

Specification for Colour TFT Display module

7" WVGA TFT module with PCAP Touchscreen

Manufacturer	Data Image Corporation
Part n°	SCF0700XXXGGU05
Ordering n°	SCF0700XXXGGU05
Customer Part n°	n/a
Revision n°	1
Issue Date	2013/10/22

Customer's Approval

Company name	
Printed name	
Job title	
Signature	
Approval Stage:	<p>This product is approved for the following production stage: -</p> <ul style="list-style-type: none"> <input type="checkbox"/> Sample / Prototype <input type="checkbox"/> Pre-Production <input type="checkbox"/> Mass Production
Approval Date	

Supplied by Anders Electronics plc
 Manufactured by Data Image Corporation



DATA IMAGE CORPORATION

CTP Module Specification Preliminary ITEM NO.: SCF0700XXXGGU05

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	1	22/OCT/13'		24

3. GENERAL SPECIFICATIONS

Composition: A touch panel module with 7 inches Capacitive Touch Panel (CTP).

CTP Interface: USB

Parameter	Specifications	Unit
Display resolution	800(H) x (RGB) x 480 (V)	dot
Screen size	7 (diagonal)	inch
Outline dimension	199.5(W) x 139.5(H) x 8.7 Max(D)	mm
Display active area	152.4(H) x 91.44(V)	mm
Sensor active area	154.6(W) x 92.4(D)	mm
Dot pitch	0.0635 (H) x 0.1905 (V)	mm
Surface treatment	Anti-glare and hard coating (3H)	
View angle direction	All	
Weight	252	g
Operating temperature	Ambient temperature	-20 ~ 70
Storage temperature		-30 ~ 80
Our components and processes are compliant to RoHS standard		

4. LCD ABSOLUTE MAXIMUM RATINGS

GND=0V

Parameter	Symbol	MIN.	MAX.	Unit	Remark
Power supply voltage	V _{CC}	-0.3	6.0	V	Ta=25°C
Logic input voltage	V _I	-0.3	V _{CC} +0.3	V	
Humidity	Operation	20%~90% relative humidity			Ta<=60°C
	Non Operation	5%~90% relative humidity			Ta<=60°C

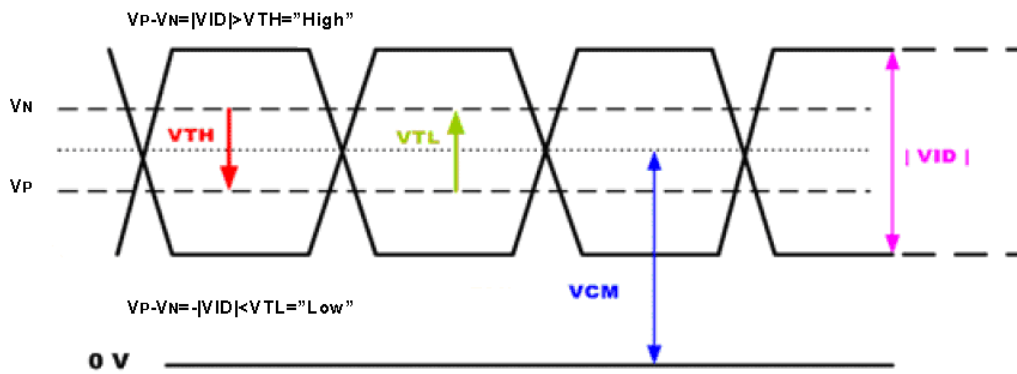
5. LCD ELECTRICAL CHARACTERISTICS

GND=0V, f_H=31.5KHz, f_V=60Hz, f_{CLK}=33.26MHz, Ta=25°C

Parameter	Symbol	MIN.	Typ.	MAX.	Unit	Remark
Power Supply voltage for LCD	V _{CC}	+3.0	+3.3	+3.6	V	
Power Supply Current for LCD	I _{CC}		180	240	mA	V _{CC} =3.3V
Power Supply voltage for LED	V _{DD}	4.5	5.0	5.5	V	
Power Supply Current for LED	I _{DD}		550	850	mA	V _{DD} =5.0V
Ripple voltage	V _{RF}	-	-	100	mV _{P-P}	
ADJ frequency		19K	20K	21K	Hz	
ADJ input voltage	V _{IH}	3.0	-	3.3	V	
	V _{IL}	0	-	0.3	V	
Differential Input High Threshold	V _{TH}	-	-	100	[mV]	V _{CM} =1.2V
Differential input Low Threshold	V _{TL}	-100	-	-	[mV]	Note 1
LED dice life time		15,000			Hr	Note 2

Note 1: LVDS Signal Waveform.

Differential Signal



Note 2: The "LED dice life time" is defined as the brightness decrease to 50% original brightness that the ambient temperature is $18^{\circ}\text{C} \sim 28^{\circ}\text{C}$ and LED dice current=25mA.

6. LCD TIMING CHARACTERISTICS

6.1 AC Characteristics

6.1.1 AC Electrical Characteristics

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
Data setup time	T_{dsu}	6	-	-	ns
Data hold time	T_{dhd}	6	-	-	ns
DE setup time	T_{esu}	6	-	-	ns

6.1.2 Resolution : 800x480

Parameter	Symbol	MIN.	TYP.	MAX.	Unit
DCLK frequency	F_{CPH}	25	33.26	40	MHz
DCLK period	T_{CPH}	25	30.06	40	ns
DCLK pulse duty	T_{CWH}	40	50	60	%
DE period	$T_{DEH}+T_{DEL}$	1000	1056	1200	T_{CPH}
DE pulse width	T_{DEH}	800	800	800	T_{CPH}
DE frame blanking	T_{DEB}	10	45	110	$T_{DEH}+T_{DEL}$
DE frame width	T_{DE}	480	480	480	$T_{DEH}+T_{DEL}$

