DATA IMAGE CORPORATION

TFT Module Specification

ITEM NO.: FG030568DSSWBG01

Table of Contents

Customer Companies	R&D Dept.	Q.C. Dept.	Eng. Dept.	Prod. Dept.
	(signature)	*(signature)*	*(signature)*	*(signature)*
Approved by	Version:	Issued Date:	Sheet Code:	Total Pages:
	B	27/SEP/13'		6

2. RECORD OF REVISION

Rev	Date	Item	Page	Comment
1	1/SEP/08			Initial preliminary
2	19/Nov/08	3	3	Modify: GENERAL SPECIFICATIONS
3	30/MAR/11'	11 13 14	12 15 16	1.Modify: LCM PRODUCT LABEL DEFINE; 2.Modify: OUTLINE DRAWING from Rev.1 to 2; 3.Add the PACKAGE INFORMATION.
A	11/JUL/12'	13	15	Modify OUTLINE DRAWING from Rev.2 to A Release Rev. A for production
B	27/SEP/13'	8.1 10.1.5 10.2	7 11 12	1. Modify : Table 8.1-2 2. Add remark 3. Add QUALITY ASSURANCE

3. GENERAL SPECIFICATIONS

Parameter	Specifications	Unit
Screen Size	3.45 (diagonal)	inch
Display Format	320 X RGB X 240	dots
Active Area	70.08 (W) x 52.56 (H)	mm
Dot Pitch	0.073(W) x 0.219 (H)	mm
Outline Dimension	77.8 (W) x 64.5 (H) x 2.9 (T)	mm
Pixel Configuration	Stripe	
Display Type	Active Matrix	
Number of Colors	262K Colors (R,G,B 6 Bit Digital each)	
Backlight	LED x 6	
Surface Treatment	Anti-Glare	
Weight	34	g
Power Supply Voltage	3.3V only (Including timing controller ,LCD power unit)	
View Angle Direction	6 o'clock (the direction it's hard to be discolored)	
Temperature Range Operation	-20~+70	°C
Temperature Range Storage	-30~+80	°C

4. ELECTRICAL ABSOLUTE MAXIMUM RATINGS

(GND=0V)

Parameter	Symbol	MIN.	MAX.	Unit	Remark
Power supply for Logic	VCC	-0.3	4.0	V	
Input voltage	VI	-0.3	4.0	V	Note 1
Input Current	Ii	0	1	A	

Note 1: R0~R7,G0~G7,B0~B7,CK,HSYNC,VSYNC.

5. ELECTRICAL CHARACTERISTICS
5.1 ELECTRICAL CHARACTERISTICS of LCD

(GND=0V, Ta=25)

Parameter	Symbol	Condition	MIN.	TYP	MAX.	Unit
Power supply voltage	VCC	-	3.0	3.3	3.6	V
Input voltage for logic(note 1)	VI	"H" level	0.8xVCC		VCC	V
Input voltage for logic(note 1)	VI	"L" level	GND	-	0.2xVCC	V
Power supply Current (note 2)	ICC	VCC-GND=3.3V	-	12	15	mA

Note 1: R0~R7,G0~G7,B0~B7,CK,HSYNC,VSYNC.
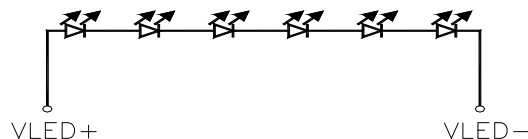Note 2:fv=60Hz, Ta=25 ,Pattern used as display pattern :All Black.
Note 3:Need to make sure of flickering and rippling of display when setting the frame frequency in your set.
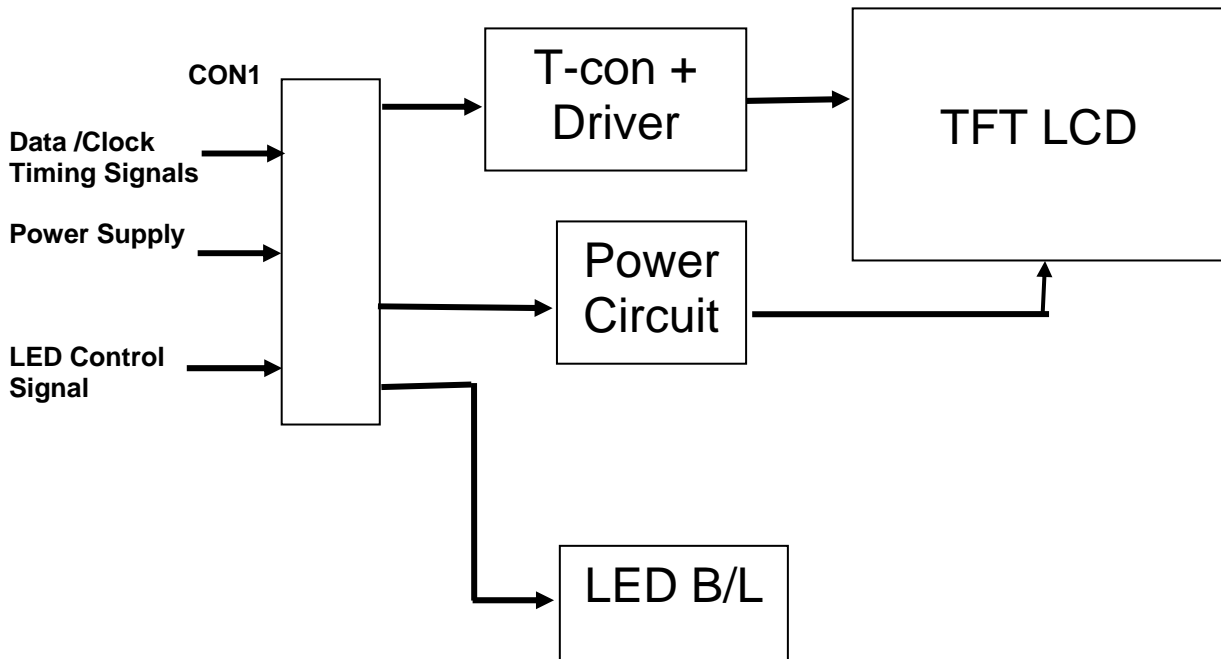
5.2 ELECTRICAL CHARACTERISTICS of BACK LIGHT

Parameter	Symbol	Condition	MIN.	TYP	MAX.	Unit	Remark
LED Input voltage	VF	IF=20mA	18	20.4	22.8	V	
LED Frequency Current	IF	-	-	20	-	mA	
LED Dice Life Time			-	40000	-	Hours	Note1,2
LED Supplier	First Source	Everlight parts No. 99-116UTC					
LED Supplier	Second Source	Unity Opto Parts No. MSL-508SW-N					

Note 1 : LED current depend on following conditions.

