HY-LINE®
COMPUTER COMPONENTS

TFT-Display Datenblatt

Modell FG0500A0DSSWBGT1

Kurzdaten

Hersteller	Data Image
Diagonale	5“ / 12,7 cm
Format	wide
Auflösung	800 x 480
Backlight	LED / 320 cd/m²
Interface	RGB
Touchscreen	resistive
Temperatur	-20… +70°C (Betrieb)

HY-LINE Computer Components Vertriebs GmbH
Inselkammerstr. 10, 82008 Unterhaching bei München
Tel.: +49 89 614 503 40 || Fax: +49 89 614 503 50

DATA IMAGE

Confidential Document

DATA IMAGE CORPORATION

TFT Module Specification

ITEM NO.: FG0500A0DSSWBGT1

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2. RECORD OF REVISION

Rev	Date	Item	Page	Comment
1	21/JUL/10’			Initial PRELIMINARY
A	21/JUL/11’	3 13 14	3 17 18	1.Modify GENERAL SPECIFICATIONS 2.Modify OUTLINE DRAWING from Rev:1 to 2 to A 3.Modify PACKAGE INFORMATION Release REV.A for production
B	2/NOV/11’	3	3	Modify GENERAL SPECIFICATIONS
C	26/JAN/13’	3 9 10 11 13 14	3 12 13 16 19 20	1.Modify GENERAL SPECIFICATIONS 2.Modify TOUCH PANEL CHARACTERISTICS 3.Modify APPEARANCE SPECIFICATION 4.Modify QUALITY ASSURANCE 5.Modify PRECAUTIONS IN USE LCM 6.Modify OUTLINE DRAWING from Rev: A to B

3. GENERAL SPECIFICATIONS

No.	Item		Specification	Unit
1	LCD size		5 (Diagonal)	inch
2	Outline Dimension		118.5 × 77.55 × 4.56(Typ.)	mm
3	Display Area		108 (H) × 64.8(V)	mm
4	Number of Pixel		800(H) × (RGB) × 480 (V)	pixels
5	Pixel pitch		0.135x0.135	mm
6	Pixel Configuration		RGB Vertical stripe	
7	Display mode		TN With Normally white	
8	TP Surface treatment		Antiglare Hard-Coating(3H)	
9	Weight		85	g
10	Back-light		LED Side-light type	
11	Power Consumption	Logic System	0.7(Max.)	W
		B/L System	0.98(Max.)	W

Remark：Our components and processes are compliant to RoHS standard.

4. ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	MIN.	MAX.	Unit	Remark
Power supply voltage	VDD	-0.5	5.0	V	GND = 0V
Input signal voltage	Logic input	-0.3	VDD+0.3	V	
Operating temperature	Topa	-20	70	℃	
Storage temperature	T stg	-30	80	℃	

5. ELECTRICAL CHARACTERISTICS

5.1 Typical operation conditions

Ta= 25℃

Parameter	Symbol	MIN.	Typ.	MAX.	Unit	Remark
Power Supply voltage	V_{DD}	3.0	3.3	3.6	V	
Input signal voltage	V_{IH}	0.7*VDD	--	VDD	V	Note 1
	V_{IL}	GND	--	0.3*VDD	V	
Current of Power Supply	I_{DD}	--	--	220	mA	V_{DD} =3.3V

Note

(1): HSYNC,VSYNC,DE,R/G/B Data

(2): GND = 0V

5.2 Backlight Unit

The backlight system is an edge-lighting type with 14 LED

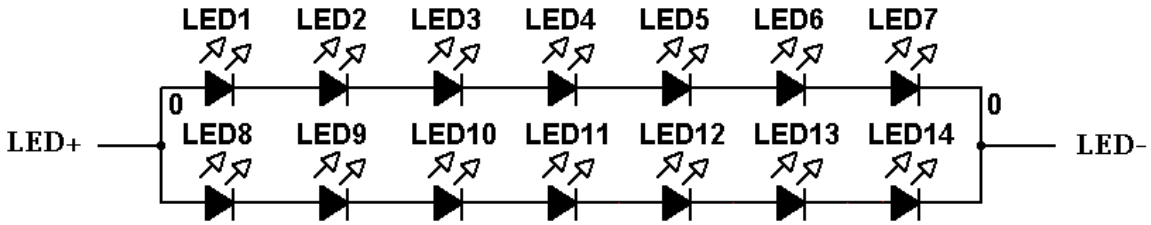
The characteristics of the LED are shown in the following tables.

Ta= 25 ℃

Parameter	Symbol	Min	Typ.	Max.	Unit	Remark
LED voltage	V_L	--	23.1	--	V	
LED current	I_L	--	40	--	mA	Note(2)
Operating LED Life Time		10000	--	--	Hour	Note(1)(2)

Note 1: LED life time (Hr) can be defined as the time in which it continues to operate under the condition : Ta = 25±3℃ , typical IL value indicated in the above table until the brightness becomes les than 50%.

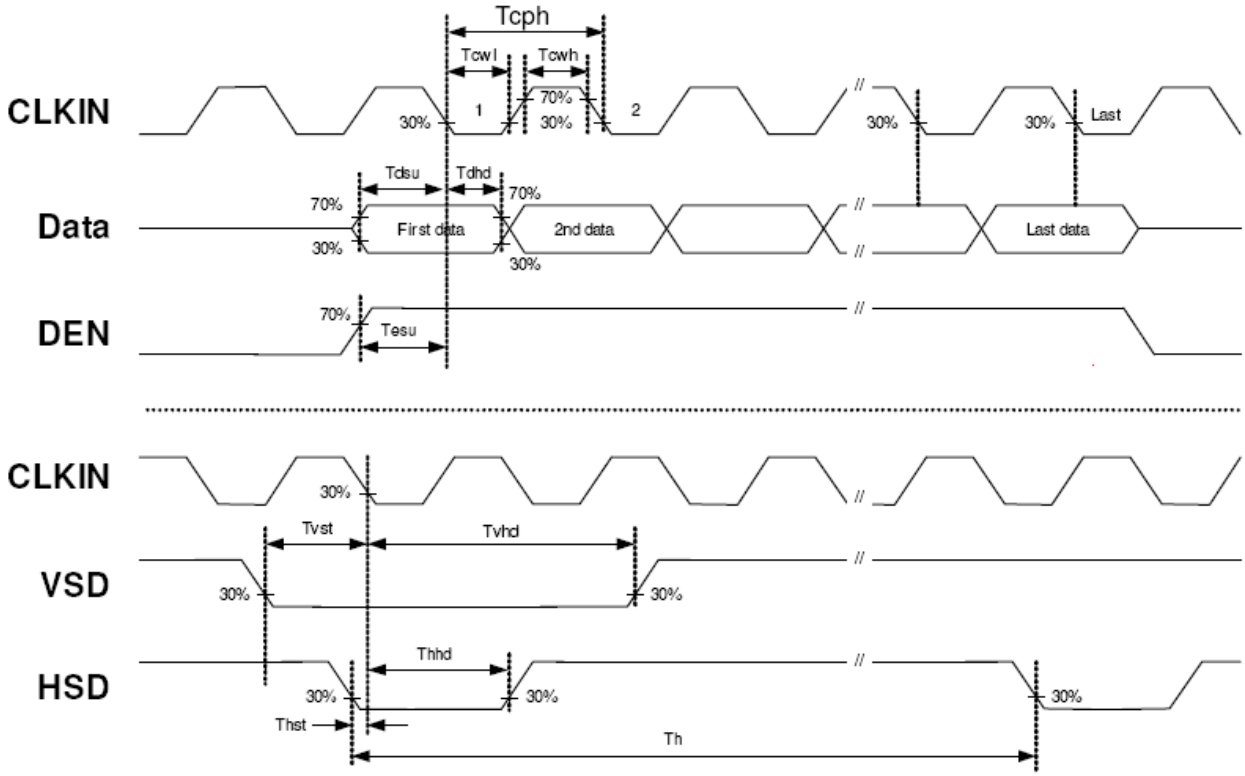
Note 2: The “LED life time” is defined as the module brightness decrease to 50% original brightness at Ta=25°Cand IL=40mA. The LED lifetime could be decreased if operating IL is larger than 40mA. The constant current driving method is suggested.