6.2 Timing Controller Timing Chart

6.2.1 Clock and Data input waveforms

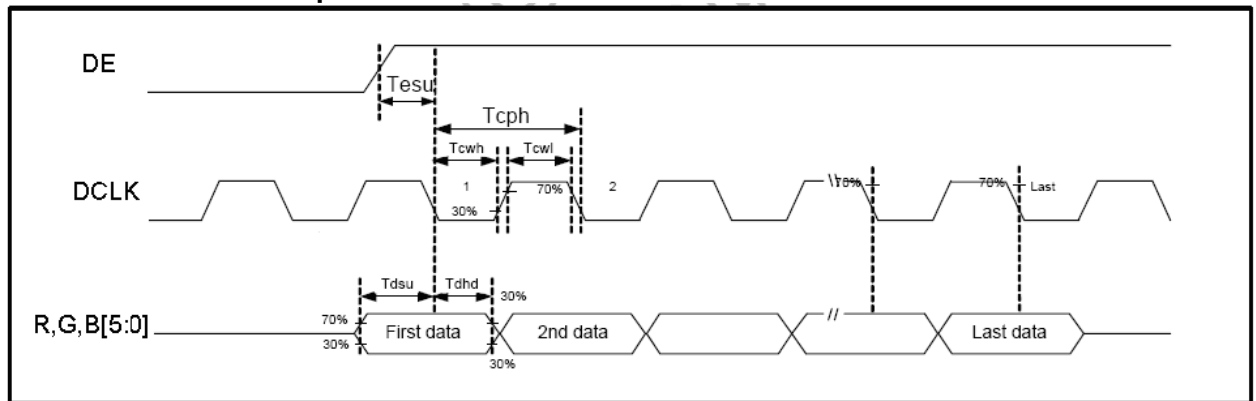
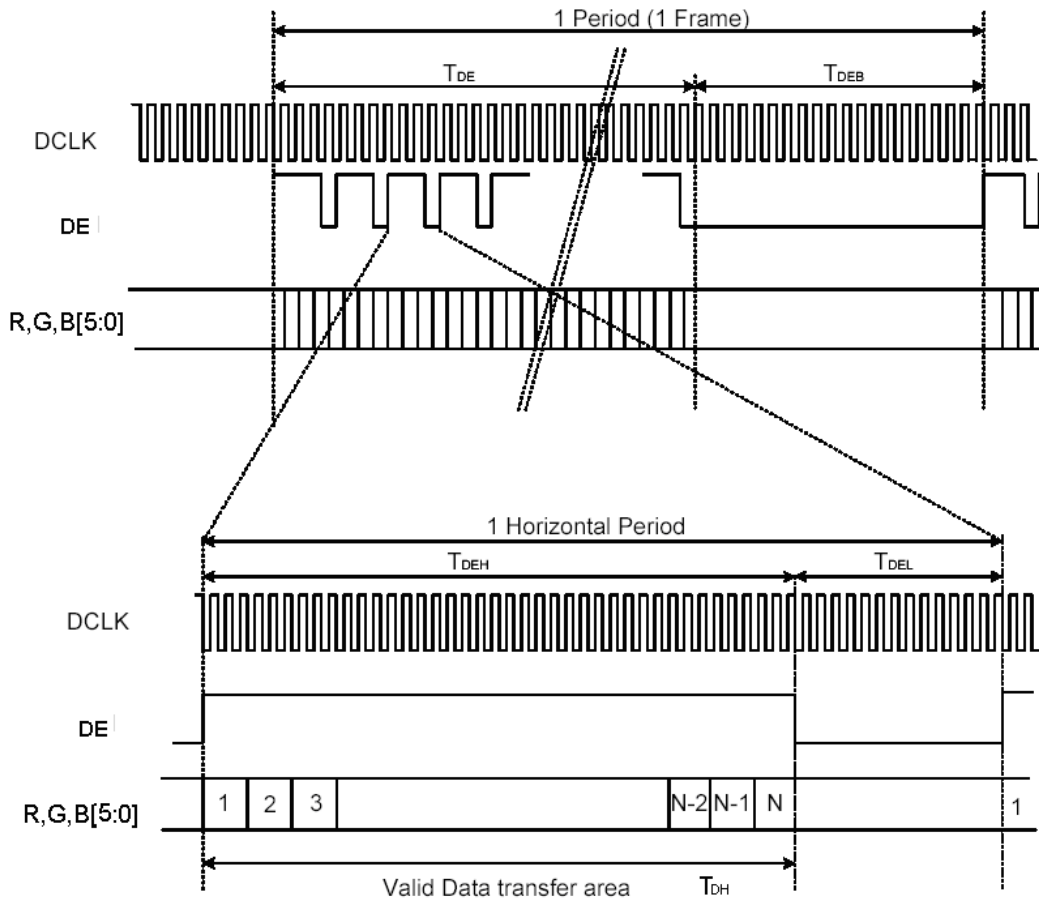
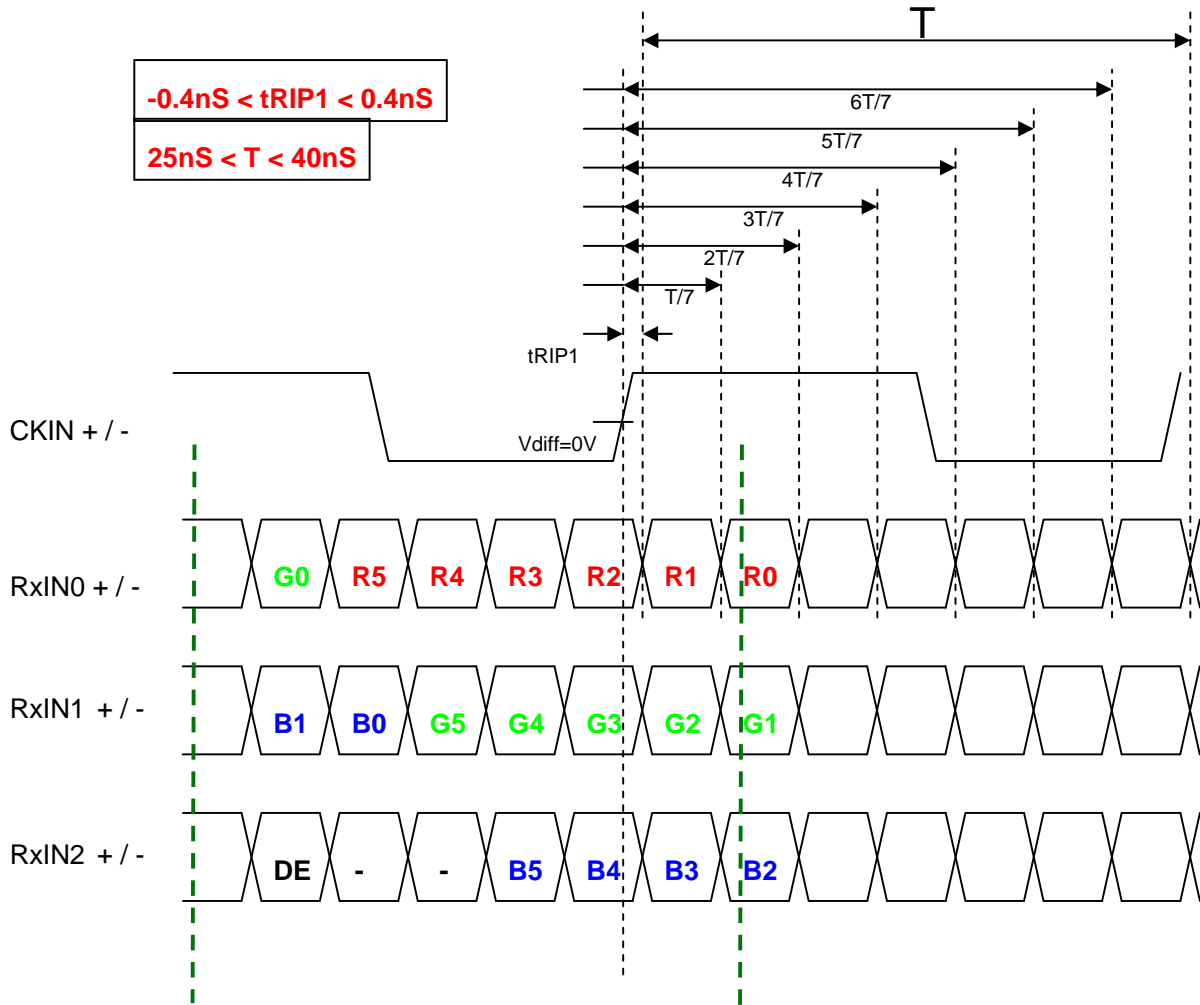


Figure 1 Clock and Data input waveforms.

