

Apex Material Technology Corp.
創為精密材料股份有限公司

AMT PRODUCT STANDARD

Doc No:	AS-09545-00B-2	Doc Rev: 1.0
Title:	SPECIFICATIONS OF ANALOG RESISTIVE TOUCH SCREEN	Date Released: Sep. 14, 2011
	Model Name: 09545-00 Rev: B Size: 7.00"	Page.1 of 7

Analog Touch Screen Specification

Manufacturer: Apex Material Technology Corp.

Model Name: 09545-00 Rev: B

1. Mechanical Dimensions and Construction

1.1 General: Analog Resistive touch screen is laminated by ITO film to ITO glass.

1.2 Mechanical Performance:

1.2.1 Surface Hardness: 3H

1.2.2 ITO Glass Thickness: 1.10mm

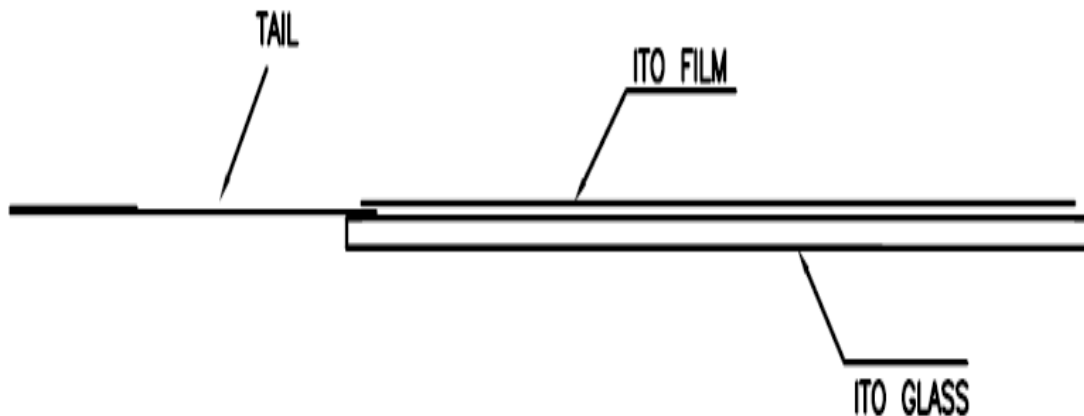
1.2.3 Tail Type: FPC

1.2.4 Surface Finish Type: Anti-glare

1.3 Input Method and Activation Force

Input Method	Average Activation Force
1.6mm dia. Delrin stylus	0.10~0.70N
16mm dia. Silicone "finger"	0.10~0.80N

Touch screen side view:



Remarks: This Model is with Anti-Newton Ring design.

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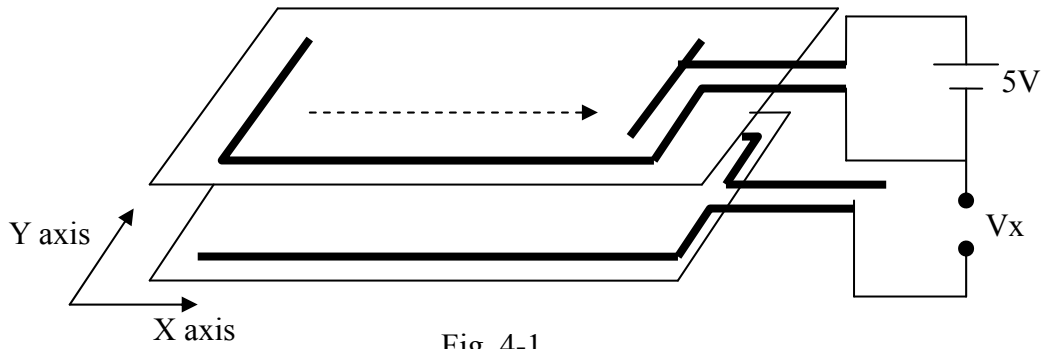


