DATA IMAGE CORPORATION

CTP Module Specification

Preliminary

ITEM NO.: SCN0700XXXGGU05

Table of Contents

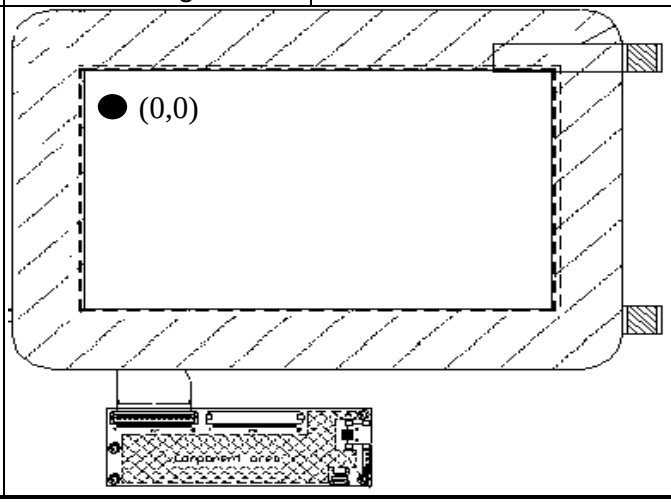
Customer Companies	R&D Dept.	Q.C. Dept.	Eng. Dept.	Prod. Dept.
	ALEX	JOE	GARY	KEN
Approved by	Version:	Issued Date:	Sheet Code:	Total Pages:
	1	11/JUN/13’		13

2. RECORD OF REVISION

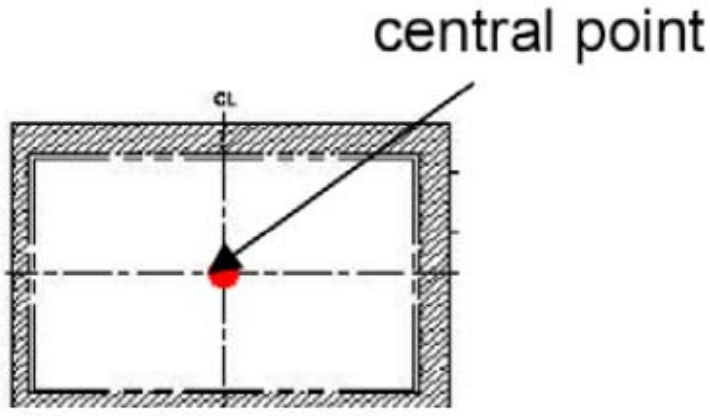
Rev	Date	Item	Page	Comment
1	11/JUN/13’			Initial preliminary

3. GENERAL SPECIFICATIONS

Composition: It's 7 inch Capacitive Touch Panel (CTP).

Item	Specification		Unit
Type	Transparent type projected capacitive touch panel		
Input mode	Human's finger		
Multi touch	4		Point
Screen Size	7 (diagonal)		inch
Outline Dimension	199.5(W) x 139.5(H) x1.95(D)		mm
Active Area	154. 6(W) x 92.4(D)		mm
Weight	TBD		g
Interface	USB		
Transparency	≧85%		%
Haze	≦5.0%		%
Point hitting life time	1,000,000		
Temperature	Operation	-20 ~ 70	℃
	Storage	-30 ~ 80	
(X,Y) Position			

Note: Use 8 mm diameter silicon rubber/force 3N to knock on the central point twice per second (no-operating), function pass after test.



4. ABSOLUTE MAXIMUM RATING

Symbol	Description	Min	Typ	Max	Unit	Notes
VCC	Supply voltage	-0.3		6.5	V	USB 5V
VIO	DC input voltage	-0.3		VCC+0.3	V	

5. ELECTRICAL CHARACTERISTIC

Symbol	Description	Min	Typ	Max	Unit	Notes
VCC	Supply voltage	-	5	-	V	
GND	Supply voltage	-	0	-	V	
ICC	Supply current		TBD		mA	VCC=5V

6. PIN CONNECTIONS

Pin Number	Pin Name	Description
1	VCC	Power Supply Voltage
2	D-	USB D-
3	D+	USB D+
4	NC	No connection
5	GND	Ground

7. QUALITY ASSURANCE

7.1 Test Condition

7.1.1 Temperature and Humidity (Ambient Temperature)

Temperature : 25 ± 5°C
Humidity : 65 ± 5%

7.1.2 Operation

Unless specified otherwise, test will be conducted under function state.