6.2.2 DE Mode Data Format



6.2.3 LVDS Timing Chart



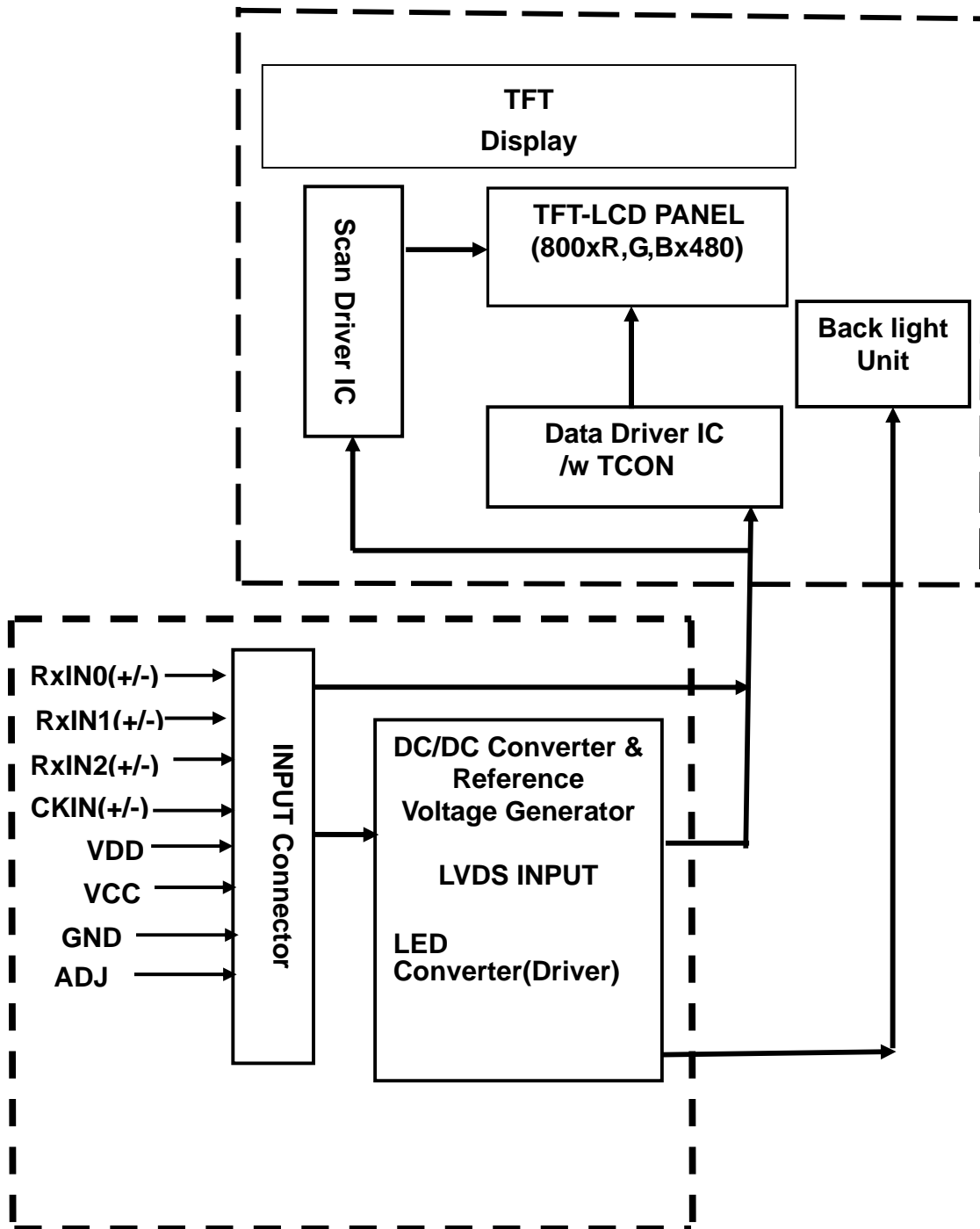
6.3 Color Data Input Assignment

		Data Signal																	
		Red						Green						Blue					
Color		R5	R4	R3	R2	R1	R0	G5	G4	G3	G2	G1	G0	B5	B4	B3	B2	B1	B0
Basic Colors	Black	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
	Green	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
	Blue	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
	Cyan	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1
	Magenta	1	1	1	1	1	1	0	0	0	0	0	0	1	1	1	1	1	1
	Yellow	1	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	0
	White	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Gray Scale of Red	Red(0) / Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red(1)	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Red(2)	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Red(61)	1	1	1	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
	Red(62)	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0
	Red(63)	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0
Gray Scale of Green	Green(0)/ Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Green(1)	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
	Green(2)	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Green(61)	0	0	0	0	0	0	1	1	1	1	0	1	0	0	0	0	0	0
	Green(62)	0	0	0	0	0	0	1	1	1	1	1	0	0	0	0	0	0	0
	Green(63)	0	0	0	0	0	0	1	1	1	1	1	1	0	0	0	0	0	0
Gray Scale of Blue	Blue(0)/ Dark	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Blue (1)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
	Blue (2)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
	Blue (61)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	Blue (62)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0
	Blue (63)	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1

Correspondence between Data and Display Position

	S0001	S0002	S0003	S0004	S0005	S0006	S0007	S0008	-----	S2399	S2400
C001	R001	G001	B001	R002	G002	B002	R003	G003		G800	B800
C480	R001	G001	B001	R002	G002	B002	R003	G003		G800	B800