Note 2 : under room temperature (25°C, Humidity RH 30-60% , 20mA) and normal driving conditions.

VLED+   VLED−

6. BLOCK DIAGRAM

CON1

**Data /Clock
Timing Signals**

Power Supply

**LED Control
Signal**

T-con +
Driver

TFT LCD

Power
Circuit

LED B/L

7. INTERNAL PIN CONNECTIONS

Pin No	Symbol	Function	Remark
1	GND	Ground	
2	GND	Ground	
3	Vcc	Power Supply : +3.3V	
4	Vcc	Power Supply : +3.3V	
5	R0	Red pixel data(LSB)	
6	R1	Red pixel data	
7	R2	Red pixel data	
8	R3	Red pixel data	
9	R4	Red pixel data	
10	R5	Red pixel data	
11	R6	Red pixel data	
12	R7	Red pixel data(MSB)	
13	G0	Green pixel data(LSB)	
14	G1	Green pixel data	
15	G2	Green pixel data	
16	G3	Green pixel data	
17	G4	Green pixel data	
18	G5	Green pixel data	
19	G6	Green pixel data	
20	G7	Green pixel data(MSB)	
21	B0	Blue pixel data(LSB)	
22	B1	Blue pixel data	
23	B2	Blue pixel data	
24	B3	Blue pixel data	
25	B4	Blue pixel data	
26	B5	Blue pixel data	
27	B6	Blue pixel data	
28	B7	Blue pixel data(MSB)	
29	GND	Ground	
30	CK(DOTCLK)	DOTCLK signal to sample each data	
31	DISP	Display ON/OFF signal ON=H (Vcc), OFF=L (GND).	
32	HSYNC	Horizontal synchronous signal	
33	VSYNC	Vertical synchronous signal	
34	NC	No Connection	
35	NC	No Connection	
36	NC	No Connection	
37	ID	Short with pin 38.	
38	ID	Short with pin 37.	
39	VLED+	Power supply of LED backlight	
40	VLED-	Ground of LED backlight	

8. INTERFACE TIMING

8.1 AC Characteristics

(Unless otherwise specified, Voltage Referenced to GND, Vcc = 3.3V, Ta = 25   )

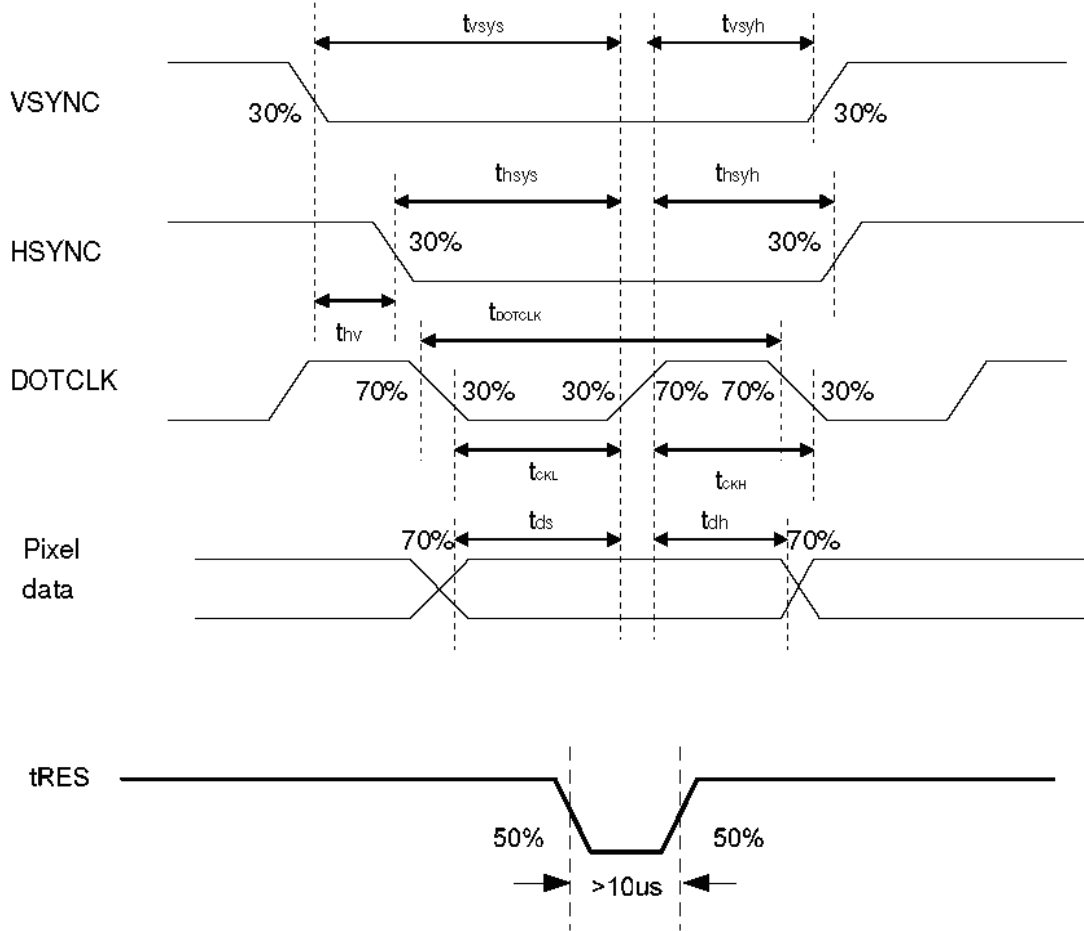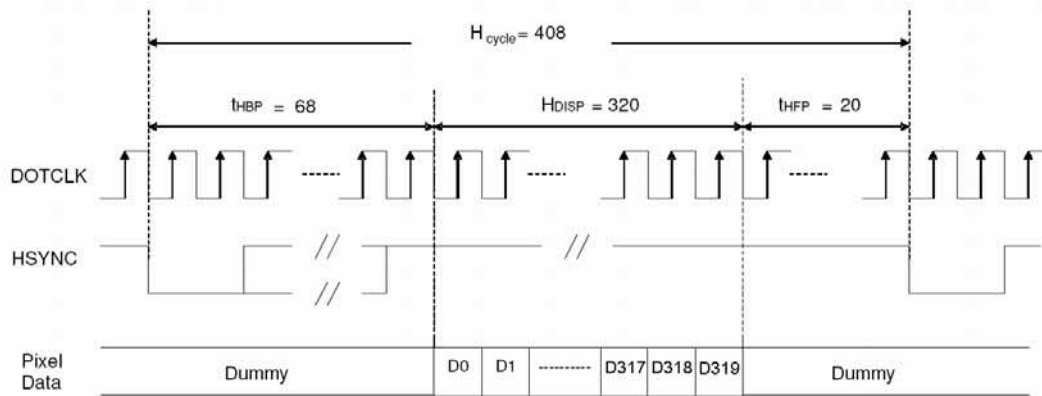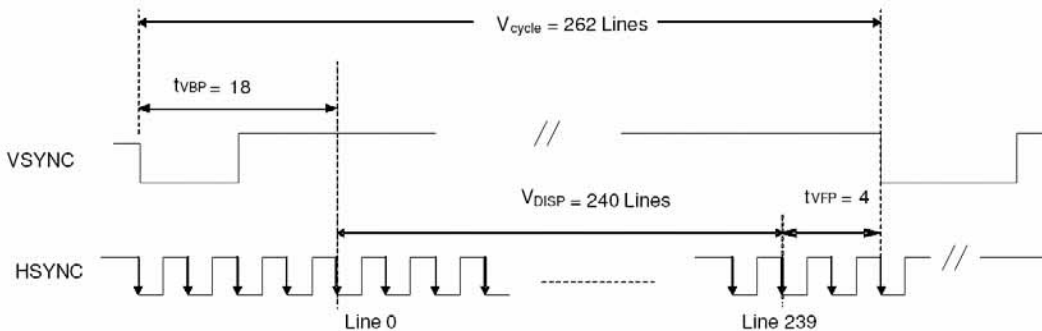**Figure 8.1-1 Pixel & tRES timing**

