



SPECIFICATIONS

CUSTOMER	:	_____
SAMPLE CODE	:	SH102600T009-IBA
MASS PRODUCTION CODE	:	PH102600T009-IBA
SAMPLE VERSION	:	01
SPECIFICATIONS EDITION	:	002
DRAWING NO. (Ver.)	:	LMD-PH102600T009-IBA (Ver.001)
PACKAGING NO. (Ver.)	:	PKG- PH102600T009-IBA (Ver.001)

Customer Approved

Date: _____

Approved	Checked	Designer
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- Preliminary specification for design input
- Specification for sample approval

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2. Packing Specification

1. SPECIFICATIONS

1.1 Features

Item	Standard Value
Display Type	1024 * 3 (RGB) * 600 Dots
LCD Type	a-Si TFT , Normally white , Transmissive type
Screen size(inch)	7.0 inch
Viewing Direction	6 O'clock (Gray scale Inversion)
	12 O'clock
Color configuration	RGB-Strip
Backlight Type	White LED B/L
Interface	24Bit RGB Interface
ROHS	THIS PRODUCT CONFORMS THE ROHS OF PTC Detail information please refer website : http://www.powertip.com.tw/news_detail.php?Key=1&cID=1

1.2 Mechanical Specifications

Item	Standard Value	Unit
Outline Dimension	164.9 (L) * 100.0 (W) * 3.4 (H)	mm

LCD Panel

Item	Standard Value	Unit
Viewing Area	155.01 (L) * 86.72(W)	mm
Active Area	154.21(L) * 85.92(W)	mm
Pixel Size	0.1506 (W) * 0.1432 (H)	mm

Note : For detailed information please refer to LCM drawing

1.3 Absolute Maximum Ratings

Module

Item	Symbol	Min.	Max.	Unit
Power Voltage	DVDD	-0.5	5.0	V
	AVDD	-0.5	15.0	V
	VGH	-0.3	42.0	V
	VGL	-20.0	-0.3	V
Operating Temperature	T _{OP}	-20	70	°C
Storage Temperature	T _{ST}	-30	80	°C

1.4 DC Electrical Characteristics

Module

GND = 0V, Ta = 25°C

Item	Symbol	Min.	Typ.	Max.	Unit	Remark
Supply Voltage	DV _{DD}	2.5	3.3	3.6	V	-
	V _{GH}	19.7	20.0	20.3		
	V _{GL}	-7.1	-6.8	-6.5		
	AV _{DD}	8.0	11.0	13.5		
V _{COM}	V _{COM}	3.3	3.8	4.3	V	
Input signal Voltage	V _{IH}	0.7DV _{DD}	-	DV _{DD}	V	
	V _{IL}	0	-	0.3DV _{DD}		
Supply Current	I (DV _{DD})	-	15	25	mA	Pattern=R,G,B *1
	I (AV _{DD})	-	20	30		Pattern= Black
	I _{GH}	-	0.2	0.3		Pattern=R,G,B
	I _{GL}	-	0.2	0.3		Pattern= R,G,B

Note1: Maximum current display.

1.5 Optical Characteristics

TFT LCD Module

DVDD = 3.3 V, Ta=25°C

Item	Symbol		Condition	Min.	Typ.	Max.	unit	
Response time	Tr		Ta = 25°C θX, θY = 0°	-	10	20	ms	Note 2
	Tf			15	30			
Viewing angle	Top	θY+	CR ≥ 10	-	70	-	Deg.	Note 4
	Bottom	θY-		-	75	-		
	Left	θX-		-	75	-		
	Right	θX+		-	75	-		
Contrast ratio		CR		500	800	-		Note 3
Color of CIE Coordinate (With B/L)	White	X	Ta = 25°C θX , θY = 0°	0.26	0.31	0.36	-	Note1
		Y		0.27	0.32	0.37		
	Red	X		0.60	0.65	0.70		
		Y		0.29	0.34	0.39		
	Green	X		0.27	0.32	0.37		
		Y		0.55	0.60	0.65		
	Blue	X		0.09	0.14	0.19		
		Y		0.00	0.05	0.10		
Average Brightness Pattern=white display (With LCD)*1	IV		IF=200 mA	400	500	-	cd/m ²	Note1
Uniformity (With LCD)*2	ΔB		IF= 200 mA	70	-	-	%	Note1

Note 1:

*1 : $\Delta B = B(\min) / B(\max) * 100\%$

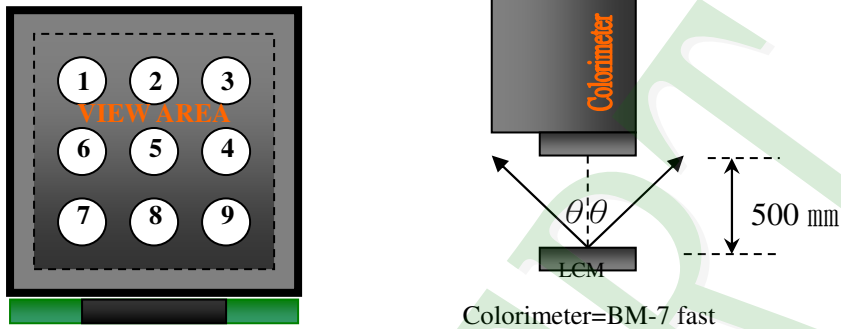
*2 : Measurement Condition for Optical Characteristics:

a : Environment: $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ / $60 \pm 20\% \text{R.H}$, no wind , dark room below 10 Lux at typical lamp current and typical operating frequency.

b : Measurement Distance: 500 ± 50 mm , ($\theta = 0^{\circ}$)

c : Equipment: TOPCON BM-7 fast , (field 1°) , after 10 minutes operation.

d : The uncertainty of the C.I.E coordinate measurement ± 0.01 , Average Brightness $\pm 4\%$



To be measured at the center area of panel with a viewing cone of 1° by Topcon luminance meter BM-7, after 10 minutes operation (module)

Note2: Definition of response time:

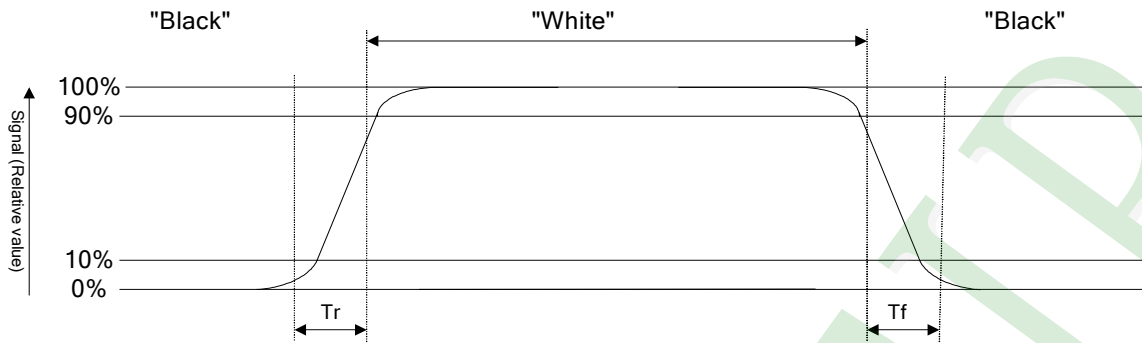
The output signals of photo detector are measured when the input signals are changed from "black" to "white"(falling time) and from "white" to "black"(rising time), respectively. The response time is defined as the time interval between the 10% and 90% of Amplitudes.

Refer to figure as below:

Normally White



Normally Black



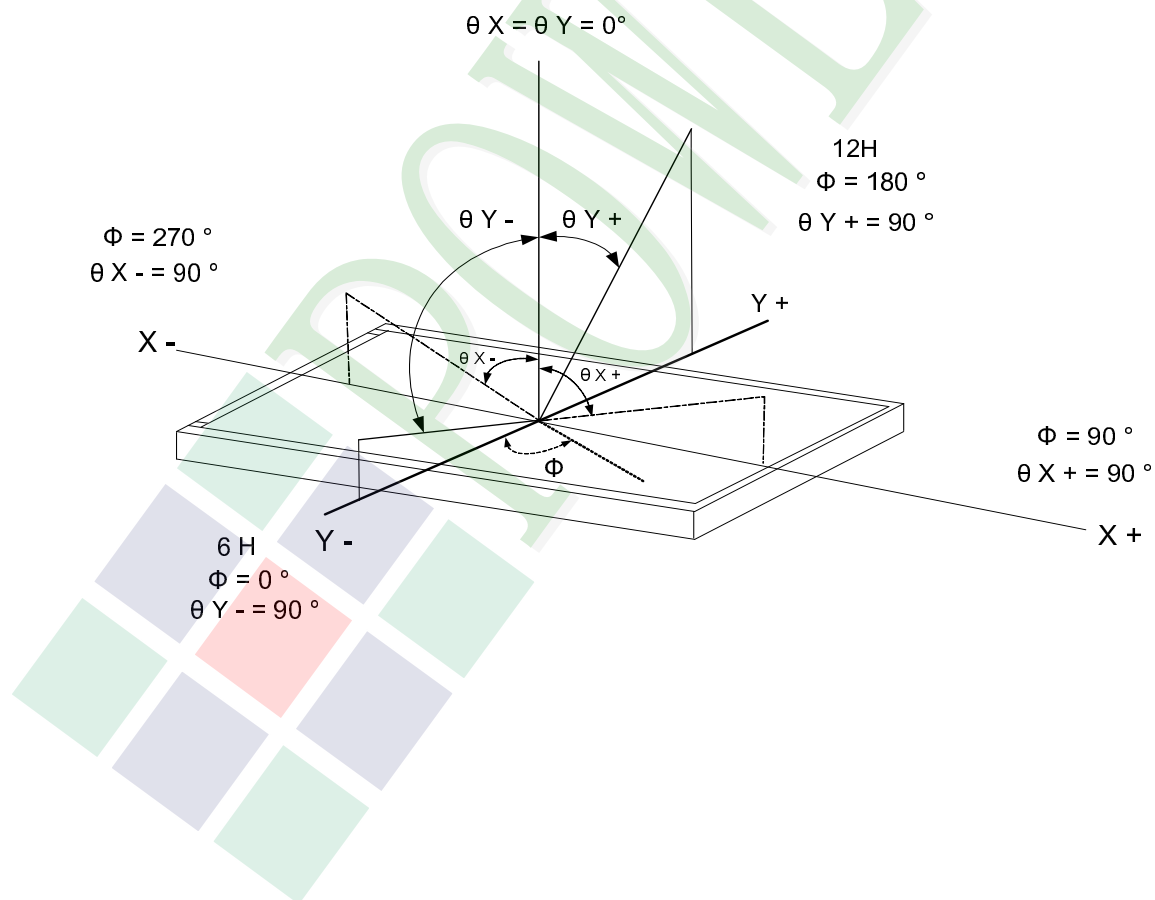
Note3: Definition of contrast ratio:

Contrast ratio is calculated with the following formula

$$\text{Contrast ratio (CR)} = \frac{\text{Photo detector output when LCD is at "White" state}}{\text{Photo detector output when LCD is at "Black" state}}$$

Note4: Definition of viewing angle:

Refer to figure as below:



1.6 Backlight Characteristics

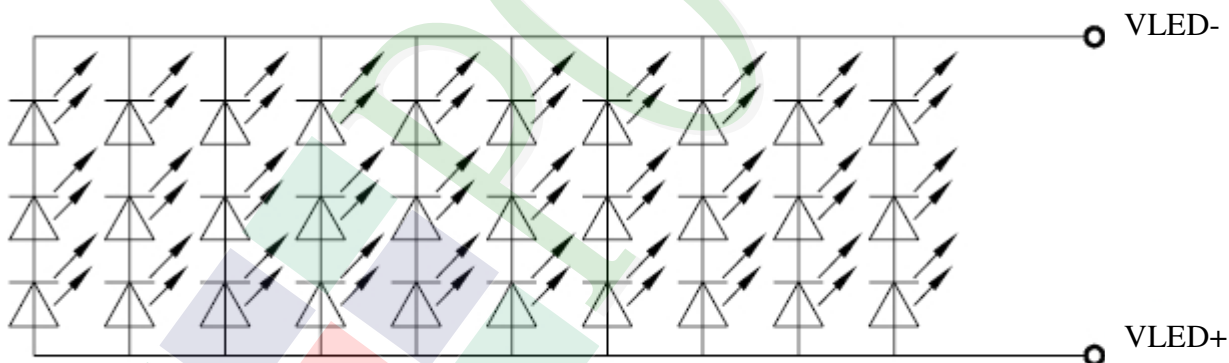
Maximum Ratings

Item	Symbol	Conditions	Min.	Max.	Unit
LED Forward Current	IF	Ta =25°C	-	10.2	mA
LED Reverse Voltage	VR		-	5	V
Power consumption	Pd			3060	mW