7. LCD BLOCK DIAGRAM

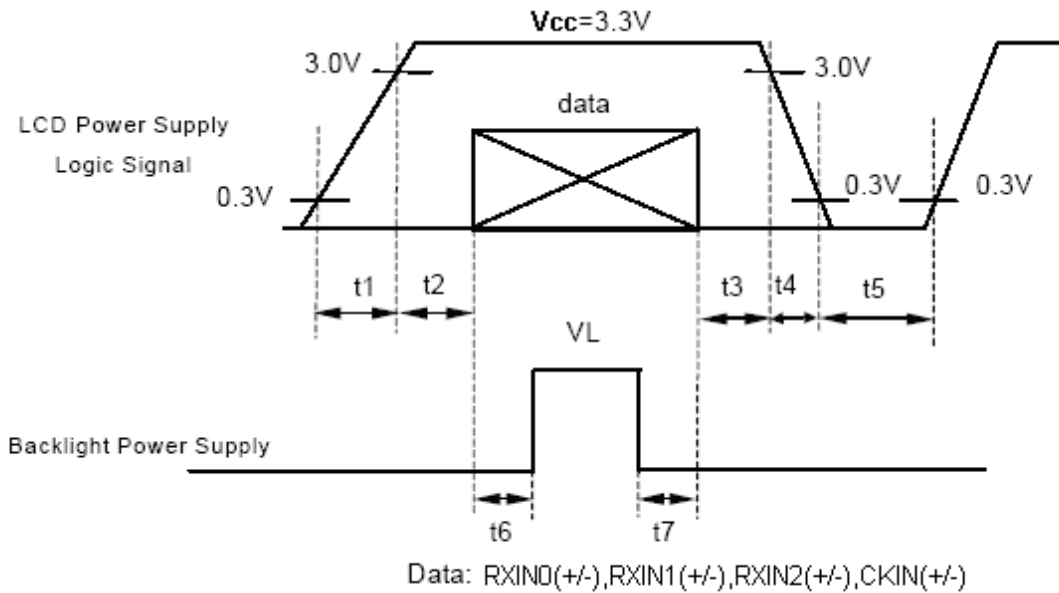


8. LCD PIN CONNECTIONS

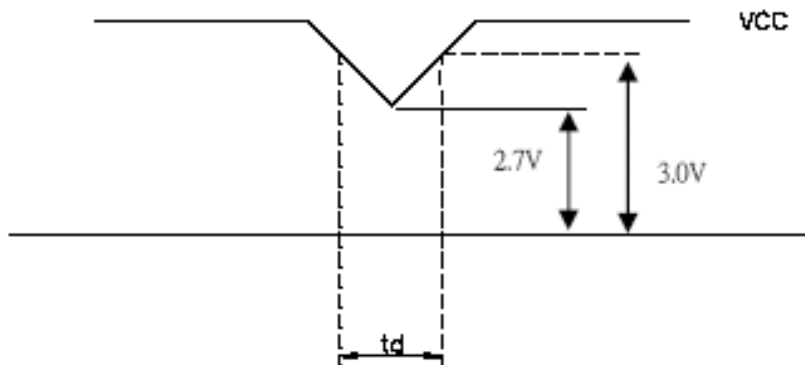
Pin No	Symbol	Function	Remark
1	VCC	power supply for Digital Circuit	
2	VCC	power supply for Digital Circuit	
3	GND	Ground	
4	GND	Ground	
5	RxIN0-	Differential Data Input ,CH0(Negative)	
6	RxIN0+	Differential Data Input ,CH0(Positive)	
7	GND	Ground	
8	RxIN1-	Differential Data Input ,CH1(Negative)	
9	RxIN1+	Differential Data Input ,CH1(Positive)	
10	GND	Ground	
11	RxIN2-	Differential Data Input ,CH2(Negative)	
12	RxIN2+	Differential Data Input ,CH2(Positive)	
13	GND	Ground	
14	CKIN-	Differential Clock Input (Negative)	
15	CKIN+	Differential Clock Input (Positive)	
16	GND	Ground	
17	VDD	Power Supply for LED Driver Circuit	
18	VDD	Power Supply for LED Driver Circuit	
19	GND	Ground	
20	ADJ	Brightness control for LED B/L	

Remarks :

- 1) ADJ is brightness control Pin. The larger of the pulse duty is, the higher of the brightness.
- 2) ADJ signal is 0~3.3V.Operation frequency is 20KHz
- 3) GND PIN must be grounding, can not be floating.

Remarks:
Power Signal sequence:
 $t1 \leq 10\text{ms}$; $1 \text{ sec} \leq t5$
 $50\text{ms} \leq t2$; $200\text{ms} \leq t6$
 $0 < t3 \leq 50\text{ms}$; $200\text{ms} \leq t7$
 $0 < t4 \leq 10\text{ms}$

VCC-dip condition:

 (1) $2.7 \text{ V} \leq VCC < 3.0\text{V}$, $t_d \leq 10 \text{ ms}$

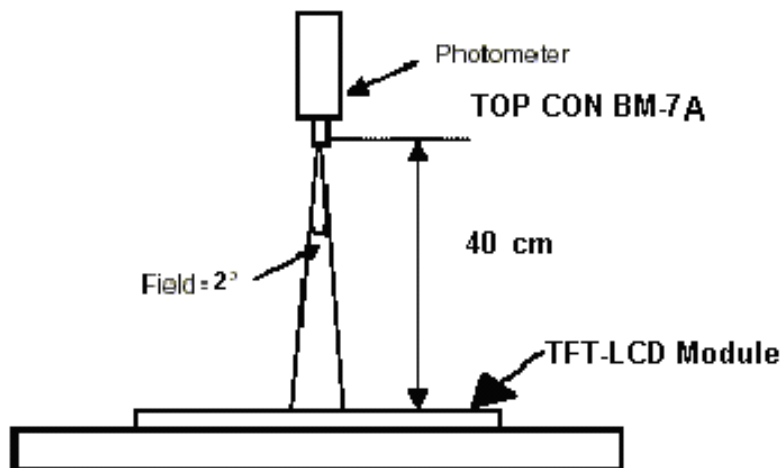
 (2) $VCC > 3.0\text{V}$, VCC-dip condition should be the same with VCC-turn-on condition.


9. OPTICAL CHARACTERISTIC

Parameter		Symbol	Condition	MIN.	TYP.	MAX.	Unit	Remarks
Viewing Angle	Horizontal	θ_{x+}	Center $CR \geq 10$	70	80	--	deg	Note 1,4
		θ_{x-}		70	80	--		
	Vertical	θ_{y+}		70	80	--		
		θ_{y-}		70	80	--		
Contrast Ratio		CR	at optimized viewing angle	320	400	--		Note 1,3
Response time	Rise	Tr	Center	-	5	10	ms	Note 1,6
	Fall	Tf	$\theta_x = \theta_y = 0^\circ$	-	15	20	ms	
Uniformity		B-uni	$\theta_x = \theta_y = 0^\circ$	70	80	--	%	Note 1,5
Brightness		L	$\theta_x = \theta_y = 0^\circ$	320	400	--	cd/m ²	Note 1,2
Chromaticity	x_W	Center $\theta_x = \theta_y = 0^\circ$	TYP- 0.05	TYP+ 0.05	0.318			Note 1,7
	y_W				0.339			
	x_R				0.575			
	y_R				0.360			
	x_G				0.331			
	y_G				0.571			
	x_B				0.149			
	y_B				0.138			
Image sticking		tis	2 hours			2	Sec	Note 8

The following optical specifications shall be measured in a darkroom or equivalent state (ambient luminance ≤ 1 lux, and at room temperature). The operation temperature is $25^\circ\text{C} \pm 2^\circ\text{C}$ and LED Backlight Current=250mA. The measurement method is shown in Note1.

Note1: The method of optical measurement:

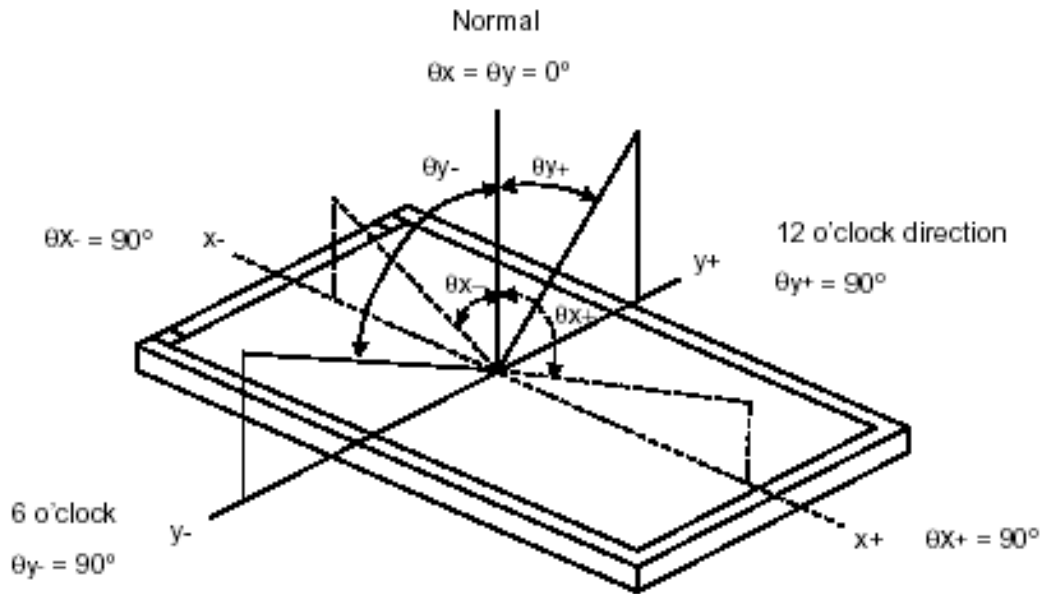


Note2: Measured at the center area of the panel and at the viewing angle of the $\theta_x = \theta_y = 0^\circ$