7.1.3 Container

Unless specified otherwise, vibration test will be conducted to the product itself without putting it in a container.

7.1.4 Test Frequency

In case of related to deterioration such as shock test. It will be conducted only once.

7.1.5 Test Method

Reliability Test Item & Level		Test Level	Remark
No.	Test Item		
1.	High Temperature Storage Test	T= 80℃,120hrs after 4 hrs at room temperature and test.	IEC68-2-2
2.	Low Temperature Storage Test	T= -30℃,120hrs after 4 hrs at room temperature and test.	IEC68-2-1
3.	High Temperature Operation Test	T= 70℃ , 120hrs after 4 hrs at room temperature and test.	IEC68-2-2
4.	Low Temperature Operation Test	T=-20℃, 120hrs after 4 hrs at room temperature and test.	IEC68-2-1
5.	High Temperature and High Humidity Operation Test	T=60℃, 90%RH,120hrs after 4 hrs at room temperature and test.	IEC68-2-3
6.	Thermal Cycling Test (No operation)	-30℃ → +25℃ → + 80℃, 100 Cycles 30 min 5 min 30 min	IEC68-2-14
7.	Vibration Test (No operation)	Frequency :10 ~ 55 HZ Amplitude :1.5 mm Sweep time : 11 ms Test Period: 6 Cycles for each direction of X, Y, Z	IEC68-2-6
8	ESD TEST	Air Discharge : ±15KV Indirect Contact Discharge : ±8KV	IEC61000-4-2

7.2 Inspection condition

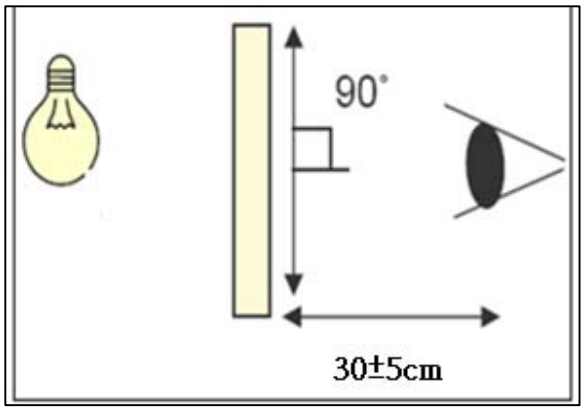
7.2.1 Inspection conditions

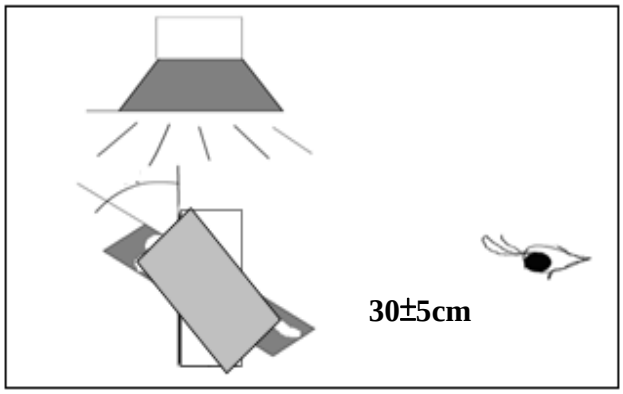
7.2.1.1 Inspection Distance : 30 ± 5 cm

7.2.1.2 View Angle :

(1) Inspection that light pervious to the product: 90±15°

(2) Inspection that light reflects on the product: 90±15°



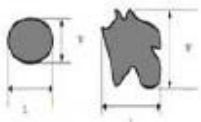
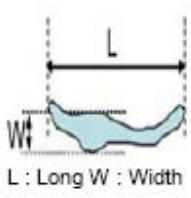


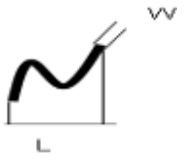
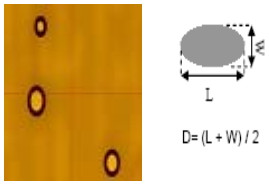
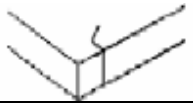
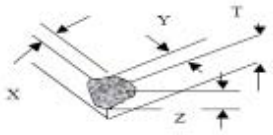
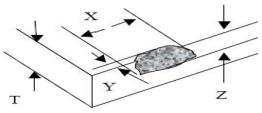
7.2.2 Environment conditions :

