B)The distance of eyeshot:30 CM(The panel must be checked under the light transparency condition.)

(C)The angle of eyeshot: >60°

(D)The light source of place : natural sunlight.



7.2 Inspection Standard

suitable in the visible area. Except dot space.

1. Spot, otherness	$\phi \leq 0.5 \text{ mm}$	Ignorance
	$\phi > 0.5 \text{ mm}$	NG
2. Rub	$\phi \leq 1.0 \text{ mm}$	Ignorance
	$1.0 \text{ mm} < \phi \leq 1.5 \text{ mm}$	2 point above & distance > 50 mm
	$\phi > 1.5 \text{ mm}$	NG
3. Cicatrices (Line) L : Length W : Width	$L < 10.0 \text{ mm}$ & $0.15 \text{ mm} < W \leq 0.2 \text{ mm}$	1 line is allowable 2 lines are reject 2 point above & distance > 50 mm
	$W \leq 0.15 \text{ mm}$	Ignorance
	$W > 0.20 \text{ mm}$	NG
4. Edge warp	Edge warp $\leq 0.5 \text{ mm}$	Ignorance
	Edge warp $> 0.5 \text{ mm}$	NG

7.3 Quality inspection standard:

Adapt to AQL MIL-STD-105D

Samples inspection QTY: according to AQL MIL-STD-105D(Charter I)

Inspection Base: according to AQL MIL-STD-105D(Charter II)

Broken seriously(otherness, scrape)0.01% --- Cr (Critical Defect)

Obvious(otherness, scrape)0.65% ----- Ma(Major Defect)

Not obvious(otherness, scrape)2.5% ----- Mi(Minor Defect)

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8.Packing Detail

8.1 Packing:

Can't have otherness on panel. Pack with EPE material.

8.2 Delivery:

For Avoiding the badly affect to the product quality, shouldn't delivery in the situation of high humidity and unusually high or low temperature

8.Others

- (1) If there is any question in specification , the decision depends on conferment between manufacturer and customer.
- (2) If there is any change in specification , can't actualize without document permit.
- (3) The specification content is different from the individual specification one, decision bases on the latter.

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