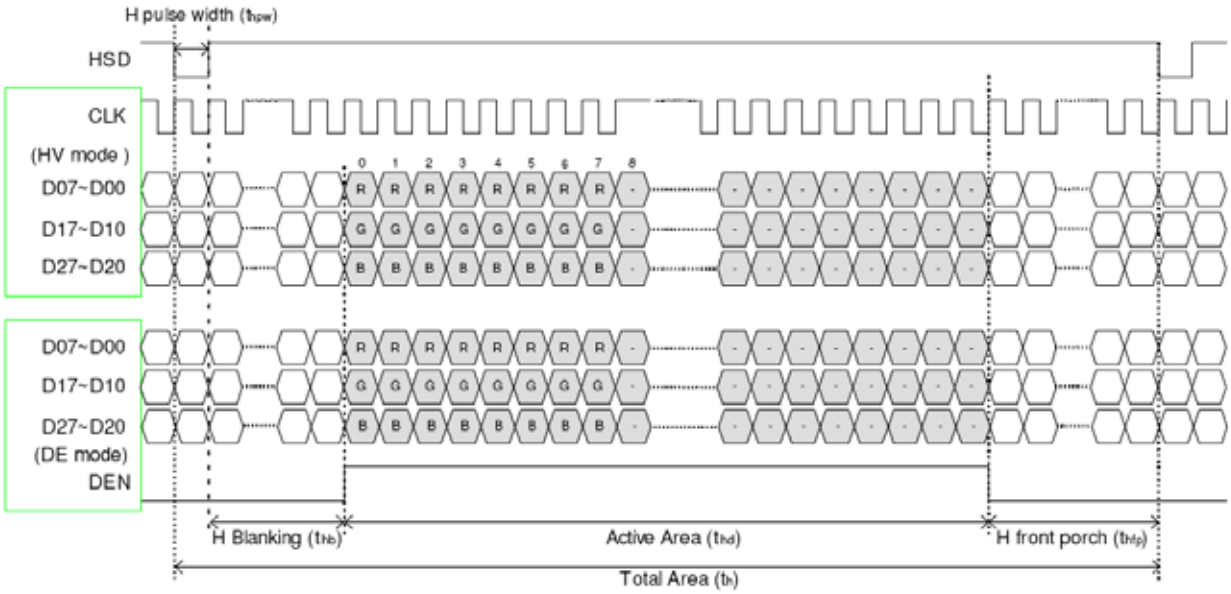
6. Timing Characteristics

Item	Symbol	Min.	Typ.	Max.	Unit	Note
DCLK cycle time	Tclk	25			ns	
DCLK frequency	fclk		33	40	MHz	
DCLK pulse duty	Tcwh	40	50	60	%	
VSYNC setup time	Tvst	8			ns	
VSYNC hold time	Tvhd	8			ns	
HSYNC setup time	Thst	8			ns	
HSYNC hold time	Thhd	8			ns	
Data setup time	Tdasu	8			ns	
Data hold time	Tdahd	8			ns	
DE setup time	Tdesu	8			ns	
DE hold time	Tdehd	8			ns	
Horizontal display area	Thd		800		Tcph	
HSYNC period time	Th		928		Tcph	
HSYNC width	Thwh	1	48		Tcph	
HSYNC back porch	Thbp		40		Tcph	
HSYNC front porch	Thfp		40		Tcph	
Vertical display area	Tvd		480		th	

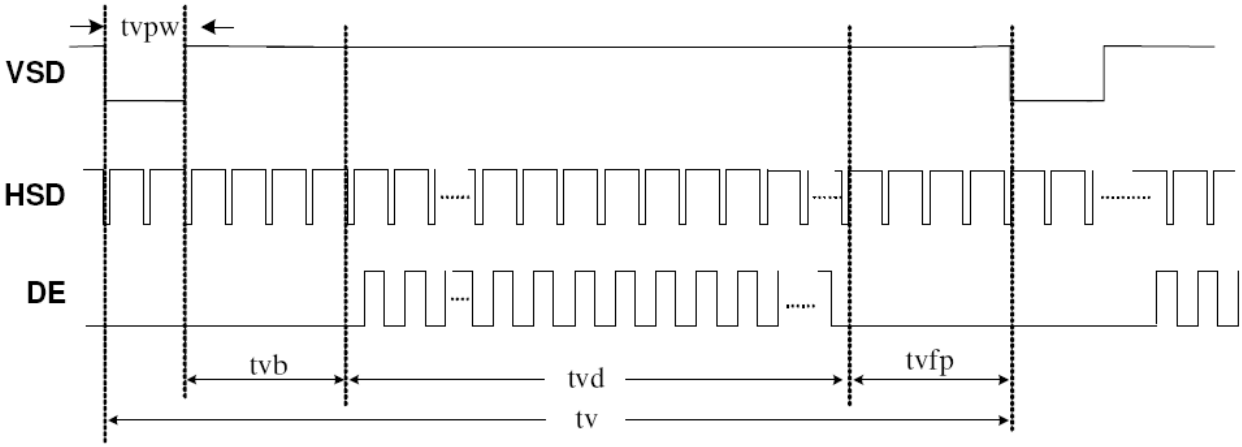
VSYNC period time	Tv		525		th	
VSYNC width	Tvwh		3		th	
VSYNC back porch	Tvbp		29		th	
VSYNC front porch	Tvfp		13		th	