Characteristics	Symbol	Min	Typ	Max	Unit
DOTCLK Frequency	fDOTCLK	-	6.5	10	MHz
DOTCLK Period	tDOTCLK	100	154	-	ns
Vertical Sync Setup Time	tvsys	20	-	-	ns
Vertical Sync Hold Time	tvsyh	20	-	-	ns
Horizontal Sync Setup Time	thsys	20	-	-	ns
Horizontal Sync Hold Time	thsyh	20	-	-	ns
Phase difference of Sync Signal Falling Edge	thv	1	-	240	tDOTCLK
DOTCLK Low Period	tCKL	50	-	-	ns
DOTCLK High Period	tCKH	50	-	-	ns
Data Setup Time	tds	8	-	-	ns
Data hold Time	tdh	8	-	-	ns
Reset pulse width	tRES	10	-	-	us

Table 8.1-1 Pixel & tRES timing

a) Horizontal Data Transaction Timing

b) Vertical Data Transaction Timing

Figure 8.1-2 Data transaction timing in parallel RGB interface (SYNC mode)

Characteristics		Symbol	Min	Typ.	Max	Unit
DOTCLK Frequency		fDOTCLK	-	6.5	10	MHz
DOTCLK Period		tDOTCLK	100	154	-	ns
Horizontal Frequency (Line)		fH	-	15.72	22.35	KHz
Vertical Frequency (Refresh)		fV	-	60	90	Hz
Horizontal Back Porch		tHBP	-	68	-	tDOTCLK
Horizontal Front Porch		tHFP	-	20	-	tDOTCLK
Horizontal Data Start Point		tHBP	-	68	-	tDOTCLK
Horizontal Blanking Period		tHBP + tHFP	-	88	-	tDOTCLK
Horizontal Display Area		HDISP	-	320	-	tDOTCLK
Horizontal Cycle		Hcycle	-	408	450	tDOTCLK
Vertical Back Porch		tVBP	-	18	-	Lines
Vertical Front Porch		tVFP	-	4	-	Lines
Vertical Data Start Point		tVBP	-	18	-	Lines
Vertical Blanking Period		tVBP + tVFP	-	22	-	Lines
VS Pulse width		tWV		4		
Vertical Display Area	NTSC	VDISP	-	240	-	Lines
	PAL			280(PALM=0)		
				288(PALM=1)		
Vertical Cycle	NTSC	Vcycle	-	262	350	Lines
	PAL			313		

Table 8.1-2 Data transaction timing in normal operating mode

8.2 Power Off/On Sequence Timing
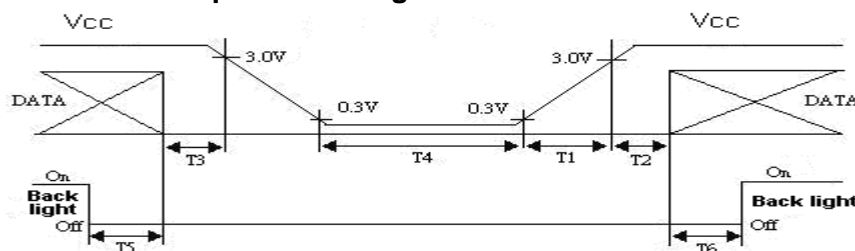
Timing Specifications:
0<T1≤15mS
T2>0.5S
0<T3≤0.1S
T4>1S
T5>0.1S
T6>0.1S