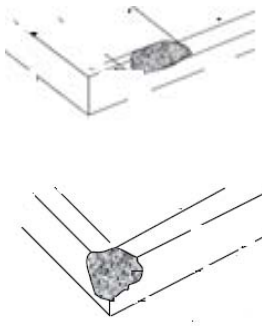
Ambient Temperature :	25±5℃
Ambient Humidity :	30~75%RH
Ambient Illumination	600~800 lux

7.3 Inspection Parameters

Appearance inspection standard (D: diameter, L: length; W: width, Z: height, T: glass thickness)

<table>
<tr><th>Inspection item</th><th>Inspection standard</th><th>Description</th></tr>
<tr><td>Foreign material in dot shape</td><td>
<table>
<tr><td>SPEC (unit: mm)</td><td>Acceptable</td></tr>
<tr><td>D≦0.5</td><td>Ignored</td></tr>
<tr><td>0.5<D≦0.8, distance>5</td><td>n≦3</td></tr>
<tr><td>D＞0.8</td><td>0</td></tr>
</table>
</td><td> 
</td></tr>
<tr><td>Foreign material in line shape</td><td>
<table>
<tr><td>SPEC</td><td>Acceptable</td></tr>
<tr><td>W≦0.05 and L≦7</td><td>Ignored</td></tr>
<tr><td>0.05<W≦0.08, L≦7, distance >5</td><td>n≦3</td></tr>
<tr><td>W>0.08 or L>7</td><td>0</td></tr>
</table>
</td><td> 
</td></tr>
</table>

<table>
<tr><td>Contamination</td><td colspan="2">It is acceptable if the dirt can be wiped.</td><td></td></tr>
<tr><td>Scratch</td><td colspan="2"><table><tr><td>SPEC</td><td>Acceptable</td></tr><tr><td>W≦0.05 and L≦7</td><td>Ignored</td></tr><tr><td>0.05<W≦0.08, L≦7, distance >5</td><td>n≦3</td></tr><tr><td>0.08<W≦0.1, L≦7, distance >5</td><td>n≦2</td></tr><tr><td>W>0.1 or L>7</td><td>0</td></tr></table></td><td>  </td></tr>
<tr><td>Inspection item</td><td colspan="2">SPEC</td><td>Description</td></tr>
<tr><td>Bubble</td><td colspan="2"><table><tr><td>SPEC (unit: mm)</td><td>Acceptable</td></tr><tr><td>D≦0.2</td><td>Ignored</td></tr><tr><td>Non visible area</td><td>Ignored</td></tr><tr><td>0.2<D≦0.3, distance >5</td><td>n≦3</td></tr><tr><td>D＞0.3</td><td>0</td></tr></table></td><td>  </td></tr>
<tr><td>Cover & Sensor Crack</td><td colspan="2">Prohibited</td><td>  </td></tr>
<tr><td>Cover angle missing</td><td colspan="2"><table><tr><td>SPEC (unit: mm)</td><td>Acceptable</td></tr><tr><td>Side/Bottom</td><td>Ignored</td></tr><tr><td>It is prohibited if the defect appears on the front.</td><td>0</td></tr></table></td><td>  </td></tr>
<tr><td>Inspection item</td><td colspan="2">SPEC</td><td>Description</td></tr>
<tr><td>Cover edge break</td><td colspan="2"><table><tr><td>SPEC (unit: mm)</td><td>Acceptable</td></tr><tr><td>X≦ 2.0, Y≦ 2.0, Z≦T</td><td>Ignored</td></tr><tr><td>X>2.0, Y>2.0, Z＞T</td><td>0</td></tr></table></td><td>  </td></tr>
</table>