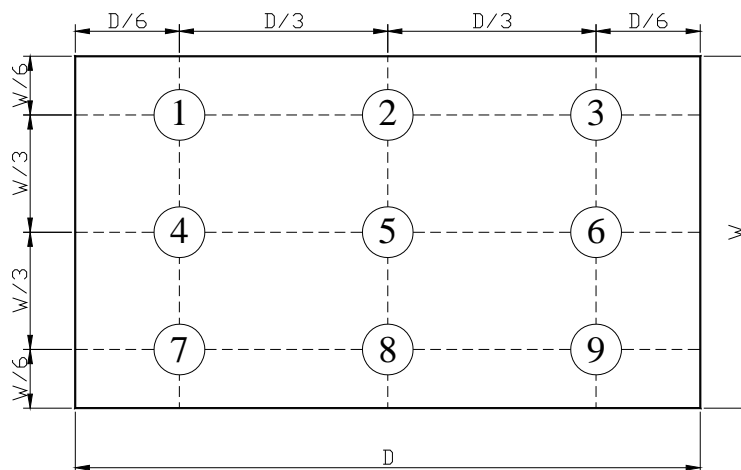
Note3: Definition of Contrast Ratio (CR):

$$CR = \frac{\text{Luminance with all pixels in white state}}{\text{Luminance with all pixels in Black state}}$$

Note4: Definition of Viewing Angle



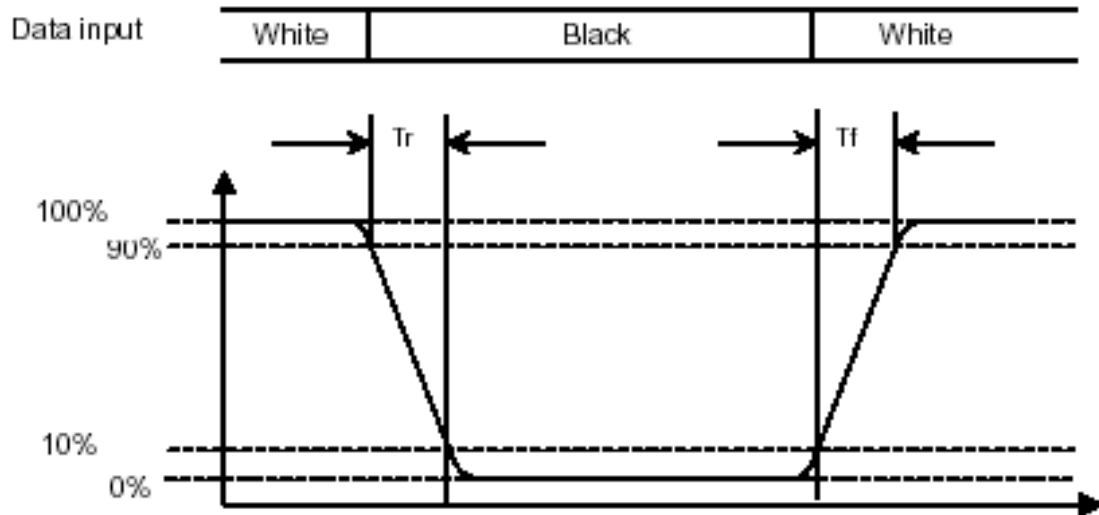
Note 5: Definition of Brightness Uniformity (B-uni):



$$B\text{-uni} = \frac{\text{Minimum luminance of 9 points}}{\text{Maximum luminance of 9 points}} \quad (\text{Note 5}).$$

Note6: Definition of Response Time:

The Response Time is set initially by defining the “Rising Time (T_r)” and the “Falling Time (T_f)” respectively. T_r and T_f are defined as following figure.

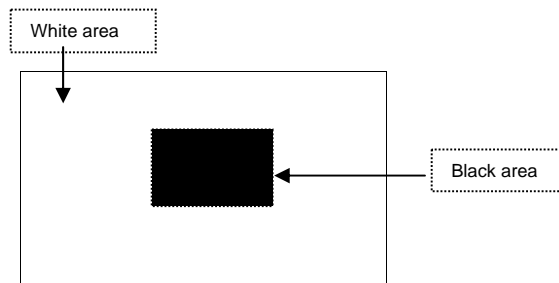

Note 7: Definition of Chromaticity:

The color coordinates (x_w, y_w) , (x_r, y_r) , (x_g, y_g) , and (x_b, y_b) are obtained with all pixels in the viewing field at white, red, green, and blue states, respectively.

Note 8: Definition of Image sticking (tis):

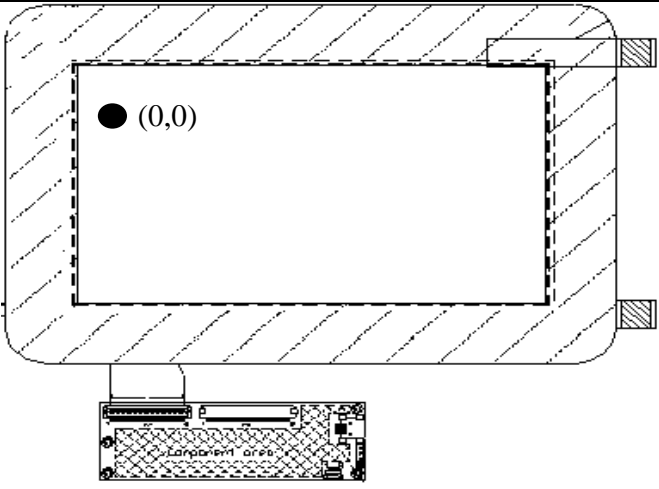
Continuously display the test pattern shown in the figure below for 2 hours. Then display a completely white screen. The previous image shall not persist more than 2 sec at 25 °C

Image sticking pattern



10. CTP INTERFACE AND DATA FORMAT

10.1 CTP General Specifications

Item	Specification	Unit
Type	Transparent type projected capacitive touch panel	
Input mode	Human's finger	
Multi touch	4	Point
Interface	USB	
(X,Y) Position		