8.3 Color Data Input Assignment

Colors & Gray Scale	Gray Scale	R0 LSB	R1	R2	R3	R4	R5	R6	R7 MSB	G0 LSB	G1	G2	G3	G4	G5	G6	G7 MSB	B0 LSB	B1	B2	B3	B4	B5	B6	B7 MSB
Basic Color — Black	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Blue	—	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
Green	—	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Cyan	—	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Red	—	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Magenta	—	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1
Yellow	—	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	0	0	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	1	1	1	1	1	1
Gray Scale of Red — Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⇧	GS1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Darker	GS2	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⇧	↓				↓									↓								↓			
⇩	↓				↓									↓								↓			
Brighter	GS253	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⇩	GS254	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Red	GS255	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Gray Scale of Green — Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⇧	GS1	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Darker	GS2	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⇧	↓				↓									↓								↓			
⇩	↓				↓									↓								↓			
Brighter	GS253	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1	0	0	0	0	0	0	0	0
⇩	GS254	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Green	GS255	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	0	0	0	0	0	0	0	0
Gray Scale Blue — Black	GS0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
⇧	GS1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0
Darker	GS2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
⇧	↓				↓									↓								↓			
⇩	↓				↓									↓								↓			
Brighter	GS253	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1	1	1	1	1
⇩	GS254	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1
Blue	GS255	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1

0 : Low level voltage   1 : High level voltage

Each basic color can be displayed in 256 gray scales from 8 bit data signals. According to the combination of 24 bit data signals, the 16-million-color display can be achieved on the screen.

Correspondence between Data and Display Position

	S001	S002	S003	S004	S005	S006	S007	S008	-------------------	S959	S960
C001	R001	G001	B001	R002	G002	B002	R003	G003		G320	B320
⋮											
C240	R001	G001	B001	R002	G002	B002	R003	G003		G320	B320

9. OPTICAL CHARACTERISTIC
9.1. Specification:

Ta = 25°C

Parameter		Symbol	Condition	MIN.	TYP.	MAX.	Unit	Remarks
Viewing Angle	Horizontal	θ_x+	Center CR≥10	60	70	-	deg	Note 9-2
		θ_x-		60	70	-	deg	
	Vertical	θ_Y+		40	50	-	deg	
		θ_Y-		60	70	-	deg	
Contrast Ratio		CR		(200)	-	-		Note 9-1
Response time	Rise	Tr	Center $\theta x=\theta y =0°$	-	15	30	ms	Note 9-4
	Fall	Tf		-	35	50	ms	
Uniformity		U		70	-	-	%	
Brightness			Center	200	250	-	cd/m^2	Note 9-2
Chromaticity	White	x	$\theta x=\theta y =0°$	0.25	0.30	0.35		
		y		0.28	0.33	0.38		

Note 9-1   CR $\dfrac{\text{Luminance when LCD is White}}{\text{Luminance when LCD is Black}}$

     The test configurations of contrast ratio see section 9.2 .

Note 9-2 :1.Topcon BM-7A luminance meter 1.0° field of view is used in the testing (after
         2 minutes operation).
         2. LED current =20mA.

Note 9-3 : The definitions of viewing angles diagrams:
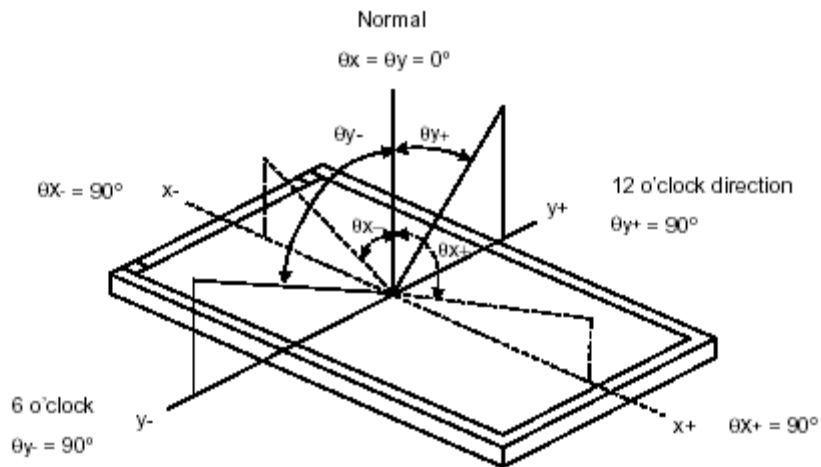
Note 9-4: The definition of response time:

White ← → Black ← → White

Brightness

100%
90%

10%
0%

Tr ← → ← → Tf
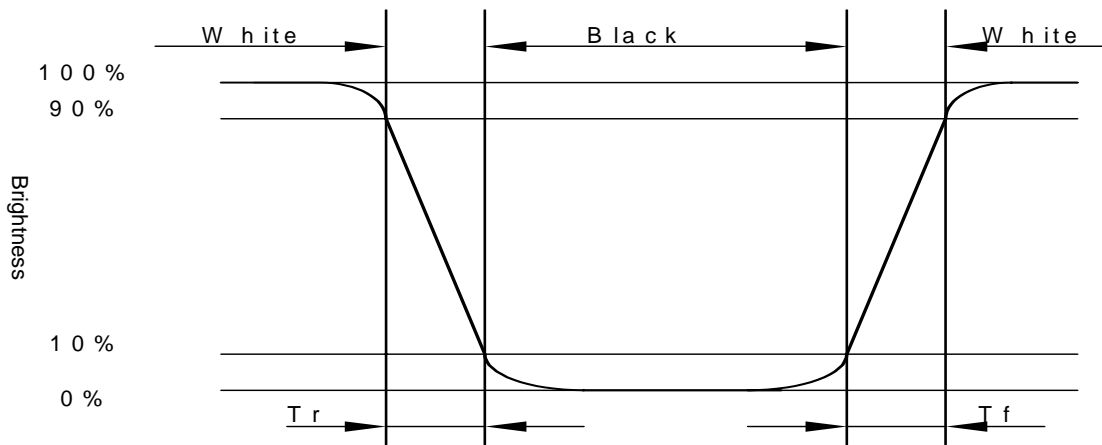
9.2. Testing configuration