<table>
<tr><td>Sensor angle missing/edge break</td><td><table><tr><td>SPEC (unit: mm)</td><td>Acceptable</td></tr><tr><td>Damage circuit or function.</td><td>0</td></tr><tr><td>It can be seen from the front of cover visible area.</td><td>0</td></tr></table></td><td>  </td></tr>
<tr><td>Sensor flange</td><td><table><tr><td>SPEC (unit: mm)</td><td>Acceptable</td></tr><tr><td>Do not affect assembly.</td><td>Ignored</td></tr></table></td><td>  </td></tr>
<tr><td>Ink</td><td><table><tr><td>SPEC (unit: mm)</td><td>Acceptable</td></tr><tr><td>word unclear, inverted, mistake, break line</td><td>0</td></tr></table></td><td></td></tr>
<tr><td>Bubble under protection film</td><td><table><tr><td>SPEC (unit: mm)</td><td>Acceptable</td></tr><tr><td>NA</td><td></td></tr></table></td><td></td></tr>
<tr><td>Function</td><td>Prohibited</td><td></td></tr>
</table>

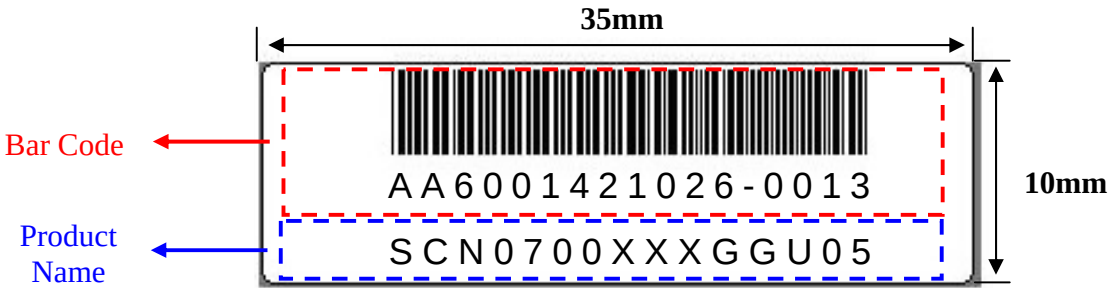
7.4 Sampling Condition

Unless otherwise agree in written, the sampling inspection shall be applied to the incoming inspection of customer.
Lot size: Quantity of shipment lot per model.
Sampling type: normal inspection, single sampling
Sampling table: MIL-STD-105E
Inspection level: Level II

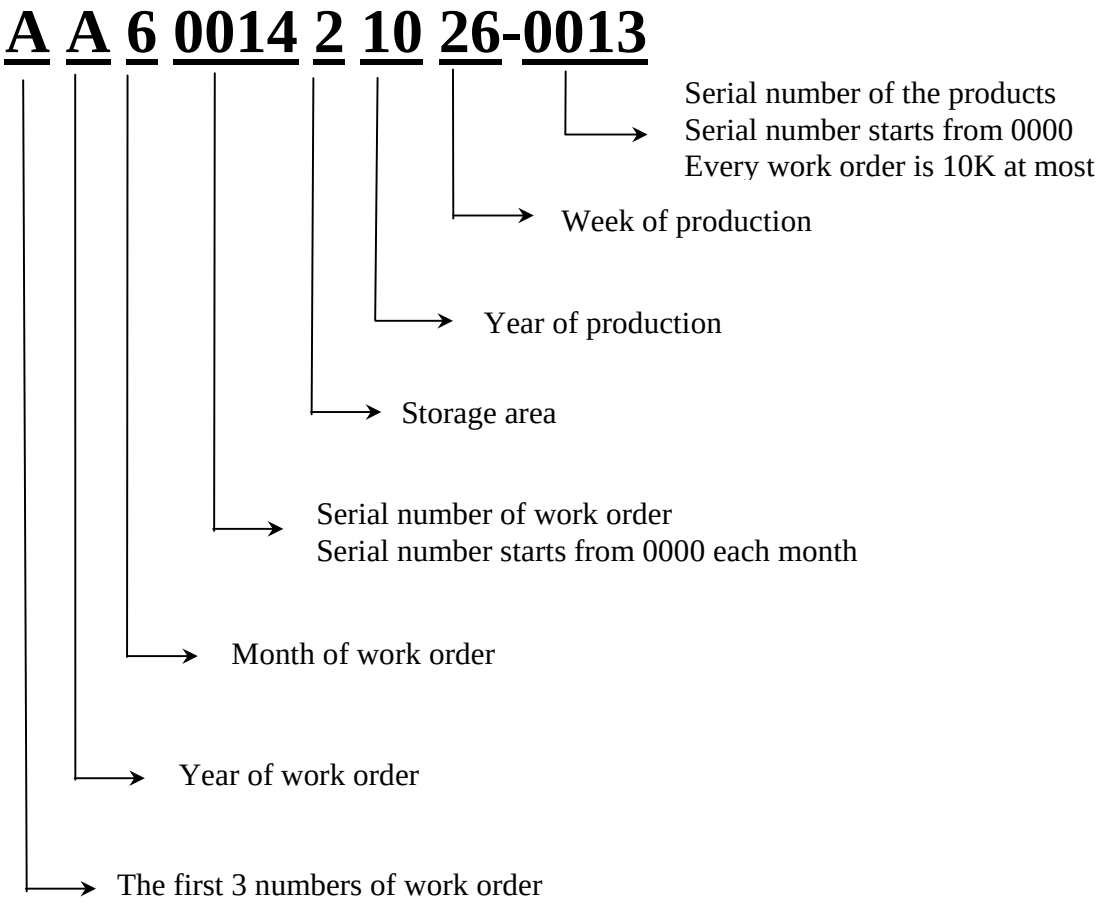
	Definition		
Class of defects	**Major**	AQL 0.65%	It is a defect that is likely to result in failure or to reduce materially the usability of the product for the intended function.
	Minor	AQL 1.5%	It is a defect that will not result in functioning problem with deviation classified.