Fig. 4-1

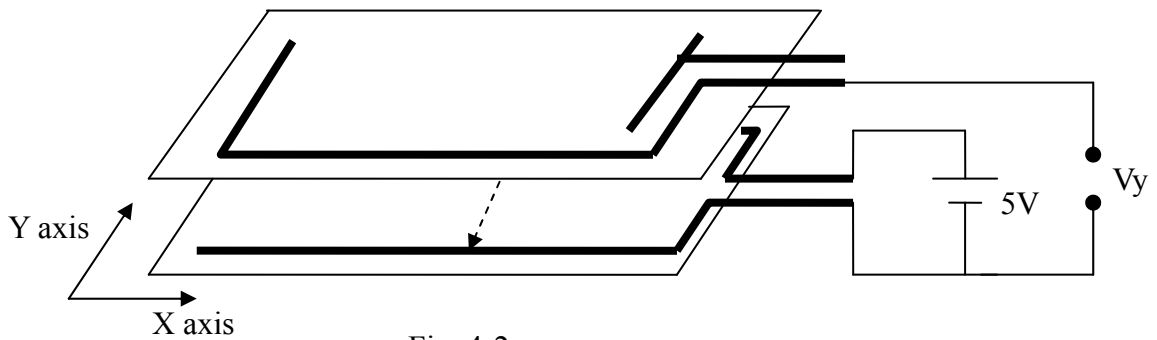
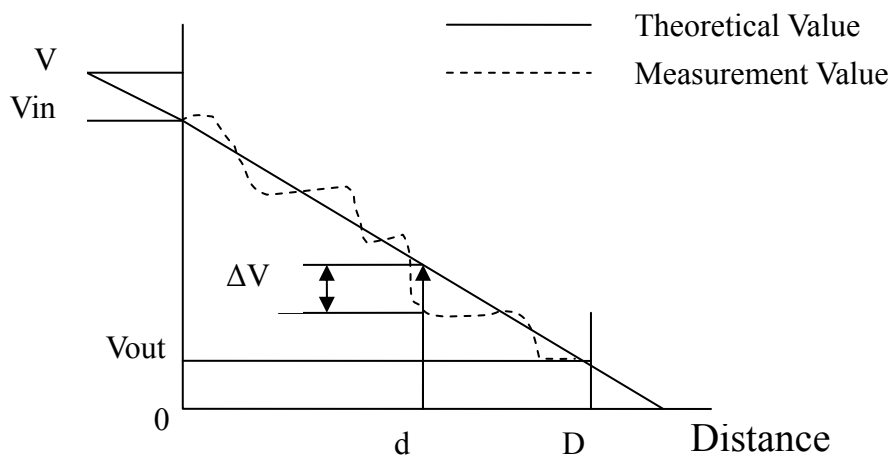


Fig. 4-2



$$\text{Error voltage} = \frac{|\Delta V|}{(V_{in} - V_{out})}$$

$$\text{Max. error voltage} = \frac{|\Delta V_{max}|}{(V_{in} - V_{out})}$$

Fig. 4-3

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5. Environmental Specifications

5.1 Operating Temperature: -20° C ~ + 70° C

5.2 Storage Temperature: -40° C ~ + 80° C

5.3 Humidity: if temp. \geq 20° C, see Fig.5 below

if temp. < 20° C, humidity less than 90% RH

No dew condensation

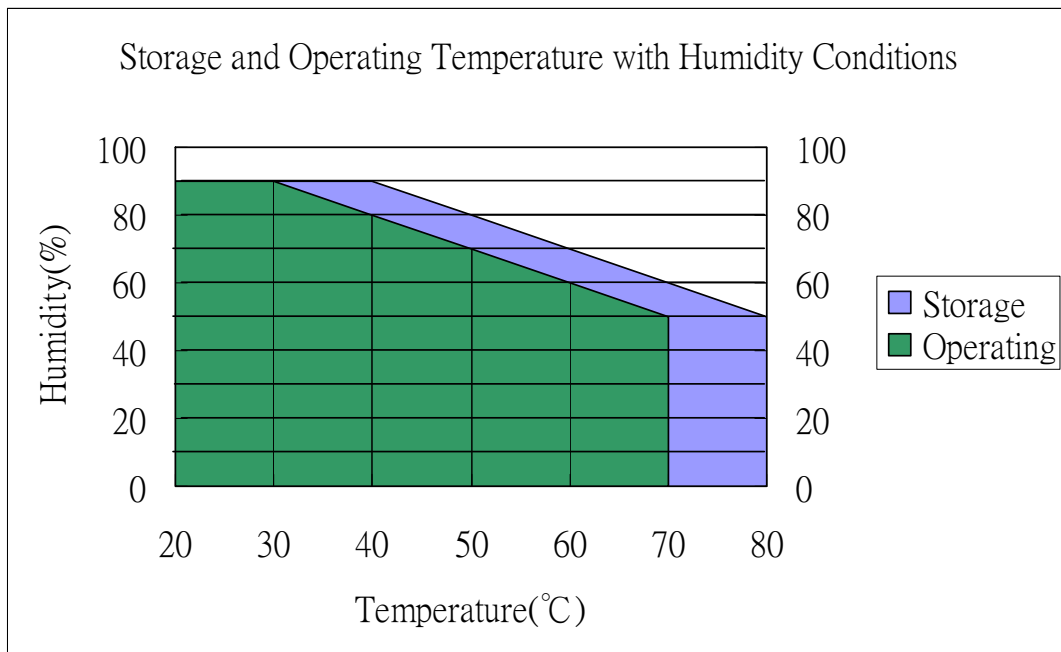


Fig.5 Storage and Operating Temperature with Humidity Conditions

6. Reliability Test

6.1 Exposure to high temperature

Touch panel is put into a test machine at the condition of 80° C for 288 hours.