Electrical / Optical Characteristics

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	VF	If= 200 mA	8.7	9.6	-	
Average Brightness (Without LCD)	IV		14000	16200		cd/m ²
CIE Color Coordinate (Without LCD)	X		-	0.305	-	
	Y		-	0.315	-	
Color	White					

B/L Internal Circuit Diagram:



Other Description

Item	Conditions	Description
Life Time	Ta =25°C IF= 200mA	20,000 hrs

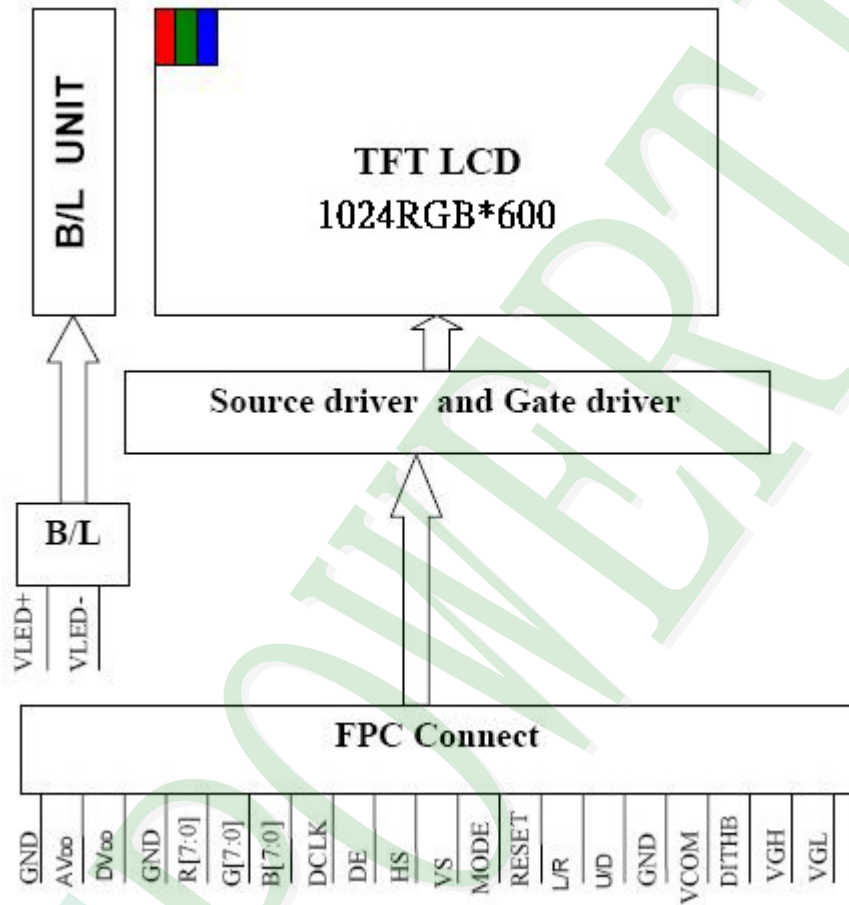
2. MODULE STRUCTURE

2.1 Counter Drawing

2.1.1 LCM Mechanical Diagram

* See Appendix

2.1.2 Block Diagram



2.2 Interface Pin Description

Pin NO.	SYMBOL	DESCRIPTION
1	V _{LED+}	Power For LED backlight (+).
2	V _{LED+}	Power For LED backlight (+).
3	V _{LED-}	Power For LED backlight (-).
4	V _{LED-}	Power For LED backlight (-).
5	GND	Power ground.
6	V _{com}	Common voltage.
7	DV _{DD}	Power for Digital Circuit.
8	MODE	DE/SYNC mode select. Normally pull high. H: DE mode. L: HSD/VSD mode.
9	DE	Data Input Enable.
10	VS	Vertical Sync Input.
11	HS	Horizontal Sync Input.
12	B7	Blue Data(MSB).
13	B6	Blue Data.
14	B5	Blue Data.
15	B4	Blue Data.
16	B3	Blue Data.
17	B2	Blue Data.
18	B1	Blue Data.
19	B0	Blue Data(LSB).
20	G7	Green Data(MSB).
21	G6	Green Data.
22	G5	Green Data.
23	G4	Green Data.
24	G3	Green Data.
25	G2	Green Data.
26	G1	Green Data.
27	G0	Green Data(LSB).
28	R7	Red Data(MSB).
29	R6	Red Data.
30	R5	Red Data.
31	R4	Red Data.
32	R3	Red Data.
33	R2	Red Data.
34	R1	Red Data.
35	R0	Red Data(LSB).
36	GND	Power Ground