10.2 CTP 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	

10.3 CTP DC 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

10.4 CTP 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

11. QUALITY ASSURANCE

11.1 Test Condition

11.1.1 Temperature and Humidity (Ambient Temperature)

Temperature : $25 \pm 5^{\circ}\text{C}$
 Humidity : $65 \pm 5\%$

11.1.2 Operation

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

11.1.3 Container

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

11.1.4 Test Frequency

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

11.1.5 Test Method

Reliability Test Item & Level		Test Level	Remark
No.	Test Item		
1.	High Temperature Storage Test	T= 80°C , 120hrs after 4 hrs at room temperature and test.	IEC68-2-2
2.	Low Temperature Storage Test	T= -30°C , 120hrs after 4 hrs at room temperature and test.	IEC68-2-1
3.	High Temperature Operation Test	T= 70°C , 120hrs after 4 hrs at room temperature and test.	IEC68-2-2
4.	Low Temperature Operation Test	T= -20°C , 120hrs after 4 hrs at room temperature and test.	IEC68-2-1
5.	High Temperature and High Humidity Operation Test	T= 60°C , 90%RH, 120hrs after 4 hrs at room temperature and test.	IEC68-2-3
6.	Thermal Cycling Test (No operation)	$-30^{\circ}\text{C} \rightarrow +25^{\circ}\text{C} \rightarrow +80^{\circ}\text{C}$, 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 : $\pm 15\text{KV}$ Indirect Contact Discharge : $\pm 8\text{KV}$	IEC61000-4-2

12. APPEARANCE SPECIFICATION

12.1 Inspection condition

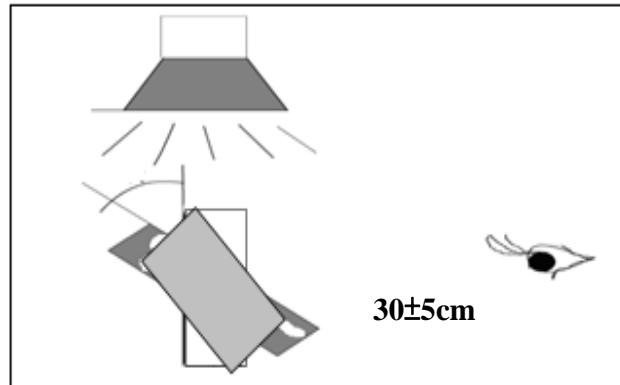
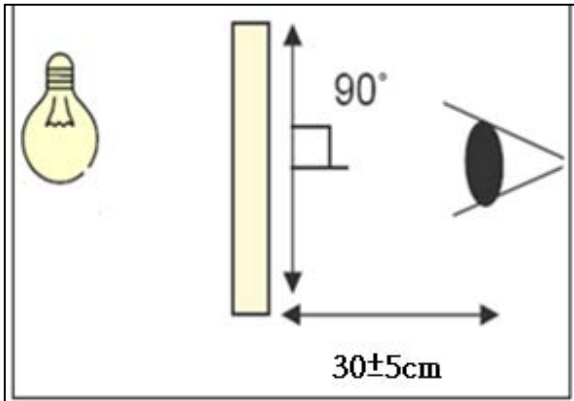
12.1.1 Inspection conditions

12.1.1.1 Inspection Distance : 30 ± 5 cm

12.1.1.2 View Angle :

(1) Inspection that light pervious to the product: $90 \pm 15^\circ$

(2) Inspection that light reflects on the product: $90 \pm 15^\circ$

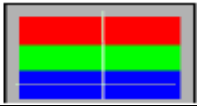



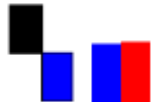
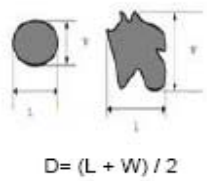
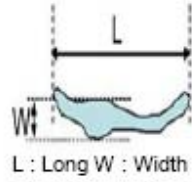
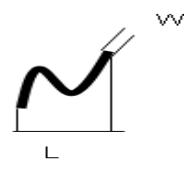
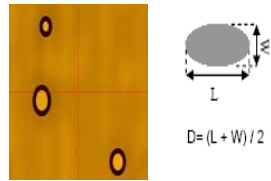
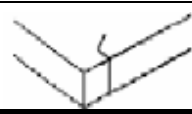
12.1.2 Environment conditions :

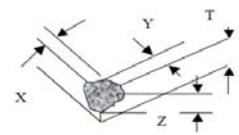
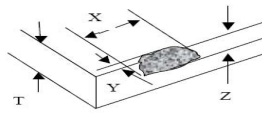
Ambient Temperature :	$25 \pm 5^\circ\text{C}$
Ambient Humidity :	30~75%RH
Ambient Illumination	600~800 lux

12.2 Inspection Parameters

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

Inspection item	Inspection standard	Description
No image	Prohibited	
Image abnormal	Prohibited	
Bright line	Prohibited	
Thin line	It is acceptable that the defect can not be seen with 10% ND filter.	
Mura	It is acceptable that the defect can not be seen with 2% ND filter.	

Dot	Item	Acceptable Visible area	Total	<p>One Dot </p> <p>Two adjacent dot </p>	
	Bright dot	3			6
	Dark dot	5			
	Bright adjacent dots	1	1		
	Dark adjacent dots	2	2		
	Adjacent dots with a bright dot and a dark dot	2	2		
Foreign material in dot shape	SPEC (unit: mm)		Acceptable	 <p>$D = (L + W) / 2$</p>	
	$D \leq 0.5$		Ignored		
	$0.5 < D \leq 0.8$, distance > 5		$n \leq 5$		
	$D > 0.8$		0		
Foreign material in line shape	SPEC		Acceptable	 <p>L : Long W : Width</p>	
	$W \leq 0.05$ and $L \leq 10$		Ignored		
	$0.05 < W \leq 0.1$, $L \leq 10$, distance > 5		$n \leq 5$		
	$W > 0.1$ or $L > 10$		0		
Contamination	It is acceptable if the dirt can be wiped.				
Scratch	SPEC		Acceptable		
	$W \leq 0.05$ and $L \leq 10$		Ignored		
	$0.05 < W \leq 0.08$, $L \leq 10$, distance > 5		$n \leq 5$		
	$0.08 < W \leq 0.1$, $L \leq 10$, distance > 5		$n \leq 3$		
	$W > 0.1$ or $L > 10$		0		
Bubble	SPEC (unit: mm)		Acceptable	 <p>$D = (L + W) / 2$</p>	
	$D \leq 0.3$		Ignored		
	Non visible area		Ignored		
	$0.3 < D \leq 0.5$, distance > 5		$n \leq 5$		
	$D > 0.5$		0		
Cover & Sensor Crack	Prohibited				

Cover angle missing	SPEC (unit: mm)	Acceptable	
	Side/Bottom	Ignored	
	It is prohibited if the defect appears on the front.	0	
Cover edge break	SPEC (unit: mm)	Acceptable	
	$X \leq 3.0, Y \leq 3.0, Z \leq T$	Ignored	
	$X > 3.0, Y > 3.0, Z > T$	0	
Inspection item	SPEC		Description
Ink	SPEC (unit: mm)	Acceptable	
	word unclear, inverted, mistake, break line	0	
Bubble under protection film	SPEC (unit: mm)	Acceptable	
	NA		
Function	Prohibited		

12.3 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

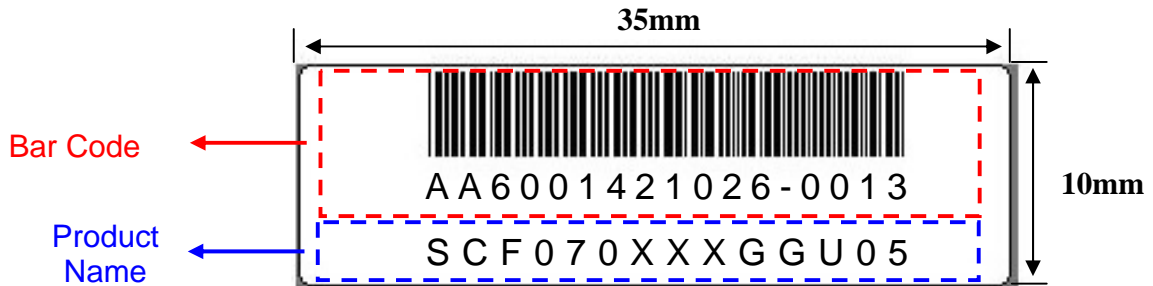
Sampling table: MIL-STD-105E

Inspection level: Level II

Class of defects	Definition		
	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.

