

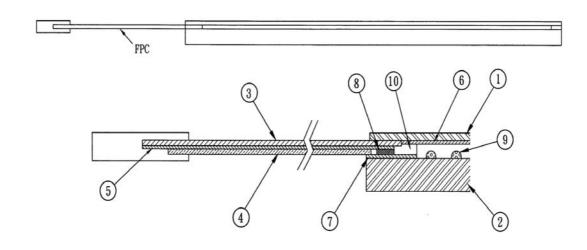
# **Analog 5-wire PET-On-Glass Touch Screen Specification**

## 1. Mechanical Dimensions and Construction

- 1.1 General: Analog Resistive touch screen is laminated by ITO PET to ITO glass.
- 1.2 Construction:

Item	Description	Material	Remarks
	ITO PET	0.188mm ITO PET Film	Antiglare coating
1	(Top layer)		Surface hardness: 3H
			Resistance:300~600Ω/□
	ITO Patterned Glass (Bottom	2.36mm ITO Glass	Resistance:300~600Ω/□
2	layer)		
3	Tail Base	Kapton	Separated Tail
4	Tail Coverlay	Kapton	
5	Connector	AMP Compatible	Pitch:2.54mm
6	Top layer circuit	Silver ink	
7	Bottom layer circuit	Silver ink	
8	Layer to layer contacted	Silver ink	
9	Dot spacer	UV Cure ink	
10	Isolation Layer	Isolation Adhesive	

Touch screen side view:



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				don't	change m	anually	Manufactured by Apex Material Technology Corp.			
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### 1.3 Input Method and Activation Force

Input Method	Average Activation Force
1.6mm dia. Delrin stylus	10~70 grams
16mm dia. Silicon "finger"	10∼ 80 grams

## 2. Typical Optical Characteristics

2.1 Visible Light Transmission: >80%

2.2 Haze: 3~7% (JIS K-7105)

## 3. Electrical Specifications

3.1 Operating Voltage: 5.5V or less

3.2 Contact current: 20mA (maximum)

3.3 Circuit close resistance:  $30\sim300\Omega$ 

3.4 Circuit open resistance:  $> 10M\Omega$  at 25VDC

3.5 Contact bounce: < 15ms

3.6 Linear Test : <1.5 %

## 4. Environment Specification

4.1 Operating Temperature  $-10^{\circ}$  C  $\sim +60^{\circ}$  C Humidity less than 90% RH

4.2 Storage Temperature  $-20^{\circ} \text{ C} \sim +80^{\circ} \text{ C}$  at Ambient Humidity

## 5. Reliability Test

#### 5.1 Exposure to high temperature

Touch panel is put into a test machine at the condition of 80 for 120 hours. Then it is left at the room temperatu 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

## 5.2 Exposure to low temperature

Touch panel is put into a test machine at the condition of -20 for 120 hours. Then it is left at the 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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5.3 Exposure to constant temperature and humidity

Touch panel is put into a test machine at the condition of 60 , 90%RH for 120 hours. Then it is left at the room temperature for 24 hours or more. The measurement must satisfy the following:

Circuit close resistance: as Sec. 3.3Circuit open resistance: as Sec. 3.4

Contact bounce: as Sec. 3.5Linearity test: as Sec. 3.6

## 5.4 Thermal Shock

Touch panel is put into a test machine at the condition of -20 for 30 minutes, and then 80 for 30 minutes. The process is repeated by 10 cycles. Then it is left at the room temperature for 24 hours or more. The measurement must satisfy the following:

Circuit close resistance: as Sec. 3.3Circuit open resistance: as Sec. 3.4

Contact bounce: as Sec. 3.5Linearity test: as Sec. 3.6

## 6. Durability test:

### 6.1 Finger touches

Touch panel is hit 36 millions times with a silicone rubber of R8 finger, hitting rate is by 250g at 2 times per second. The measurement must satisfy the following:

- Circuit close resistance: as Sec. 3.3

- Circuit open resistance: as Sec. 3.4

Contact bounce: as Sec. 3.5Linearity test: as Sec. 3.6

#### 6.2 Stylus writing

Touch panel is drawn by R0.8 Derlin stylus pen, at 250g forces, repeat one inch by 100K times.

The measurement must satisfy the following:

- Circuit close resistance: as Sec. 3.3

- Circuit open resistance: as Sec. 3.4

Contact bounce: as Sec. 3.5Linearity test: as Sec. 3.6

#### 7. Optical Performance:

- 7.1 Optical inspection method and optical defect standards refer to document. A001-2 Touch Screen Optical Quality Standard.
- 7.2 Outside to Active Area: any optical defected in this area need to be ignored if no effected to touch screen function.
- 7.3 Glass defects such as edge chips and scratches refer to A001-2 Touch Screen Optical Quality Standard.

#### 7.4 Others

Always store the touch screen in its original shipping container under normal conditions (20~25°C, 65% RH)

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