Sampling clock timing



Horizontal display timing range



Vertical timing

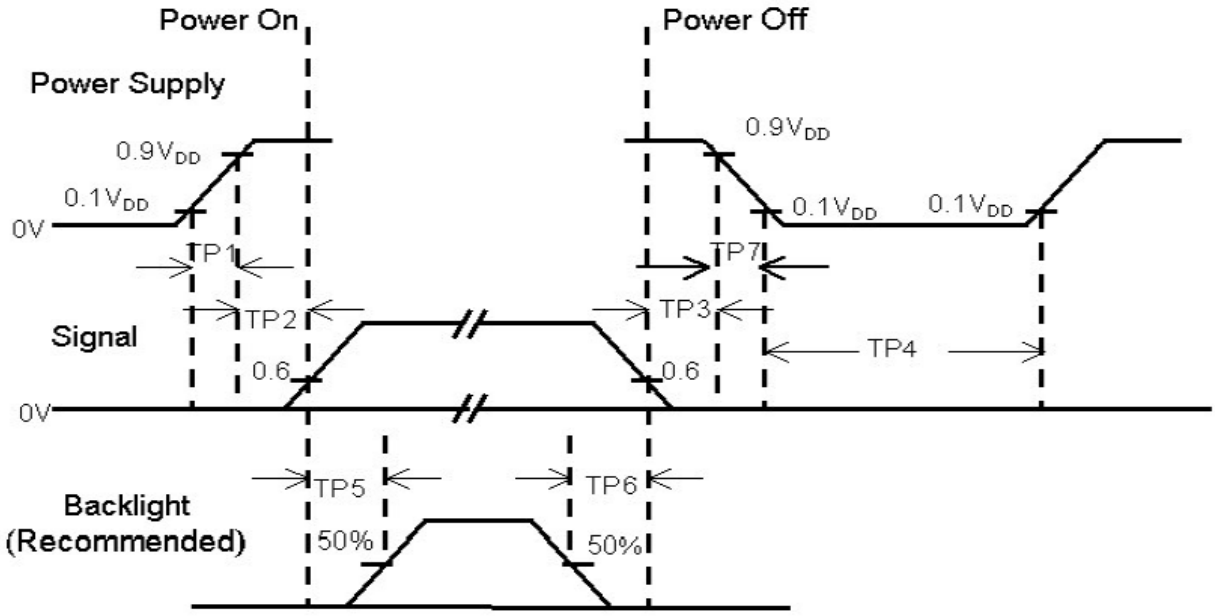
7. PIN CONNECTIONS

7.1 Input Pins Function

Pin No.	Symbol	I/O	Function	Remark
1	VLED-	P	Power for LED backlight cathode	
2	VLED+	P	Power for LED backlight anode	
3	GND	P	Power ground	
4	VDD	P	Power voltage	
5	R0	I	Red data (LSB)	
6	R1	I	Red data	
7	R2	I	Red data	
8	R3	I	Red data	
9	R4	I	Red data	
10	R5	I	Red data	
11	R6	I	Red data	
12	R7	I	Red data (MSB)	
13	G0	I	Green data (LSB)	
14	G1	I	Green data	
15	G2	I	Green data	
16	G3	I	Green data	
17	G4	I	Green data	
18	G5	I	Green data	
19	G6	I	Green data	
20	G7	I	Green data (MSB)	
21	B0	I	Blue data (LSB)	
22	B1	I	Blue data	
23	B2	I	Blue data	
24	B3	I	Blue data	
25	B4	I	Blue data	
26	B5	I	Blue data	
27	B6	I	Blue data	
28	B7	I	Blue data (MSB)	
29	DGND	P	Digital ground	
30	DCLK	I	Pixel clock	
31	DISP	I	Display on/off	
32	HSYNC	I	Horizontal synchronous signal	
33	VSYNC	I	Vertical synchronous signal	
34	DE	I	Data Enable	
35	NC	-	No Connector	
36	GND	P	Power ground	
37	X1	I/O	RIGHT Electrode – differential analog	
38	Y1	I/O	Bottom Electrode – differential analog	
39	X2	I/O	Left Electrode – differential analog	
40	Y2	I/O	Top Electrode – differential analog	

I/O:I: input, O: output, P: Power

7.2 Power Sequence



Item	Min.	Typ.	Max.	Unit	Remark
TP1	0.5	--	10	msec	
TP2	0	--	50	msec	
TP3	0	--	50	msec	
TP4	1000	--	--	msec	
TP5	200	--	--	msec	
TP6	200	--	--	msec	
TP7	0.5	--	10	msec	

Note (1) The supply voltage of the external system for the module input should be the same as the definition of V_{DD}.
(2) Apply the lamp volatge within the LCD operation range. When the back-light turns on before the LCD operation or the LCD truns off before the back-light turns off, the display may momentarily become white.
(3) In case of VDD = off level, please keep the level of input signal on the low or keep a high impedance.
(4) TP4 should be measured after the module has been fully discharged between power off and on period.
(5) Interface signal shall not be kept at high impedance when the power is on.

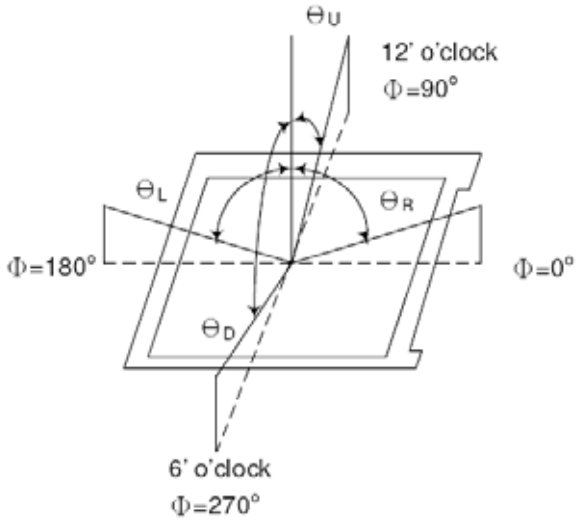
8. OPTICAL CHARACTERISTIC

8-1. Specification:

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
Response time	Rise	TON	Normal θ=Φ=0°	-	2	4	ms	Note1、 3
	Fall	TOFF		-	6	12	ms	
Contrast ratio		CR		480	600			Note 1、2
Viewing angle	θ L	Φ=180°(9 o ' clock)		65	75	-	Deg.	Note 1、4
	θ R	Φ=0°(3 o ' clock)		65	75	-		
	θ U	Φ=90°(12 o ' clock)		50	60	-		
	θ D	Φ=270°(6 o ' clock)		60	70	-		
Brightness (Center)			Normal θ=Φ=0°	260	320	--	cd/m²	Note1、4、6 IL = 40mA
Uniformity				70	--	--	%	Note 5,6
Color chromaticity (CIE1931)	White	X		0.26	0.31	0.36		
		y		0.28	0.33	0.38		

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°C±2°C and LED Backlight Current IL=40mA. The measurement method is shown in Note1.