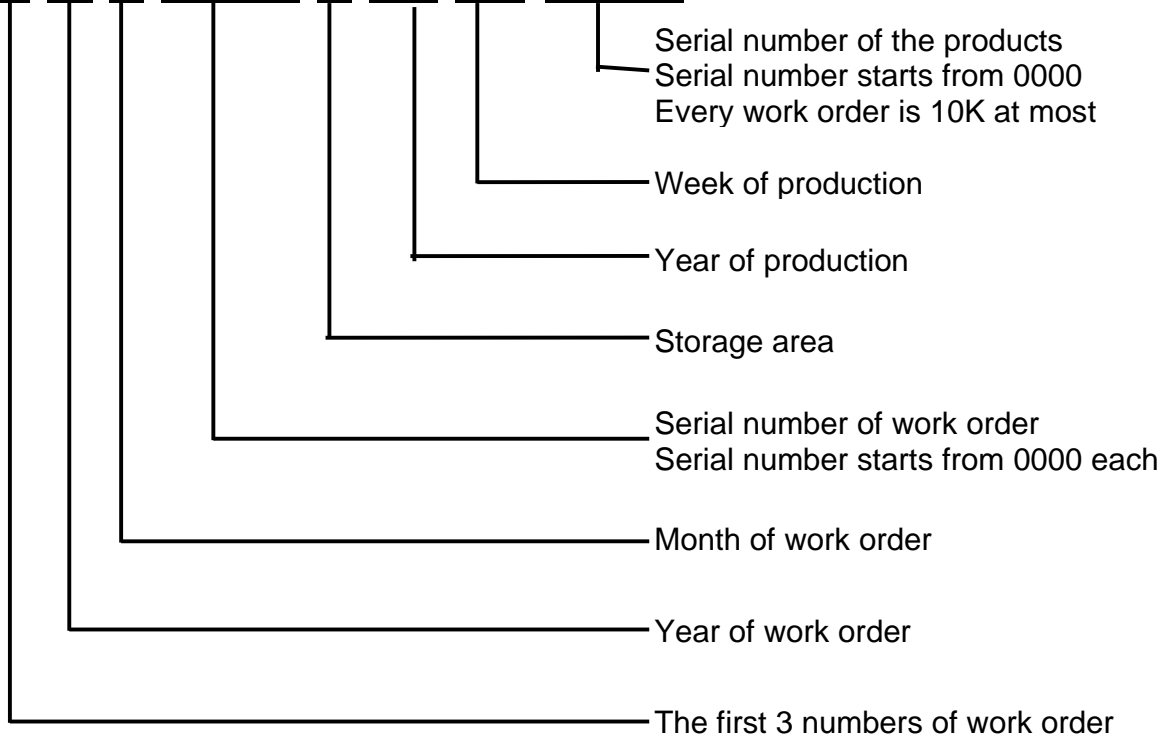
13. PRODUCT LABEL DEFINE

Product Label style:

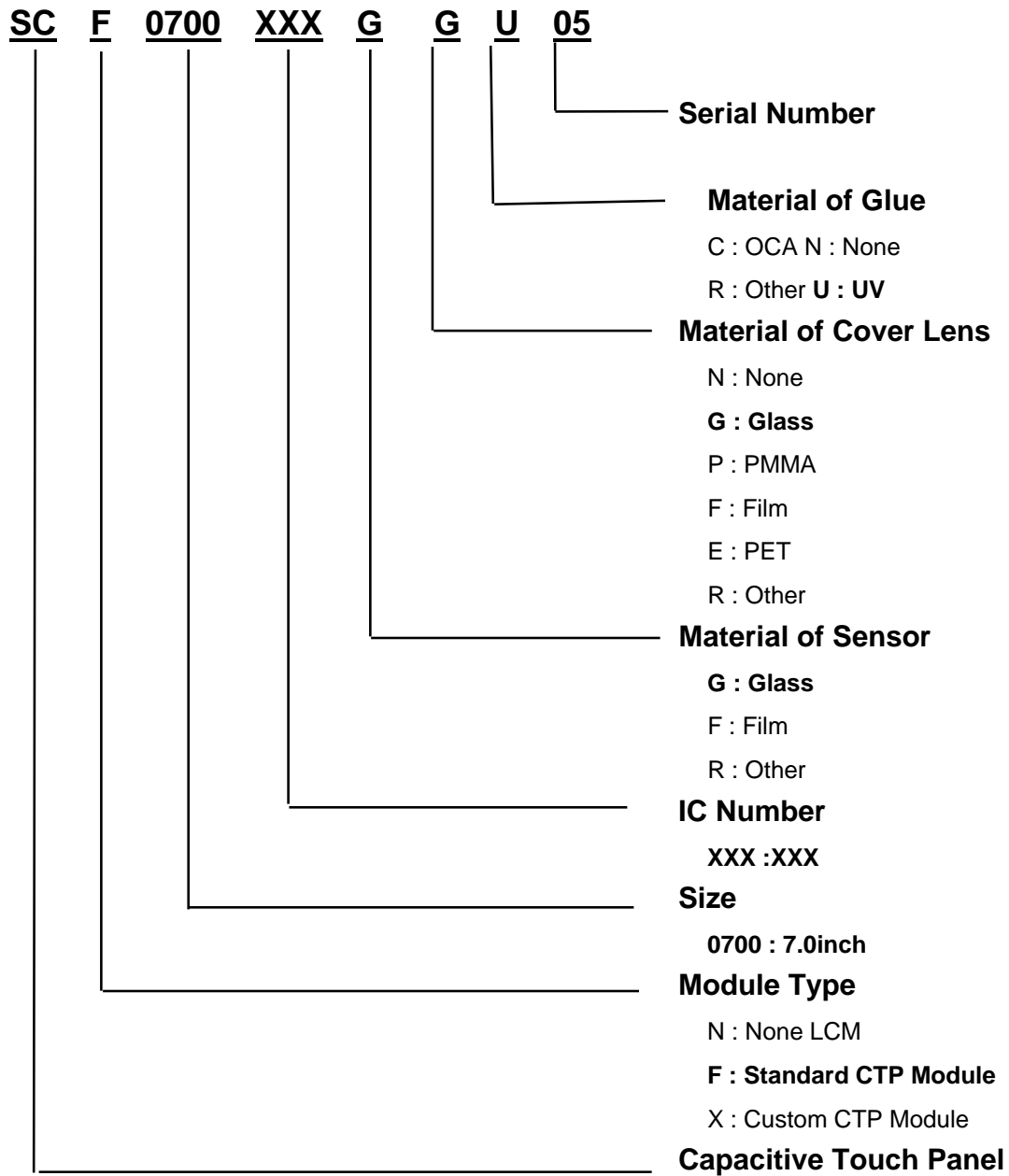


Bar Code Define:

A A 6 0014 2 10 26-0013



Product Name Define:



14. PRECAUTIONS IN USE LCM

1. ASSEMBLY PRECAUTIONS

- (1) You must mount a module using holes arranged in four corners or four sides.
- (2) You should consider the mounting structure so that uneven force (ex. Twisted stress) is not applied to the module. And the case on which a module is mounted should have sufficient strength so that external force is not transmitted directly to the module.
- (3) Do not touch, push or rub the exposed polarizers with glass, tweezers or anything harder than HB pencil lead. And please do not rub with dust clothes with chemical treatment.
- (4) Wipe off saliva or water drops as soon as possible. Their long time contact with polarizer causes deformations and color fading.
- (5) Do not open the case because inside circuits do not have sufficient strength.
- (6) Please do not take a LCD module to pieces and reconstruct it. Resolving and reconstructing modules may cause them not to work well.
- (7) Please do not touch metal frames with bare hands and soiled gloves. A color change of the metal frames can happen during a long preservation of soiled LCD modules.
- (8) Please pay attention to handling lead wire of backlight so that it is not tugged in connecting with inverter.

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 LCD module. They are adjusted to the most suitable value. If they are changed, it might happen LCD does not satisfy the characteristics specification
- (3) Be careful for condensation at sudden temperature change. Condensation makes damage to polarizer or electrical contacted parts. And after fading condensation, smear or spot will occur.
- (4) When fixed patterns are displayed for a long time, remnant image is likely to occur.
- (5) Module 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.
- (6) Please consider that LCD backlight takes longer time to become stable of radiation characteristics in low temperature than in room temperature.

3. ELECTROSTATIC DISCHARGE CONTROL

- (1) The operator should be grounded whenever he/she comes into contact with the module. Never touch any of the conductive parts such the copper leads on the PCB and the interface terminals with any

parts of the human body.

- (2) The modules 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 commutator 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 LCDs 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 the LCDs in the environment of high humidity and high temperature such as 60°C 90%RH
- (3) Please do not leave the LCDs in the environment of low temperature; below -20°C.

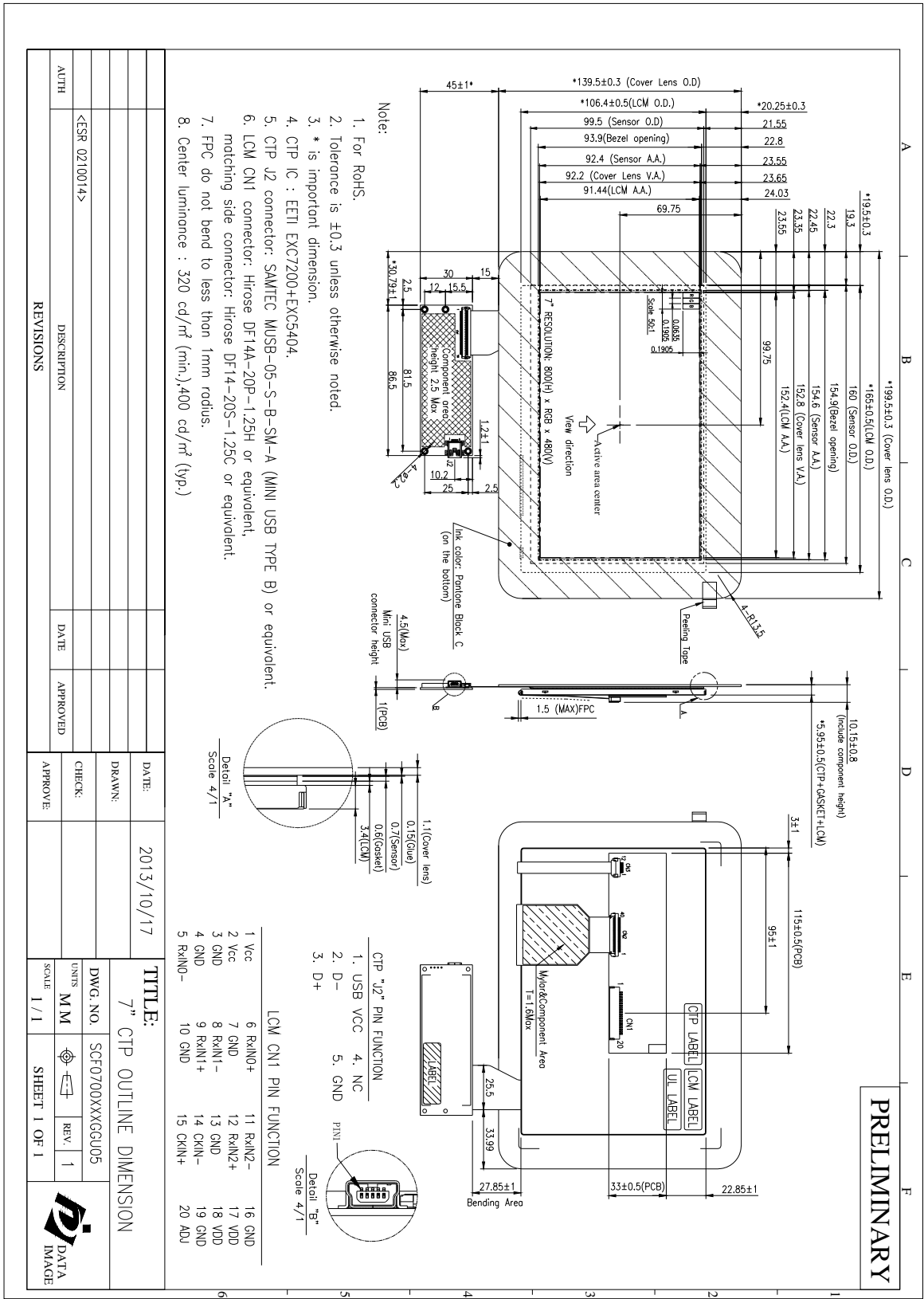
5. OTHERS

- (1) A strong incident light into LCD panel might cause display characteristics' changing inferior because of polarizer film, color filter, and other materials becoming inferior. Please do not expose LCD module direct sunlight and strong UV rays
- (2) Please pay attention to a panel side of LCD module not to contact with other materials in preserving it alone.
- (3) For the packaging box, please pay attention to the followings:
- (4) Please do not pile them up more than 5 boxes. (They are not designed so.) And please do not turn over.
- (5) Please handle packaging box with care not to give them sudden shock and vibrations. And also please do not throw them up.
- (6) Packing box and inner case for LCDs 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 LCD and LCM 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 be responsible for any subsequent or consequential events.

15. OUTLINE DRAWING



REV. NO.	DESCRIPTION	DATE	APPROVED	APPROVE
<ESR 0210014>				

DATE:	2013/10/17
DRAWN:	
CHECK:	
SCALE:	1 / 1

DWG. NO.	SCF0700XXXXGGU05
UNITS:	MM
REV.	1
SHEET	1 OF 1



16. PACKAGE INFORMATION

TBD