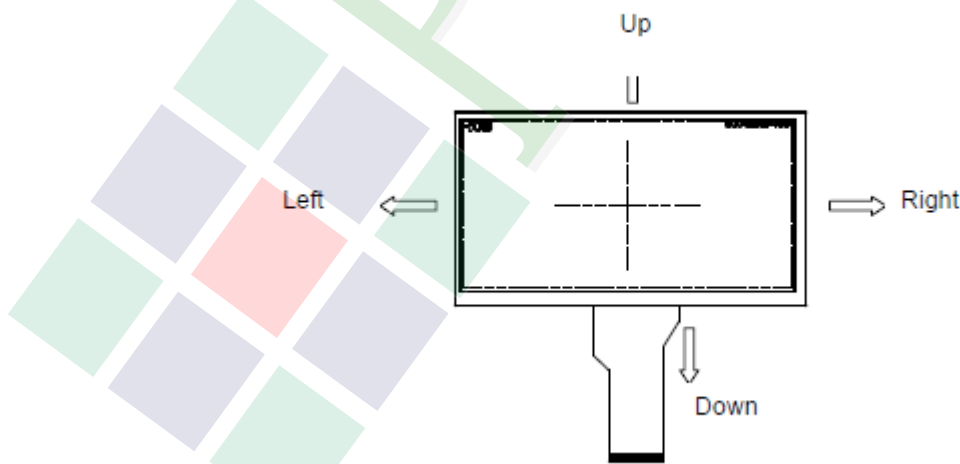
Pin NO.	SYMBOL	DESCRIPTION
37	DCLK	Sample clock
38	GND	Power Ground.
39	L/R	Left / right selection.
40	U/D	Left / right selection.
41	V _{GH}	Gate On Voltage.
42	V _{GL}	Gate OFF Voltage.
43	AV _{DD}	Power for Analog Circuit.
44	RESET	Global reset pin.
45	NC	No connection.
46	V _{COM}	Common Voltage.
47	DITHB	Dithering Function.
48	GND	Power Ground.
49	NC	No connection.
50	NC	No connection.

Note1:L/R : left or right setting

U/D : up or down setting

L/R	U/D	Data shifting
DVDD	GND	Left→Right , Up→Down(default)
GND	GND	Right→Left , Up→Down
DVDD	DVDD	Left→Right , Down→Up
GND	DVDD	Right→Left , Down→Up

Definition of scanning direction:



Note2: DE MODE: DE Stay LOW, Synchronous RGB Data , HS VS=NC

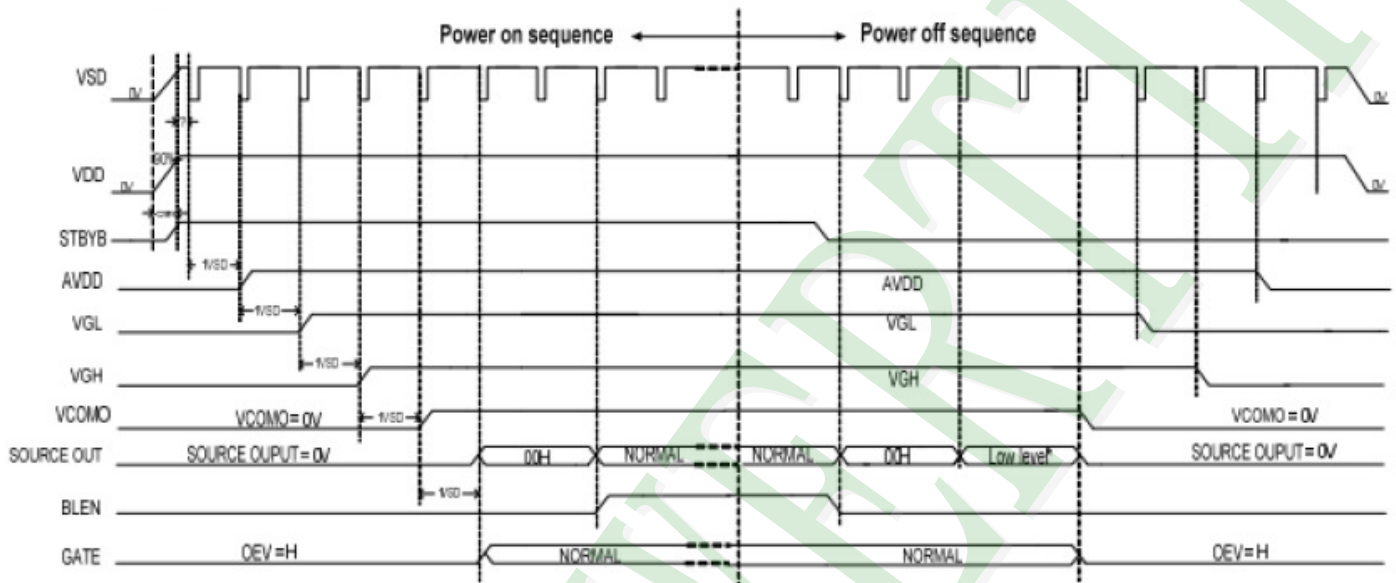
HSD/VSD MODE: HS VS Synchronous RGB Data ,DE=GND