BM-7A

Caution: 1. Environmental illumination 1 lux

500mm

| R,G,B signal | input | LCD |
| Pattern generator | | Backlight |
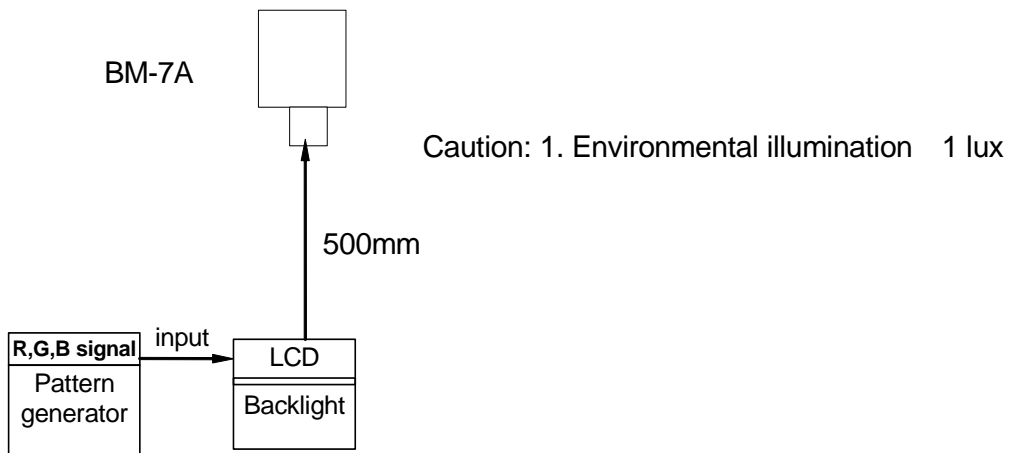
10. QUALITY ASSURANCE

10.1 Test Condition

10.1.1 Temperature and Humidity(Ambient Temperature)
Temperature : 20 ± 5°C
Humidity : 65 ± 5%

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

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

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

10.1.5 Test Method

No.	Reliability Test Item & Level	Test Level	Remark
1	High Temperature Storage Test	T=80°C,240hrs	IEC68-2-2
2	Low Temperature Storage Test	T=-30°C,240hrs	IEC68-2-1
3	High Temperature Operation Test	T=70°C,240hrs	IEC68-2-2
4	Low Temperature Operation Test	T=-20°C,240hrs	IEC68-2-1
5	High Temperature and High Humidity Operation Test	T=60°C,90% RH,240hrs	IEC68-2-3
6	Temperature Cycle Test (No operation)	-30°C → +25°C → +80°C,50 Cycles 30 min 5min 30 min	IEC68-2-14
7	Vibration Test (No operation)	Frequency:10 ~ 55 Hz Amplitude:1.0 mm Sweep Time:11min Test Period:6 Cycles for each Direction of X,Y,Z	IEC68-2-6
8	Shock Test (No operation)	100G, 6ms Direction ± X,± Y,± Z Cycle 3 times	IEC68-2-27

10.2 QUALITY ASSURANCE

10.2.1 Inspection condition

10.2.1.1 Inspection conditions

10.2.1.1.1 Inspection Distance: 35 ± 5 cm

10.2.1.1.2 View Angle:

(1) Inspection under operating condition : ±5°

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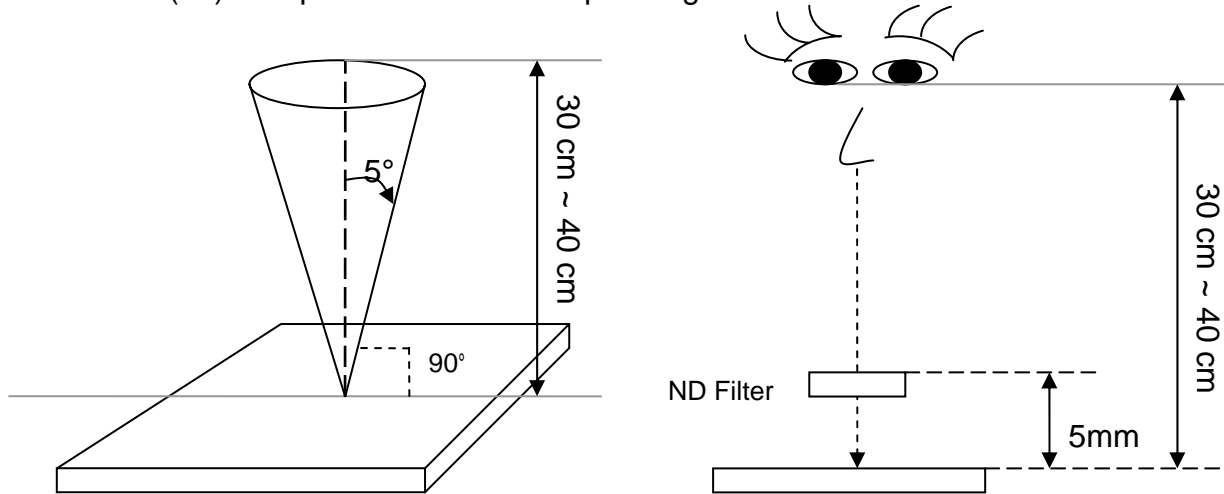
10.2.1.1.3 Environment conditions:

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

10.2.1.2 Definition of applicable Zones

10.2.2 Inspection Parameters

No.	Parameter	Criteria				
1	Operating	Display function: No Display malfunction (Major)				
		Contrast ratio (Black, White): Does not meet specified range in the spec. (Major) (Note:3)				
		Line Defect: No obvious Vertical and Horizontal line defect in bright, dark and colored. (Major) (Note:1)				
		Point Defect (Red, green, blue, dark): Active area ≤4dots (Minor)(Note:1)				
		Item	Acceptable number	Total	Class Of Defects	AQL Level
		Bright	2	4	Minor	1.5
		Dark	3			
		Adjacent Bright	1	1		
		Adjacent Dark	1	1		
		Non-uniformity: Visible through 2%ND filter white, R, G, B and gray 50%pattern. (Minor)				
		Foreign material in Black or White spots shape (W>1/4L) (Note: 5)				
		Dimension	Acceptable number		Class Of Defects	AQL Level
		D ≤ 0.3	*		Minor	1.5
		0.3 < D ≤0.5	3			
		D> 0.5	0			
		D = (Long + Short) / 2 ∗ : Disregard				
		Foreign Material in Line or spiral shape (W≤1/4L) (Note: 4)				
		Dimension	Acceptable number		Class Of Defects	AQL Level
		W>0.1mm,L>5mm	0		Minor	1.5
		L 5mm,0.05mm<W 0.1mm	3			
		L 5mm,W<0.05mm	*			
		L : Length W : Width ∗ : Disregard				
2	External Inspection (non-operating)	Dimension: Outline (Major)				
		Bezel appearance: uneven (Minor)				
		Scratch on the polarize & Touch Panel: (Note:2)				
		Dimension	Acceptable number		Class Of Defects	AQL Level
		W>0.1mm,L>5mm	0		Minor	1.5
		L 5mm,0.05mm<W 0.1mm	3			
		L 5mm,W<0.05mm	*			
		L : Length W : Width ∗ : Disregard				
		Dent and spots shape on the polarize (Note:2): (Note: 5)				
		Dimension	Acceptable number		Class Of Defects	AQL Level
		D ≤ 0.3	*		Minor	1.5
		0.3 < D ≤0.5	3			
		D> 0.5	0			
		D = (Long + Short) / 2 ∗ : Disregard				

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.

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)The point defect must under 2% ND Filter visible.

Note:2 The external inspection should be conducted at the distance 30± 5cm between the eyes of inspector 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 luminance 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.
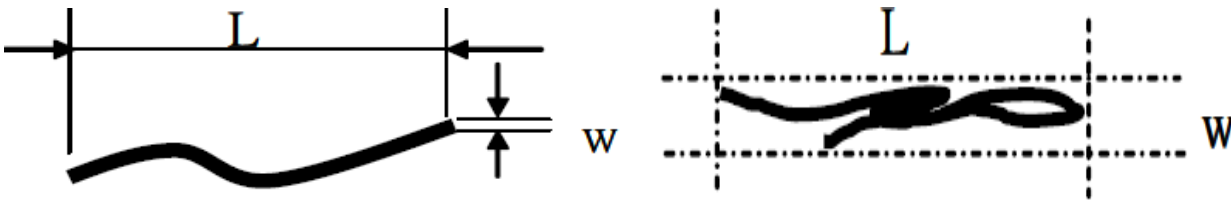
Note:5 Spot Foreign Material (W   L/4)

$$D = \frac{(L + W)}{2}$$
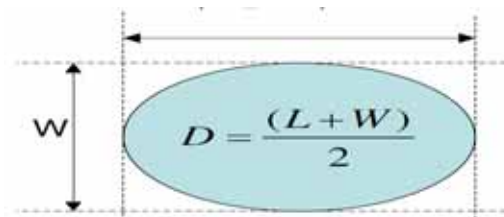
10.2.3 Sampling Condition

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

11. LCM PRODUCT LABEL DEFINE

Product Label style:

35mm

Bar Code

AA600142I026-0013

10mm

Product
Name

FG030568DSSWBG01
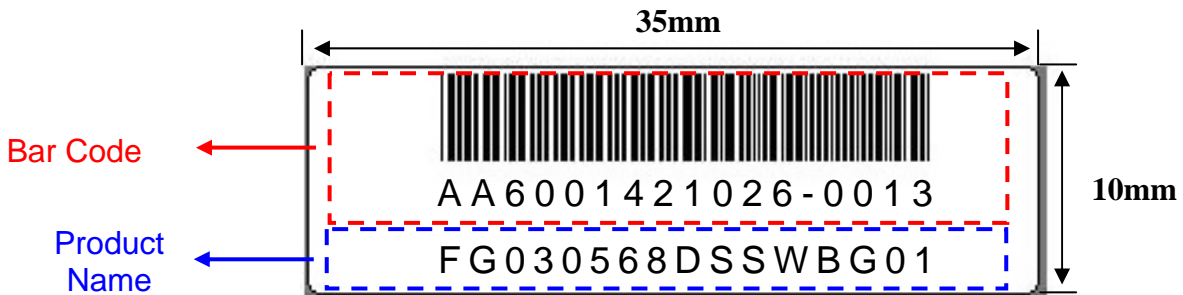
BarCode Define:

A A 6 0014 2 10 26-0013

Serial number of the products
Serial number starts from 0000
Every work order is 10K at most

Week of production

Year of production

Storage area

Serial number of work order
Serial number starts from 0000 each month

Month of work order

Year of work order

The first 3 numbers of work order

Product Name Define:

FG 030568 D S S W B G 01

VERSION :01

RoHS

View direction & Temp. Range

A– Bottom view 6H & Normal temp.

B– Bottom view 6H & Wide temp.

J–Bottom view 6H & Super Wide temp.

D–Top View & Wide temp.