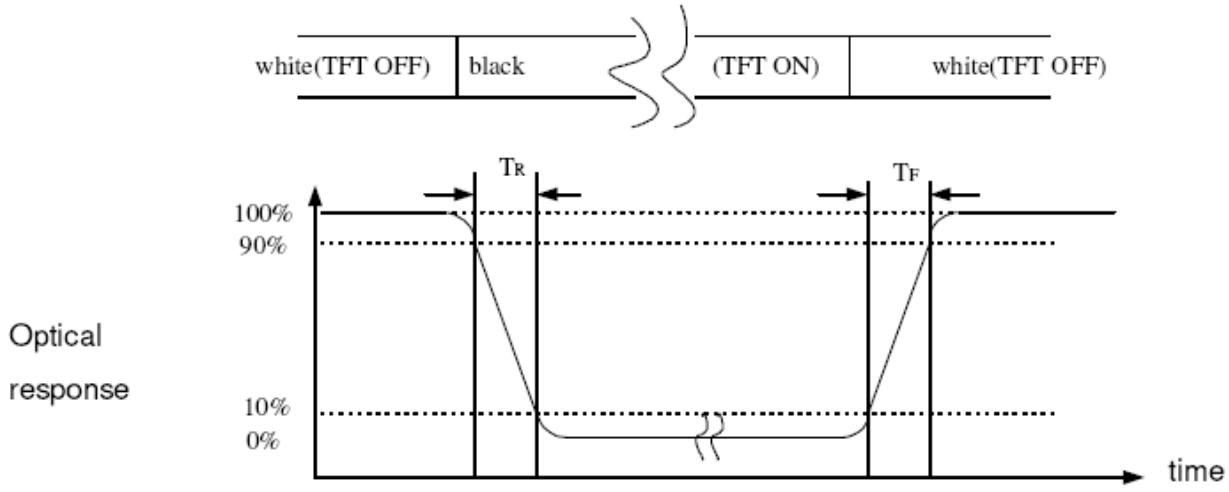
Note (1): Definition of viewing angle range



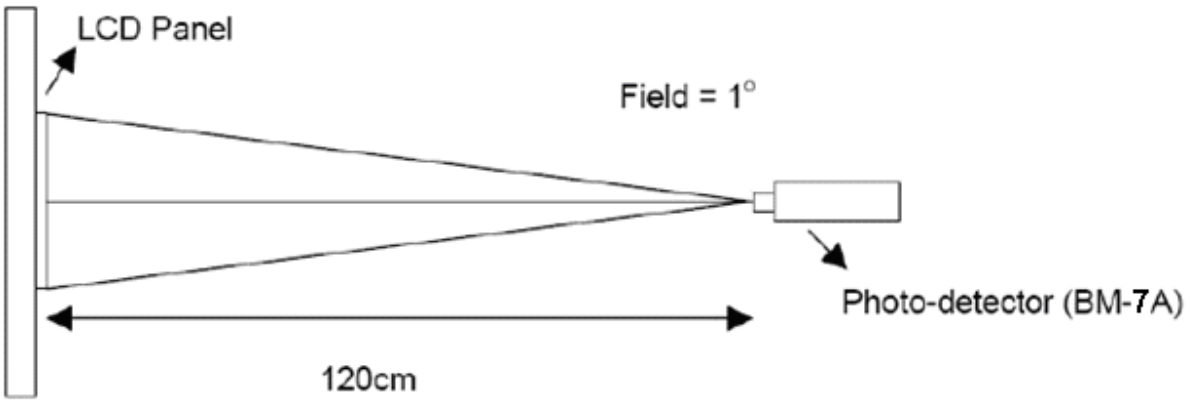
Note (2) Definition of Contrast Ratio (CR):
Measured at the center point of panel

$$CR = \frac{\text{Luminance with all pixels white}}{\text{Luminance with all pixels black}}$$

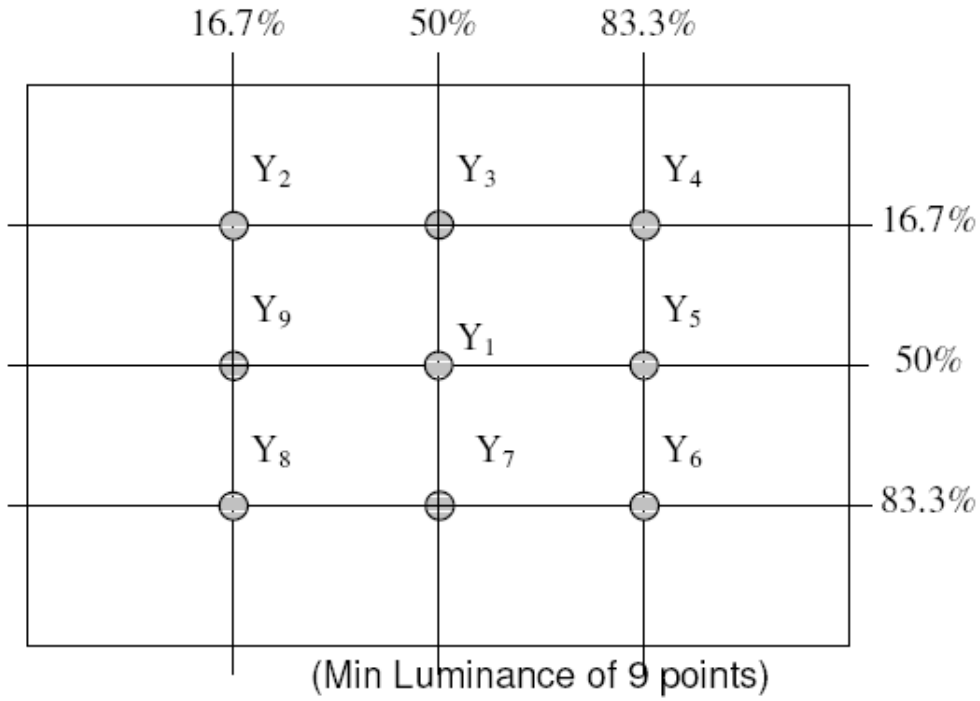
Note (3) Definition of Response Time: Sum of TOFF and TON



Note (4) Definition of optical measurement setup



Note (5) Definition of brightness uniformity



$$\text{Luminance uniformity} = \frac{\text{(Min Luminance of 9 points)}}{\text{(Max Luminance of 9 points)}} \times 100\%$$

Note (6) Measured at the brightness of the panel when all terminals of LCD panel are electrically open.

9. TOUCH PANEL CHARACTERISTICS

1.Input Method and Activation Force

Input Method	Average Activation Force
0.8mm dia. Delrin stylus	80gf max.
8mm dia .Silicon “finger”	80gf max.

2.Typical Optical Characteristics

ITEM	Parameter
Visible Light Transmission	80% typ.

3. Electrical Specification

ITEM		Parameter
Operating Voltage		DC 7V Max.
Contact current		According to individual design
Circuit close resistance	X	400Ω~1400Ω
	Y	100Ω~600Ω
Circuit open resistance		≥20MΩ at DC25V
Contact bounce		10ms Max.

4.Linearity

ITEM		Parameter
Linear Test Specification Direction	X	<1.5%
	Y	<1.5%

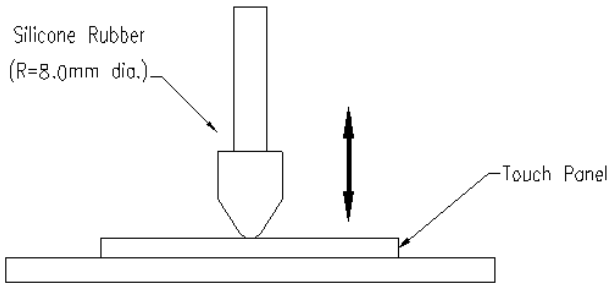
5.Specification

ITEM	Parameter
Operating Temperature	-20°C~+70°C
Storage Temperature	-30°C~+80°C

6.Durability test:

6.1 Touch panel is hit 1 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:

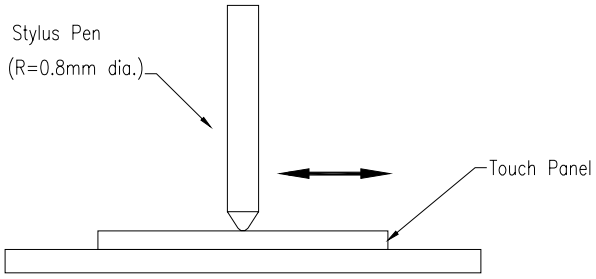
- Circuit close resistance: X=400Ω~1400Ω ; Y=100Ω~600Ω
- Circuit open resistance: ≥20MΩ at DC25V
- Contact bounce: <10ms
- Linearity test: <1.5%



6.2 Stylus writing

Touch panel is drawn by R0.8 Delrin stylus pen, at 250g forces, 60 mm/sec. by 100k times. The measurement must satisfy the following:

- Circuit close resistance: X=400Ω~1400Ω ; Y=100Ω~600Ω
- Circuit open resistance: ≥20MΩ at DC25V
- Contact bounce: <10ms
- Linearity test: <1.5%



10 APPEARANCE SPECIFICATION

10.1 Inspection condition

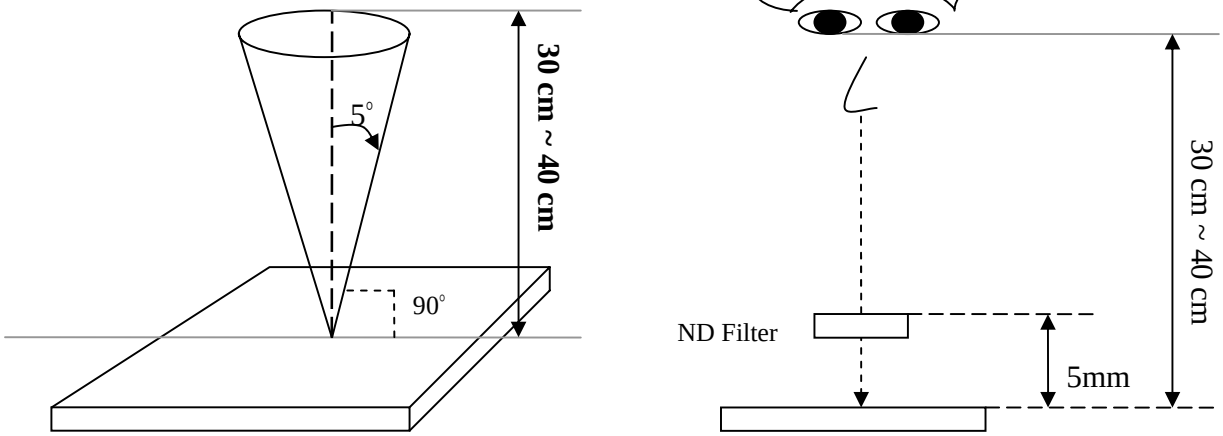
10.1.1 Inspection conditions

10.1.1.1 Inspection Distance : 35 ± 5 cm

10.1.1.2 View Angle :

(1) Inspection under operating condition : ±5°

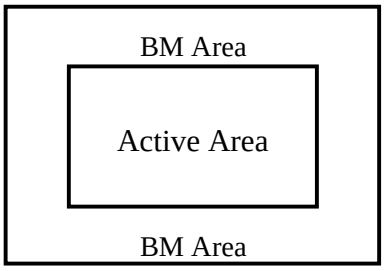
(2) Inspection under non-operating condition : ± 45°



10.1.2 Environment conditions :

Ambient Temperature :		25±5°C
Ambient Humidity :		65±5%
Ambient Illumination	Cosmetic Inspection	More than 600lux
	Functional Inspection	300 ~ 800lux

10.1.3 Definition of applicable Zones



10.1.4 Inspection Parameters

<table>
<tr><th>No.</th><th>Parameter</th><th>Criteria</th></tr>
<tr><td rowspan="5">1</td><td rowspan="5">Operating</td><td>Display function: No Display malfunction (Major)</td></tr>
<tr><td>Line Defect: No obvious Vertical and Horizontal line defect in bright, dark and colored. (Major) (Note:1)</td></tr>
<tr><td>Point Defect (Red, green, blue, dark): Active area ≤ 5dots (Minor) (Note:1)
<table>
<tr><th rowspan="2">Item</th><th colspan="2">Acceptable number</th><th rowspan="2">Total</th></tr>
<tr><th>A</th><th>B</th></tr>
<tr><td>Bright</td><td>0</td><td>2</td><td rowspan="3">5</td></tr>
<tr><td>Dark</td><td>2</td><td>4</td></tr>
<tr><td>Total</td><td>2</td><td>4</td></tr>
</table></td></tr>
<tr><td>Non-uniformity: Visible through 6%ND filter. (Minor)</td></tr>
<tr><td>Foreign material in Black or White spots shape (W>1/4L)
<table>
<tr><th>Zone / Dimension</th><th>Acceptable number</th><th>Class Of Defects</th><th>AQL Level</th></tr>
<tr><td>D> 0.5</td><td>0</td><td rowspan="3">Minor</td><td rowspan="3">1.5</td></tr>
<tr><td>0.3 ≤ D ≤ 0.5</td><td>5</td></tr>
<tr><td>D ≤ 0.3</td><td>*</td></tr>
</table>
D = (Long + Short) / 2 ＊ : Disregard</td></tr>
<tr><td>Foreign Material in Line or spiral shape (W≤1/4L) (Note: 4)
<table>
<tr><th>L (mm) / Zone W(mm)</th><th>Acceptable number</th><th>Class Of Defects</th><th>AQL Level</th></tr>
<tr><td>L >2</td><td>W>0.1</td><td>0</td><td rowspan="3">Minor</td><td rowspan="3">1.5</td></tr>
<tr><td>0.5 < L ≤ 2</td><td>0.05< W≤0.1</td><td>5</td></tr>
<tr><td>L ≤0.5</td><td>W≤0.05</td><td>*</td></tr>
</table>
L : Length W : Width ＊ : Disregard</td></tr>
<tr><td rowspan="3">2</td><td rowspan="3">External Inspection (non-operating)</td><td>Dimension: Outline (Major)</td></tr>
<tr><td>Bezel appearance: uneven (Minor)</td></tr>
<tr><td>Scratch on the polarize: (Note:2)
<table>
<tr><th>W (mm) / L(mm)</th><th>Acceptable number</th><th>Class Of Defects</th><th>AQL Level</th></tr>
<tr><td>W> 0.1</td><td>L≤1.5</td><td>0</td><td rowspan="2">Minor</td><td rowspan="2">1.5</td></tr>
<tr><td>W≤ 0.1</td><td>L≤2</td><td>4</td></tr>
</table>
L : Length W : Width ＊ : Disregard
Dent or bubble on the polarize (Note:2)
<table>
<tr><th>Zone / Dimension</th><th>Acceptable number</th><th>Class Of Defects</th><th>AQL Level</th></tr>
<tr><td>D≤0.05</td><td>*</td><td rowspan="2">Minor</td><td>1.5</td></tr>
<tr><td>D≤0.3</td><td>3</td><td></td></tr>
</table>
D = (Long + Short) / 2 ＊ : Disregard</td></tr>
</table>

Class of defects	**Major**	AQL 0.65%	**Definition** 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.