8. PRODUCT LABEL DEFINE

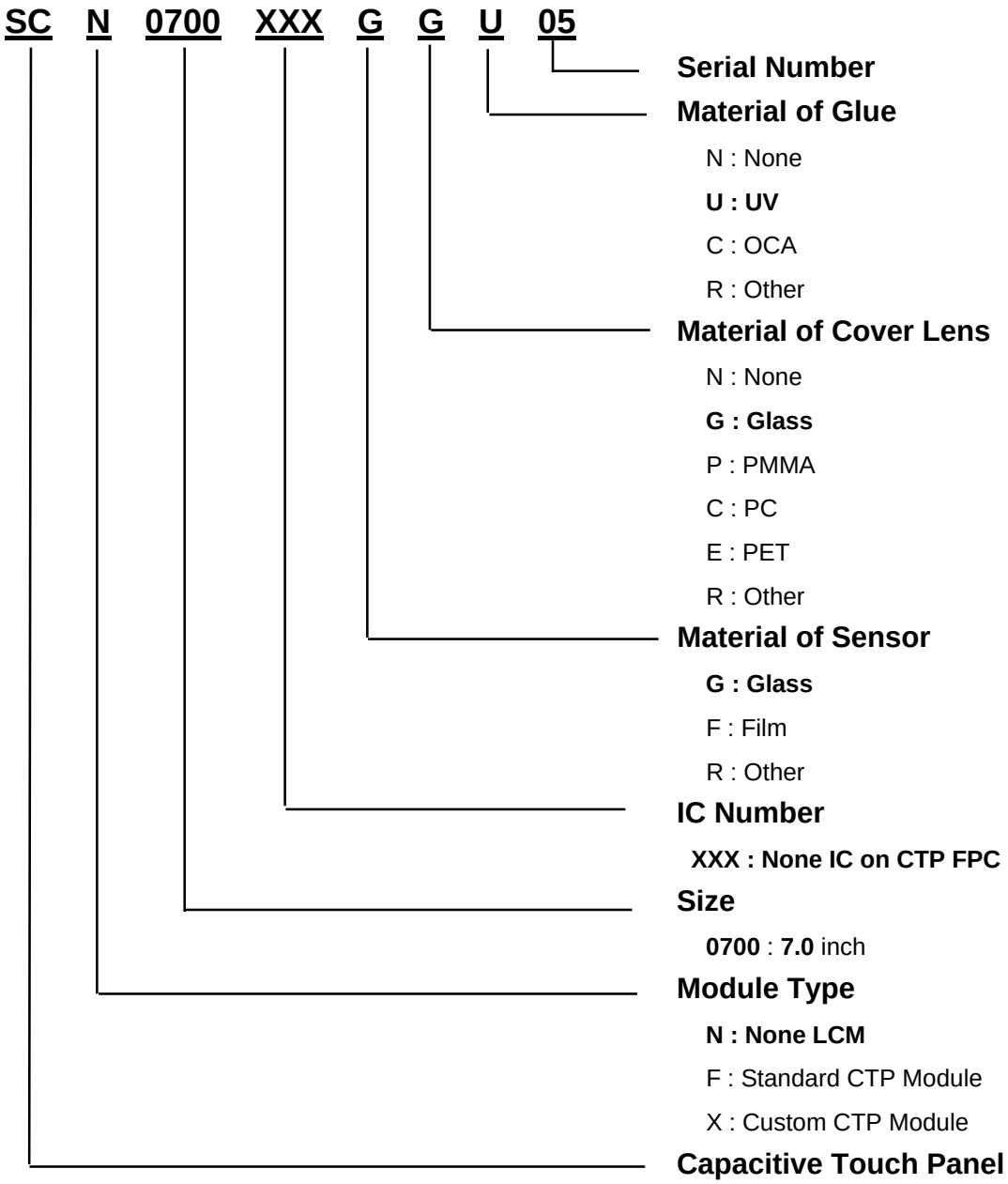
Product Label style:



Barcode Define:



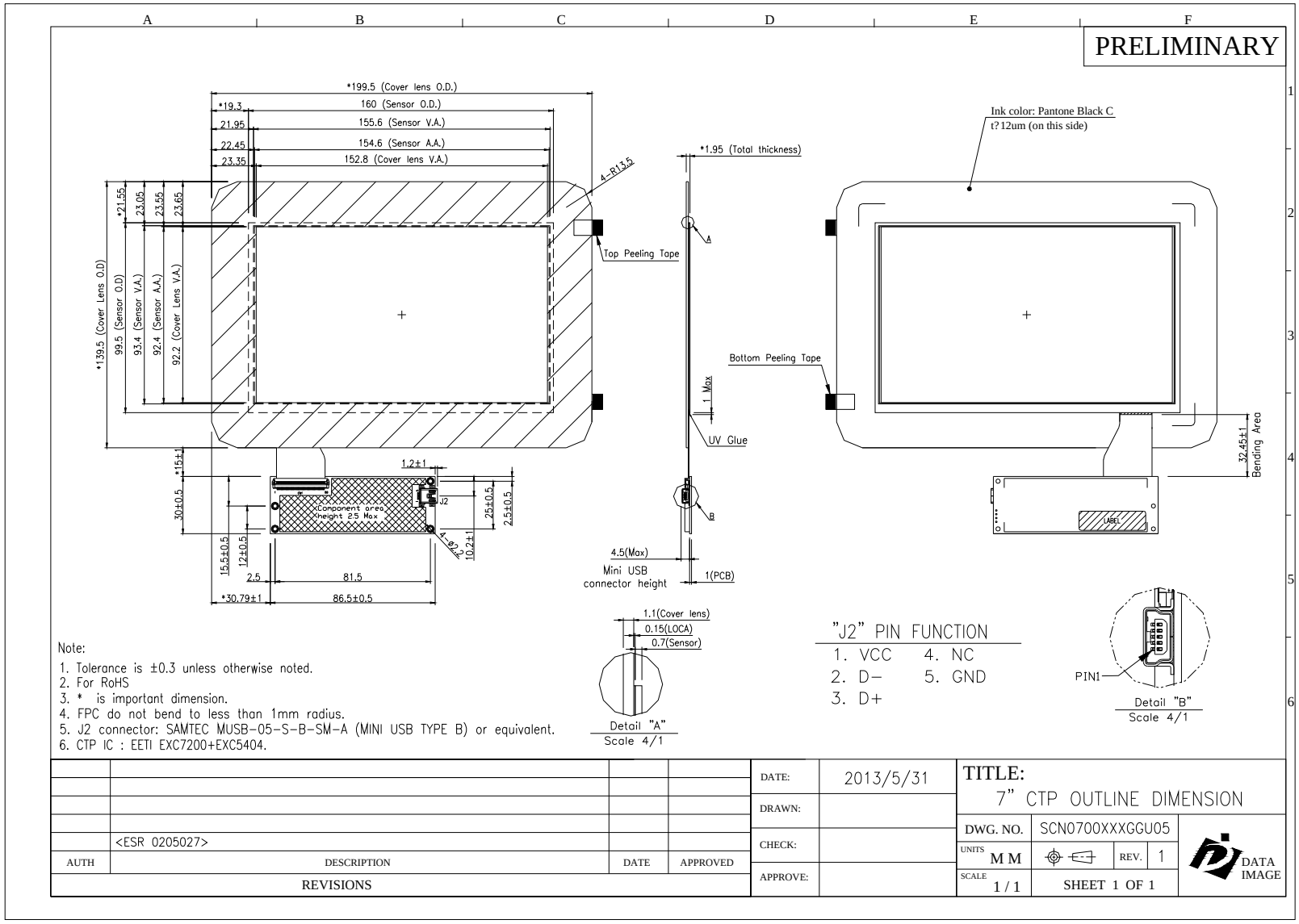
Product Name Define:



9. PRECAUTIONS IN USE CTP

1. ASSEMBLY PRECAUTIONS
   (1) Since Touch Panel is consist of glass, please be careful your hands to be injured during handing. You must wear gloves during handing.
   (2) Do not touch, push or rub the exposed touch panel, tweezers or anything harder than HB pencil lead. And please do not rub with dust clothes with chemical treatment.
   (3) Do not stack the touch panels together. Do not put heavy objects on touch panel.
   (4) Please do not take a CTP to pieces and reconstruct it. Resolving and reconstructing modules may cause them not to work well.
   (5) Please excessive force or strain to the panel or tail is prohibited, Do not lift touch panel by cable(FPC).
   (6) Use clean sacks or glove to prevent fingerprints and/or stains left on the panel. Extra attention and carefulness should be taken while handling the glass edge.
   (7) Please pay attention for the matters stated below at mounting design of touch panel enclosure.
   Enclosure support to fix touch panel must be out of active area.(do not design enclosure presses the active area to protect from miss put)
2. OPERATING PRECAUTIONS
   (1) Please be sure to turn off the power supply before connecting and disconnecting signal input cable.
   (2) Please do not change variable resistance settings in CTP. They are adjusted to the most suitable value. If they are changed, it might happen CTP does not satisfy the characteristics specification
   (3) Be careful for condensation at sudden temperature change. Condensation makes damage to sensor or electrical contacted parts.
   (4) CTP has high frequency circuits. Sufficient suppression to the electromagnetic interference shall be done by system manufacturers. Grounding and shielding methods may be important to minimize the interference.
   (5) Touch the panel with your finger or stylus only to assure normal operation. Any sharp edged or hard objects are prohibited.
   (6) Operate the panel in a steady environment. Abrupt variation on temperature and humidity may cause malfunction of the panel.
3. ELECTROSTATIC DISCHARGE CONTROL
   (1) The operator should be grounded whenever he/she comes into contact with the CTP. Never touch any of the conductive parts such the copper leads on the FPC and the interface terminals with any parts of the human body.
   (2) The CTP should be kept in antistatic bags or other containers resistant to static for storage.
   (3) Only properly grounded soldering irons should be used.
   (4) If an electric screwdriver is used, it should be well grounded and shielded from commentator sparks.
   (5) The normal static prevention measures should be observed for work clothes and working benches; for the latter conductive (rubber) mat is recommended
   (6) Since dry air is inductive to statics, a relative humidity of 50-60% is recommended.
4. STORAGE PRECAUTIONS
(1) When you store touch panel for a long time, it is recommended to keep the temperature between 0°C-40°C without the exposure of sunlight and to keep the humidity less than 90%RH.
(2) Please do not leave touch panel in the environment of high humidity and high temperature such as 60°C 90%RH
(3) Please do not leave touch panel in the environment of low temperature; below -20°C.
5. OTHERS
   (1.) For the packaging box, please pay attention to the followings:
   (2.) Please do not pile them up more than 5 boxes. (They are not designed so.) And please do not turn over.
   (3.) Please handle packaging box with care not to give them sudden shock and vibrations. And also please do not throw them up.
   (4.) Packing box and inner case for CTP are made of cardboard. So please pay attention not to get them wet. (Such like keeping them in high humidity or wet place can occur getting them wet.)
6. LIMITED WARRANTY
   Unless otherwise agreed between DATA IMAGE and customer, DATA IMAGE will replace or repair any of its CTP which is found to be defective electrically and visually when inspected in accordance with DATA IMAGE acceptance standards, for a period on one year from date of shipment. Confirmation of such date shall be based on freight documents. The warranty liability of DATA IMAGE is limited to repair and/or replacement on the terms set forth above. DATA IMAGE will not responsible for any subsequent or consequential events.

10. OUTLINE DRAWING



11. PACKAGE INFORMATION

TBD