Backlight Color

W –White   Y – Yellow Green

G - green

Backlight

S –edge light LED B/L

C–CCFL B/L

LCD Polarize type

N–Negative   W –Super wide view micro reflector

M–transmissive **S –Super wide view or Excellent W.V**

LCD type

A –TFT analog

D –TFT digital

Series code

030568–, **3.5 inch**, 6 LCD type, 8 PCB type

Model type

FG–Standard TFT Module

FX–Custom TFT Module

12. PRECAUTIONS IN USE LCM

1. LIQUID CRYSTAL DISPLAY (LCD)

LCD is made up of glass, organic sealant, organic fluid, and polymer based polarizers. The following precautions should be taken when handing,

(1). Keep the temperature within range of use and storage. Excessive temperature and humidity could cause polarization degradation, polarizer peel off or bubble.

(2). Do not contact the exposed polarizers with anything harder than an HB pencil lead.   To clean dust off the display surface, wipe gently with cotton, chamois or other soft material soaked in petroleum benzin.

(3). Wipe off saliva or water drops immediately. Contact with water over a long period of time may cause polarizer deformation or color fading, while an active LCD with water condensation on its surface will cause corrosion of ITO electrodes.

(4). Glass can be easily chipped or cracked from rough handling, especially at corners and edges.

(5). Do not drive LCD with DC voltage.

2.   Liquid Crystal Display Modules

2.1   Mechanical Considerations

LCM are assembled and adjusted with a high degree of precision. Avoid excessive shocks and do not make any alterations or modifications. The following should be noted.

(1). Do not tamper in any way with the tabs on the metal frame.

(2). Do not modify the PCB by drilling extra holes, changing its outline, moving its components or modifying its pattern.

(3). Do not touch the elastomer connector, especially insert an backlight panel (for example, EL).

(4). When mounting a LCM make sure that the PCB is not under any stress such as bending or twisting . Elastomer contacts are very delicate and missing pixels could result from slight dislocation of any of the elements.

(5). Avoid pressing on the metal bezel, otherwise the elastomer connector could be deformed and lose contact, resulting in missing pixels.

2.2.   Static Electricity

LCM contains CMOS LSI's and the same precaution for such devices should apply, namely

(1). The operator should be grounded whenever he/she comes into contact with the module. Never touch any of the conductive parts such as the LSI pads, 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.

2.3   Soldering

(1). Solder only to the I/O terminals.

(2). Use only soldering irons with proper grounding and no leakage.

(3). Soldering temperature :   280°C ± 10°C

(4). Soldering time: 3 to 4 sec.

(5). Use eutectic solder with resin flux fill.

(6). If flux is used, the LCD surface should be covered to avoid flux spatters. Flux residue should be removed after wards.

2.4   Operation

(1). The viewing angle can be adjusted by varying the LCD driving voltage V0.

(2). Driving voltage should be kept within specified range; excess voltage shortens display life.

(3). Response time increases with decrease in temperature.

(4). Display may turn black or dark blue at temperatures above its operational range; this is (however not pressing on the viewing area) may cause the segments to appear "fractured".

(5). Mechanical disturbance during operation (such as pressing on the viewing area) may cause the segments to appear "fractured".

2.5 Storage

If any fluid leaks out of a damaged glass cell, wash off any human part that comes into contact with soap and water. Never swallow the fluid. The toxicity is extremely low but caution should be exercised at all the time.