Note:1.(a)Bright point defect is defined as point defect of R,G,B with area >1/2 pixel respectively

(b)Dark point defect is defined as visible in full white pattern.

(c)Definition of distribution of point defect is as follows:

-minumum separation between dark point defects should be larger than 5mm.

-minumum separation between bright point defects should be larger than 5mm.

(d)Definition of joined bright point defect and joined dark point defect are as follows:

-Two or more joined bright point defects must be nil.

-Three joined dark point defects must be nil.

-Coupling of one dark and one bright point in junction is counted as one dark and bright spot with 1 pair maxmum.

-Two Joined dark point is counted as two dark point with 2 pair maxmum.

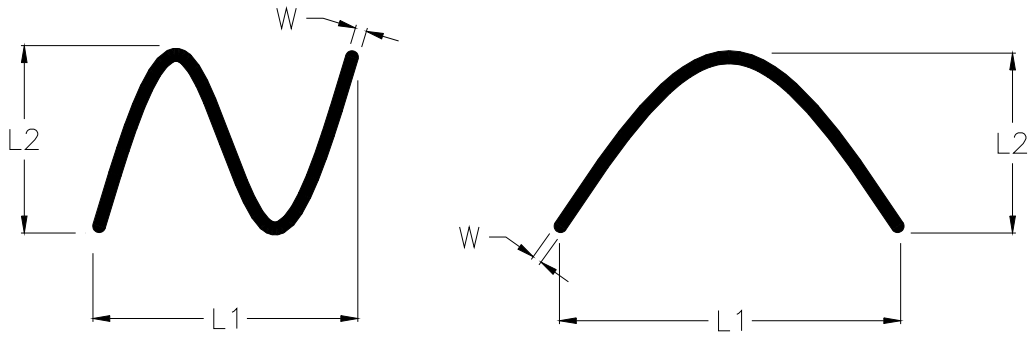
(e) Lin defect is defined as visible by using 10% ND filter.

Note:2 The external inspection should be conducted at the distance 30± 5cm between the eyes of inspctor and the panel .

Note:3 Luminance measurement for contrast ratio is at the distance 50± 5cm between the detective head and the panel

with ambient illuminance less than 1 lux. Contrast ratio is obtained at optimum view angle.

Note:4 W-Width in mm , L-length of Max.(L1,L2) in mm.



10.2 Sampling Condition

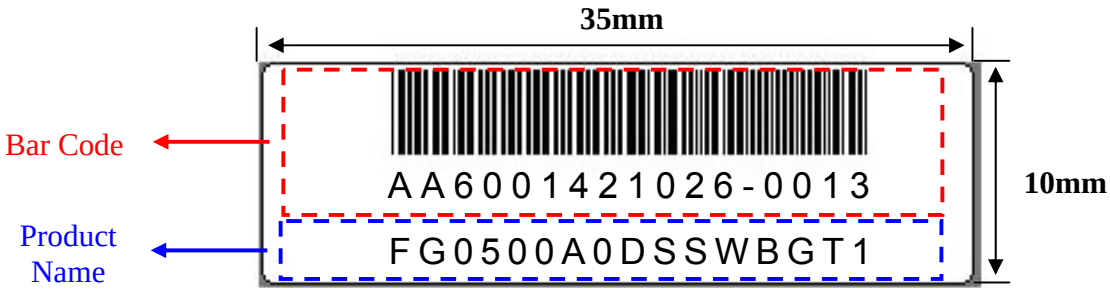
Unless otherwise agree in written, the sampling inspection shall be applied to the incoming inspection of customer.
Lot size: Quantity of shipment lot per model.
Sampling type: normal inspection, single sampling
Sampling table: MIL-STD-105E
Inspection level: Level II

11. QUALITY ASSURANCE

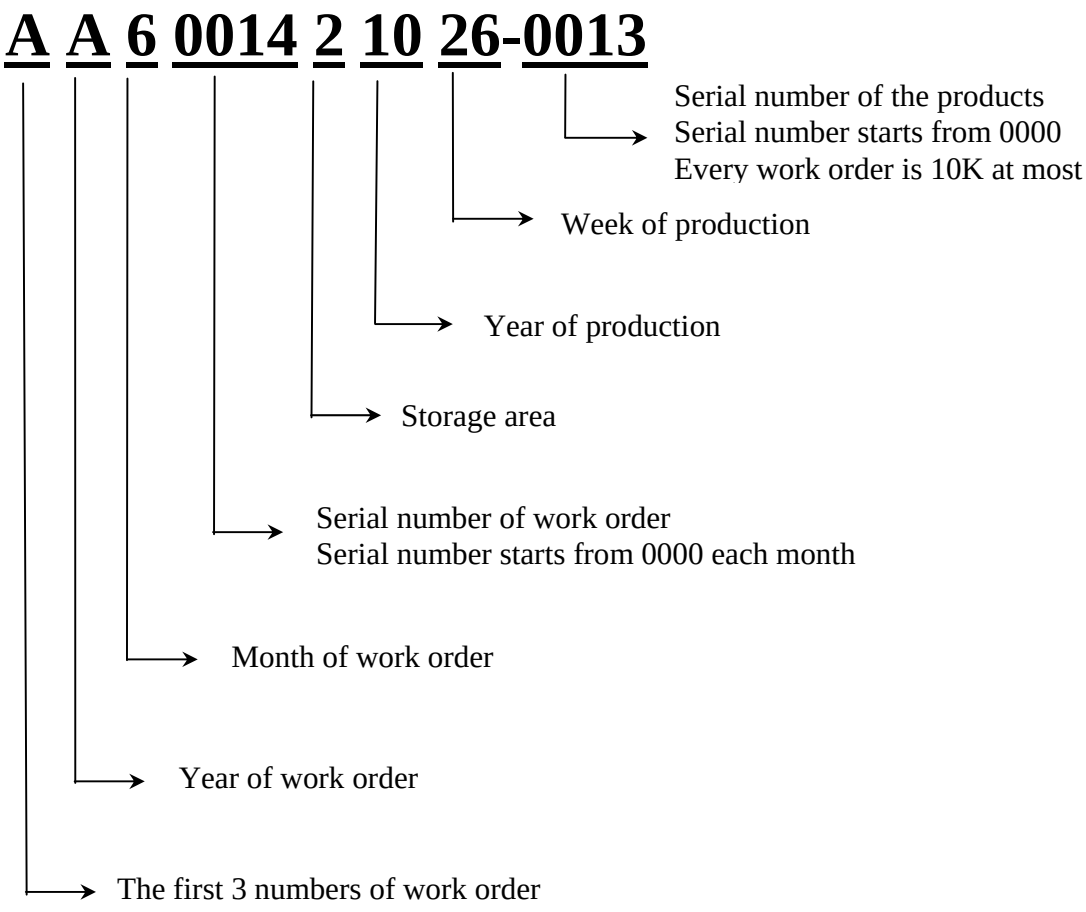
No.	Item	Test Conditions	Remark
1	High Temperature Storage	Ta = 80 ℃ 240 hrs	IEC68-2-2
2	Low Temperature Storage	Ta = -30℃ 240hrs	IEC68-2-1
3	High Temperature Operation	Ta = 70℃ 240hrs	IEC68-2-2
4	Low Temperature Operation	Ta = -20℃ 240hrs	IEC68-2-1
5	Operate at High Temperature and Humidity	+60℃ , 90%RH 240 hrs	IEC68-2-3
6	Thermal Cycling Test (non operation)	-30℃(30 min) → + 80℃(30 min), 200 cycles	IEC68-2-14
7	Vibration Test	1 Random: 1.04Grrms,5~500HZ, X/Y/X 30min/each direction 2 Sine: Freq. Range:8~33.3Hz Stoke:1.3mm Sweep:2.9G,33.3~400Hz X/Z:2hr,Y:4hr cyc:15min	IEC68-2-6
8	Mechanical Shock	100G 6ms,±X, ±Y, ±Z 3 times for each direction	IEC68-2-27
9	Vibration Test(with carton)	Random Vibration : 0.015G^2/Hz from 5-200HZ, -6dB/Octave from 200-400HZ 2 hours for each direction of X. Y. Z.	IEC68-2-6
10	Drop Test(with carton)	Height:60 cm 1 corner, 3 edges, 6 surfaces	IEC68-2-32
11	Electro Static Discharge	± 200V, 200Pf(0Ω) 1 time/each terminal	IEC-61000-4-2