2.3 Timing Characteristics

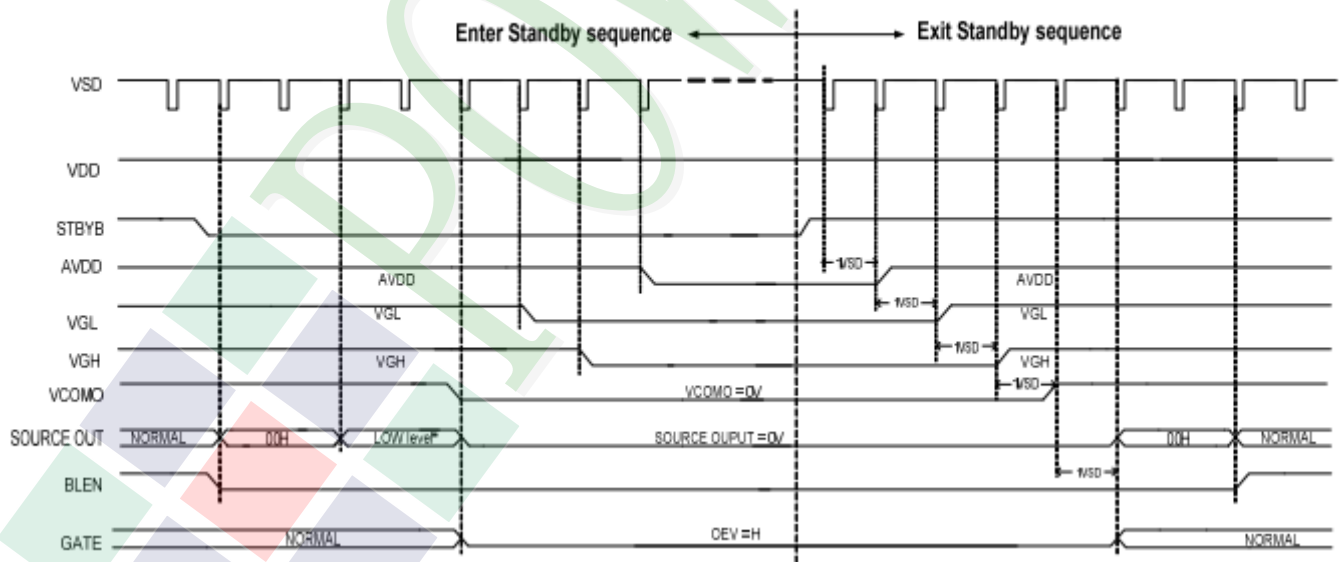
2.3.1 Power Sequence

In order to prevent IC from power on reset fail, the rising time (T_{POR}) of the digital power supply VDD should be maintained within the given specifications. Refer to "AC Characteristics" for more detail on timing.