2.6 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.
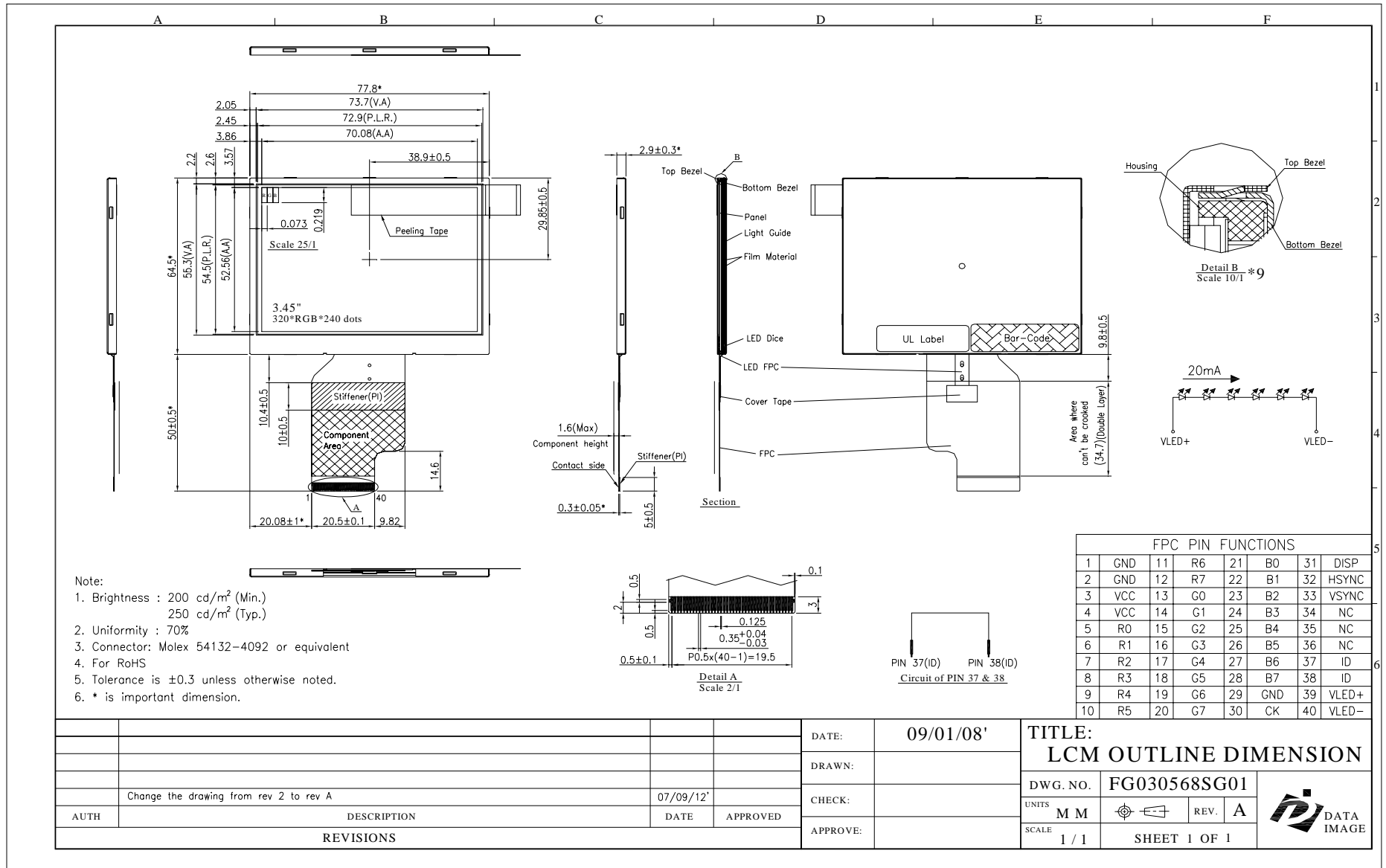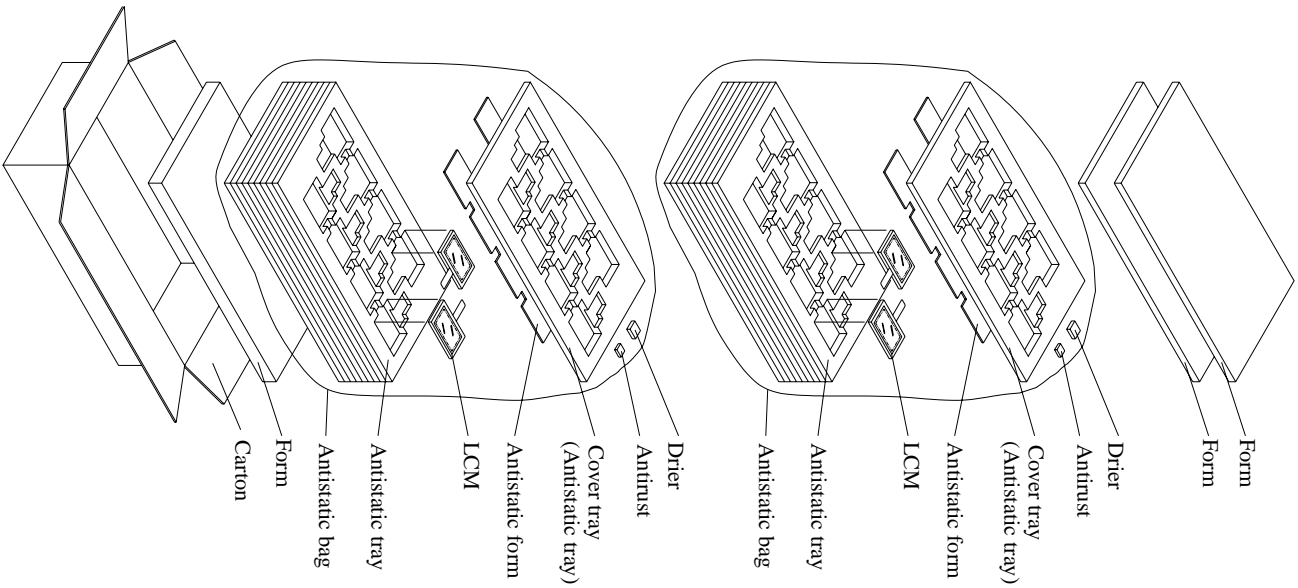
Note:
1. Brightness : 200 cd/m² (Min.)
   250 cd/m² (Typ.)
2. Uniformity : 70%
3. Connector: Molex 54132-4092 or equivalent
4. For RoHS
5. Tolerance is ±0.3 unless otherwise noted.
6. * is important dimension.

3.45"
320*RGB*240 dots

Detail A
Scale 2/1

Detail B
Scale 10/1 *9

PIN 37(ID)   PIN 38(ID)
Circuit of PIN 37 & 38

20mA
VLED+   VLED-

FPC PIN FUNCTIONS							
1	GND	11	R6	21	B0	31	DISP
2	GND	12	R7	22	B1	32	HSYNC
3	VCC	13	G0	23	B2	33	VSYNC
4	VCC	14	G1	24	B3	34	NC
5	R0	15	G2	25	B4	35	NC
6	R1	16	G3	26	B5	36	NC
7	R2	17	G4	27	B6	37	ID
8	R3	18	G5	28	B7	38	ID
9	R4	19	G6	29	GND	39	VLED+
10	R5	20	G7	30	CK	40	VLED-

AUTH	DESCRIPTION	DATE	APPROVED
	Change the drawing from rev 2 to rev A	07/09/12'	
	REVISIONS		

DATE: 09/01/08'
DRAWN:
CHECK:
APPROVE:

TITLE: LCM OUTLINE DIMENSION
DWG. NO. FG030568SG01
UNITS M M   REV. A
SCALE 1 / 1   SHEET 1 OF 1

14. PACKAGE INFORMATION

FG030568 TFT LCM PACKING

Total Weight ≒8.5 kgw
Carton size : 485L x 282W x 279H (mm)
1 Carton ＝ 144 pcs
1 Carton ＝ 2 Anti-static bag ＝ 2*72 ＝ 144 pcs
1 Anti-static bag ＝ 9 Anti-static tray + cover tray ＝ 9*8 +1*0 ＝ 72 pcs
1 Anti-static tray ＝ 8 panel pcs
1 Antistatic tray ＝ 8 panel pcs
Total pcs
＋ 20 Anti-static tray ＋ 2 Drier ＋ 2 Antirust
1 Carton ＋ 2 Anti-static bag ＋ 2 Form(15mm) ＋ 1 Form(35mm)
Material

Carton
Form
Antistatic bag
Antistatic tray
LCM
Antistatic form
Cover tray (Antistatic tray)
Antirust
Drier
Antistatic bag
Antistatic tray
LCM
Antistatic form
Cover tray (Antistatic tray)
Antirust
Drier
Form
Form