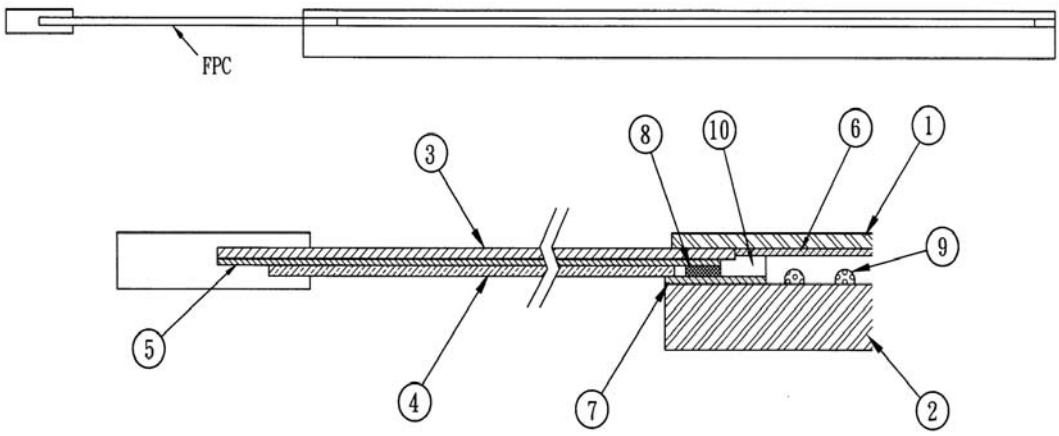
Analog 5-wire PET-On-Glass Touch Screen Specification

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
1	ITO PET (Top layer)	0.188mm ITO PET Film	Antiglare coating Surface hardness: 3H Resistance:300~600Ω/□
2	ITO Patterned Glass (Bottom layer)	3.18 mm ITO Glass	Resistance:300~900Ω/□
3	Tail Base	Kapton	Separated Tail
4	Tail cover lay	Kapton	
5	Connector	AMP compatible	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:



1.3 Input Method and Activation Force

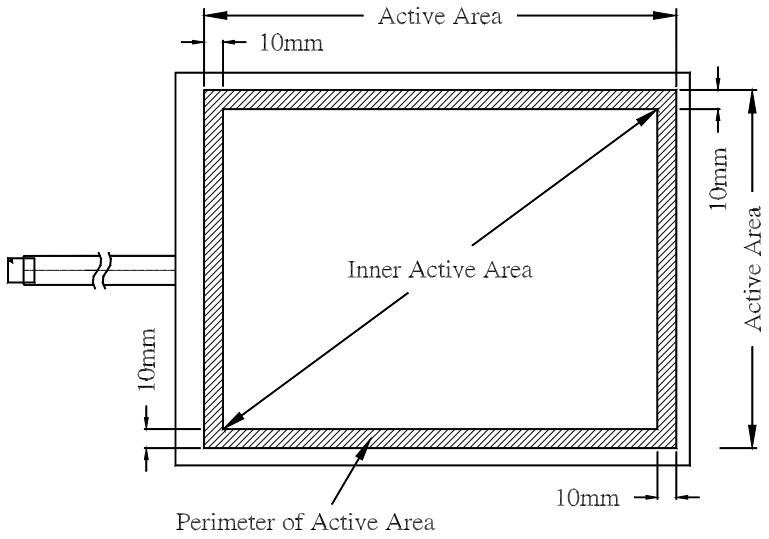
Input Method	Average Activation Force
16mm dia. Silicon "finger"	Less than 1.00 N

2. Typical Optical Characteristics

2.1	Visible Light Transmission:	> 80%
2.2	Haze:	< 13%

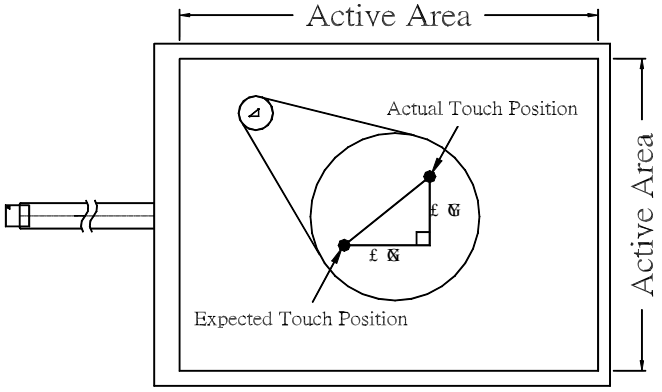
3. Electrical Specifications

3.1	Operating Voltage:	5.5V or less
3.2	Contact current:	20mA (maximum)
3.3	Circuit close resistance:	20~300Ω
3.4	Circuit open resistance:	> 10MΩ at 25VDC
3.5	Contact bounce:	< 15ms
3.6	Linearity Specifications:	The linearity specifications are based on Hampshire or PenMount touch screen controllers and drivers to define.
3.6.1	Inner Active Area :	10 mm inside of X and Y active area dimensions.
	Perimeter of Active Area :	The area 10 mm inside of X and Y active area dimensions.



3.6.2 Calculate Linearity

$$\%Linearity = \frac{\sqrt{\Delta X^2 + \Delta Y^2}}{Active\ \ Area\ \ Diagonal} * 100$$



3.6.3 Linearity: Inner Active Area : <1.0%
Perimeter of Active Area : <2.0%

4. Environment Specification

4.1	Operating Temperature	- 10° C ~ + 50° C Humidity less than 90% RH, no dew condensation
4.2	Storage Temperature	- 20° C ~ + 80° 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 60°C 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

5.2 Exposure to low temperature
Touch panel is put into a test machine at the condition of –20°C 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

5.3 Exposure to constant temperature and humidity

Touch panel is put into a test machine at the condition of 60°C, 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. 3.3
- Circuit open resistance: as Sec. 3.4
- Contact bounce: as Sec. 3.5
- Linearity test: as Sec. 3.6

5.4 Thermal Shock

Touch panel is put into a test machine at the condition of –20°C for 30 minutes, and then 80°C 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. 3.3
- Circuit open resistance: as Sec. 3.4
- Contact bounce: as Sec. 3.5
- Linearity 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. 3.5
- Linearity 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.

8. Others

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