12. LCM PRODUCT LABEL DEFINE

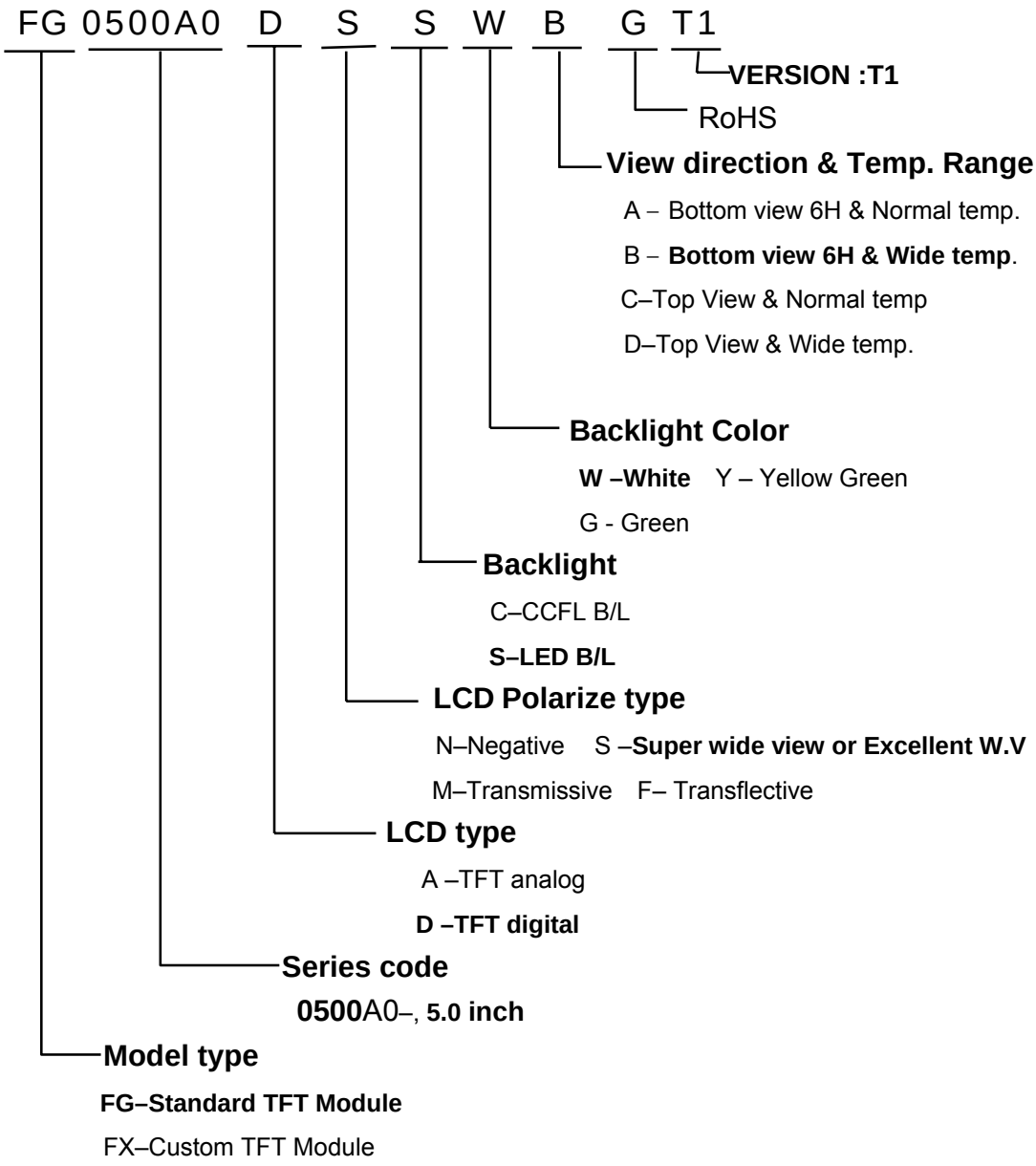
Product Label style:



BarCode Define:



PRODUCT NUMBERING SYSTEM

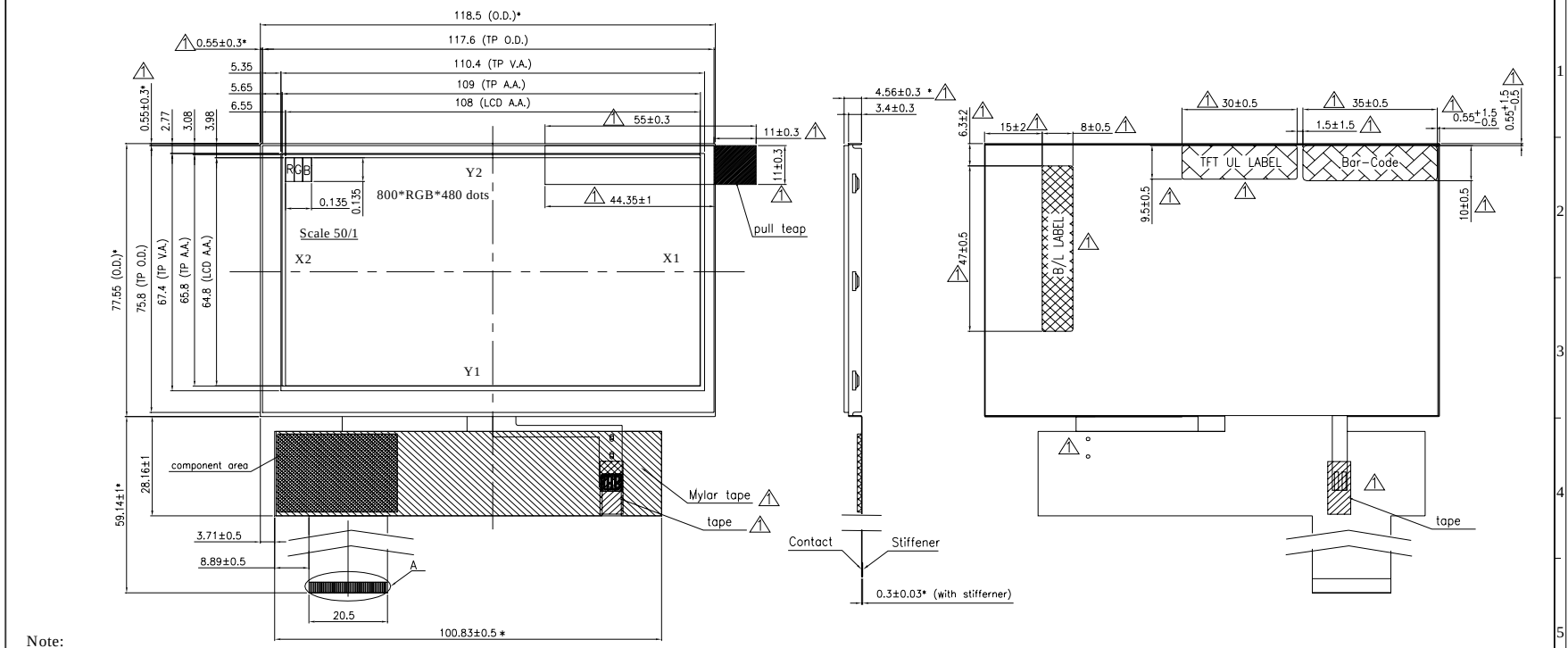


13. PRECAUTIONS IN USE LCM

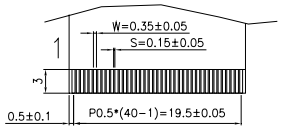
1. ASSEMBLY PRECAUTIONS
   (1) You must mount a module using holes arranged in four corners or four sides.
   (2) You should consider the mounting structure so that uneven force (ex. Twisted stress) is not applied to the module. And the case on which a module is mounted should have sufficient strength 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 Land 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:
      a. Please do not pile them up more than 5 boxes. (They are not designed so.) And please do not turn over.
      b. Please handle packaging box with care not to give them sudden shock and vibrations. And also please do not throw them up.
      c. 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 responsible for any subsequent or consequential events.

14. OUTLINE DRAWING



Note:
1. Center Luminance : 320 cd/m^2 (Typ.)
   260 cd/m^2 (Min.)
2. Uniformity : 70% (Min)
3. for RoHS
4. * is important dimension.
5. Surface treatment: Anti-glare.
6 Tolerance is ±0.3 unless otherwise noted.
7. The bending radius of FPC should be larger than 0.6mm
8. LCD FPC Match Connector:HIROSE FH19SC-40S-0.5SH or equivalent
9. ▩ is Component Area, The height is 1.1mm Max



Detail A
Scale 2/1

LCD FPC FUNCTIONS

1	VLED-	11	R6	21	B0	31	DISP
2	VLED+	12	R7	22	B1	32	Hsync
3	GND	13	G0	23	B2	33	Vsync
4	VDD	14	G1	24	B3	34	DE
5	R0	15	G2	25	B4	35	NC
6	R1	16	G3	26	B5	36	GND
7	R2	17	G4	27	B6	37	X1
8	R3	18	G5	28	B7	38	Y1
9	R4	19	G6	29	DGND	39	X2
10	R5	20	G7	30	DCLK	40	Y2

⚠	Add Backlight LABEL and TFT UL LABEL and pull teap & dimension ECR<110-D10014>	01/16/13'	
⚠	Add mylar tape & dimension,TP FPC & LCD FPC increase the locating hole for soldering ECR<110-D10014>	01/16/13'	
	Change the drawing from Rev.2 to Rev.A	07/21/11'	
AUTH	DESCRIPTION	DATE	APPROVED
REVISIONS			

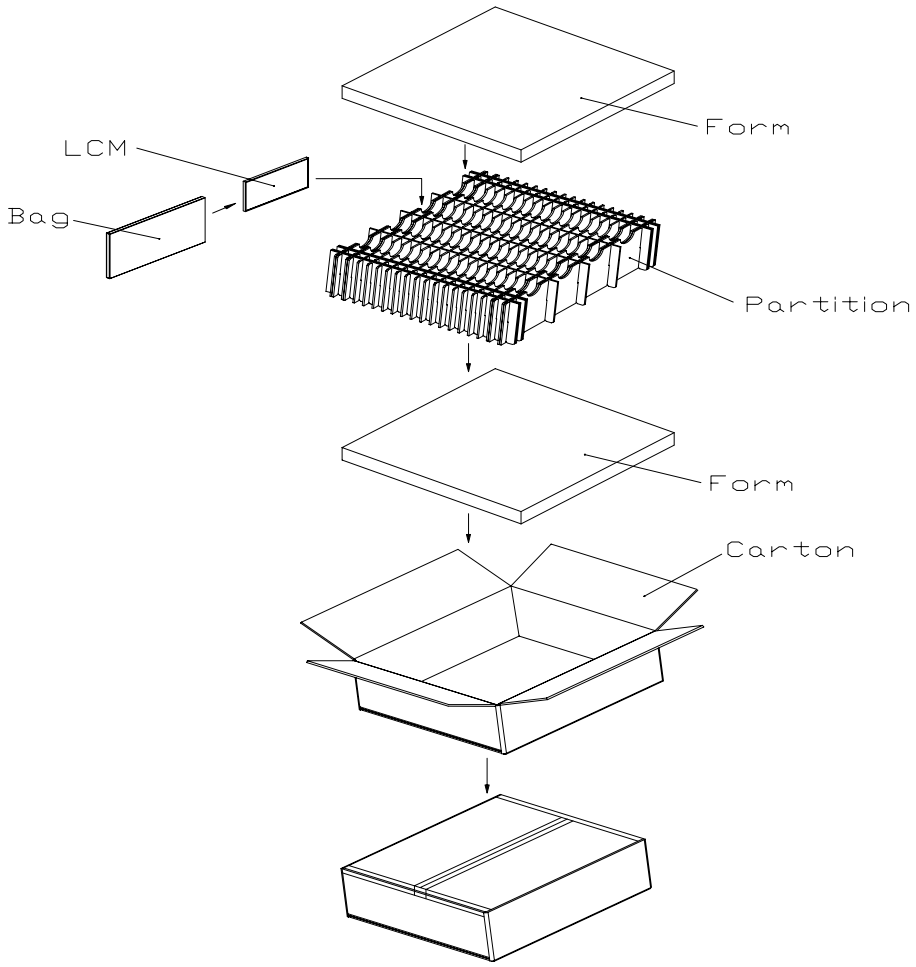
DATE:	07/15/10'
DRAWN:	
CHECK:	
APPROVE:	

TITLE: LCM OUTLINE DIMENSION

DWG. NO.	FG0500A0SGT1		
UNITS M M		REV.	B
SCALE Scale	SHEET 1 OF 1		

DATA IMAGE

15. PACKAGE INFORMATION



1 Carton= 120 pcs
FG0500A0DSSWBGT1 (85g) = 85 x 120 = 10200 g
Carton+Form+Partition = 1500 g
Total Weight = 11.7 kg
Carton size : 440L x 360W x 170H (mm)