Then it is left at room temperature for 24 hours or more. The measurement must satisfy the following:

- Circuit close resistance: as Sec. 3.3
- Circuit open resistance: as Sec. 3.4
- Contact bounce: as Sec. 3.5
- Linearity test: as Sec. 3.6

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6.2 Exposure to low temperature

Touch panel is put into a test machine at the condition of -40°C for 288 hours. Then it is left at room temperature for 24 hours or more. The measurement must satisfy the following:

- Circuit close resistance: as Sec. 3.3
- Circuit open resistance: as Sec. 3.4
- Contact bounce: as Sec. 3.5
- Linearity test: as Sec. 3.6

6.3 Exposure to constant temperature and humidity

Touch panel is put into a test machine at the condition of 50°C, 80%RH for 288 hours. Then it is left at room temperature for 24 hours or more. The measurement must satisfy the following:

- Circuit close resistance: as Sec. 3.3
- Circuit open resistance: as Sec. 3.4
- Contact bounce: as Sec. 3.5
- Linearity test: as Sec. 3.6

6.4 Thermal Shock

Touch panel is put into a test machine at the condition of -40°C for 30 minutes, and then 80°C for 30 minutes. The process is repeated by 10 cycles. Then it is left at room temperature for 24 hours or more. The measurement must satisfy the following:

- Circuit close resistance: as Sec. 3.3
- Circuit open resistance: as Sec. 3.4
- Contact bounce: as Sec. 3.5
- Linearity test: as Sec. 3.6

7. Durability test:

7.1 Finger touches

Touch panel is hit 10 millions times with a silicone rubber of R8 finger(see Fig.7-1), hitting rate is by 250g at 2 times per second. The measurement must satisfy the following:

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- Circuit close resistance: as Sec. 3.3
- Circuit open resistance: as Sec. 3.4
- Contact bounce: as Sec. 3.5
- Linearity test: as Sec. 3.6

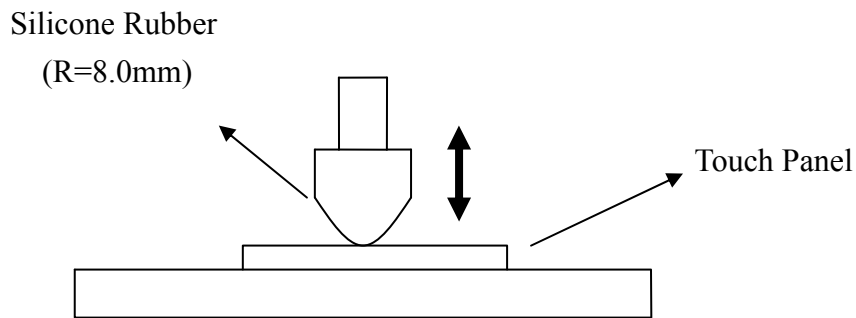


Fig. 7-1

7.2 Stylus writing

Touch panel is drawn by R0.8 Derlin stylus pen, at 250g forces, repeat one inch by 200K times(see Fig.7-2). The measurement must satisfy the following:

- Circuit close resistance: as Sec. 3.3
- Circuit open resistance: as Sec. 3.4
- Contact bounce: as Sec. 3.5
- Linearity test: as Sec. 3.6

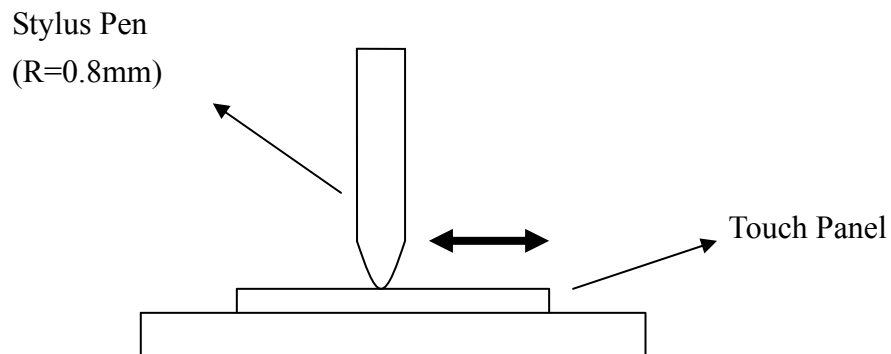


Fig. 7-2

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8. Optical Performance

- 8.1 Optical inspection method and optical defect standards refer to AMT document A001 updated version ; "Touch Screen Optical Quality Standard."
- 8.2 Outside to Viewing Area: any optical defects in this area need to be ignored if no touch screen function is affected.

9. Others

- 9.1 Always store the touch screen in its original shipping container under normal conditions (Temperature 20~25°C ; Humidity \leq 65%RH).
- 9.2 This Model is RoHS compliant.