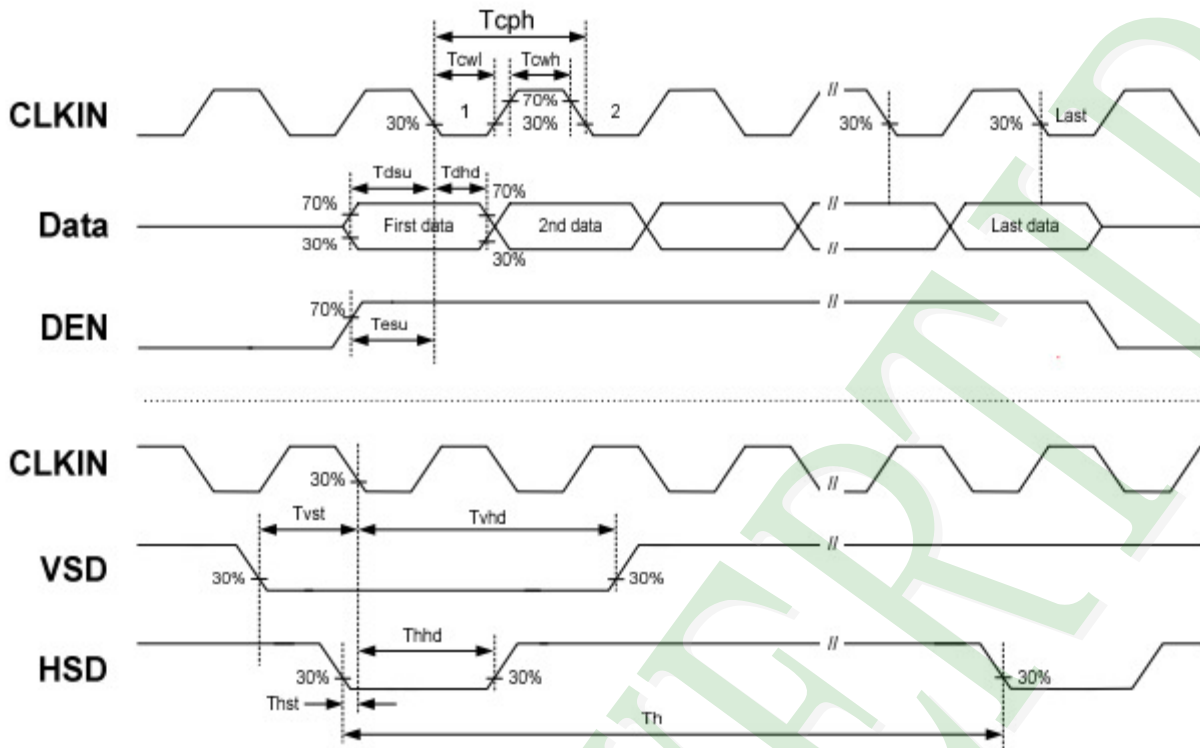
Power-On/Off Timing Sequence:



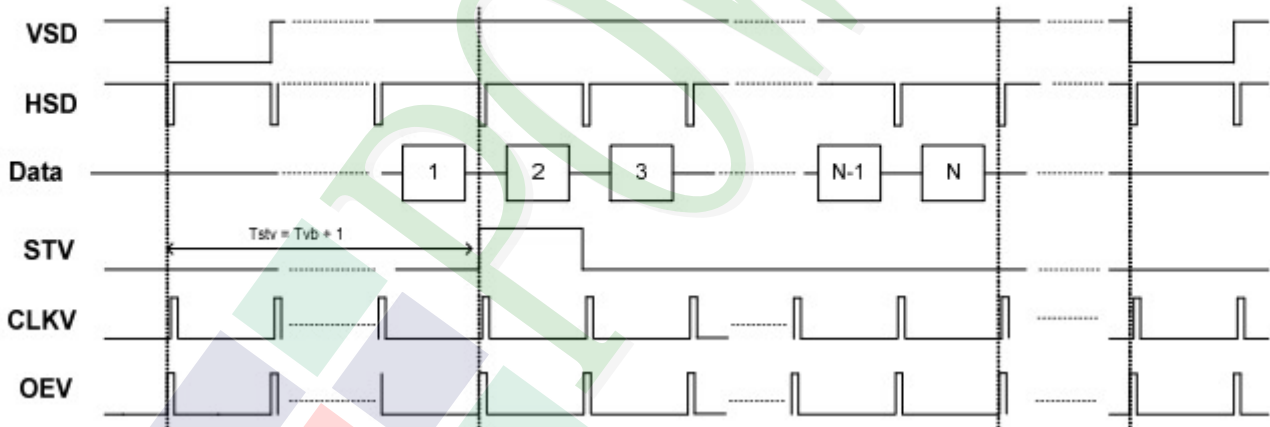
Enter and Exit Standby Mode Sequence:



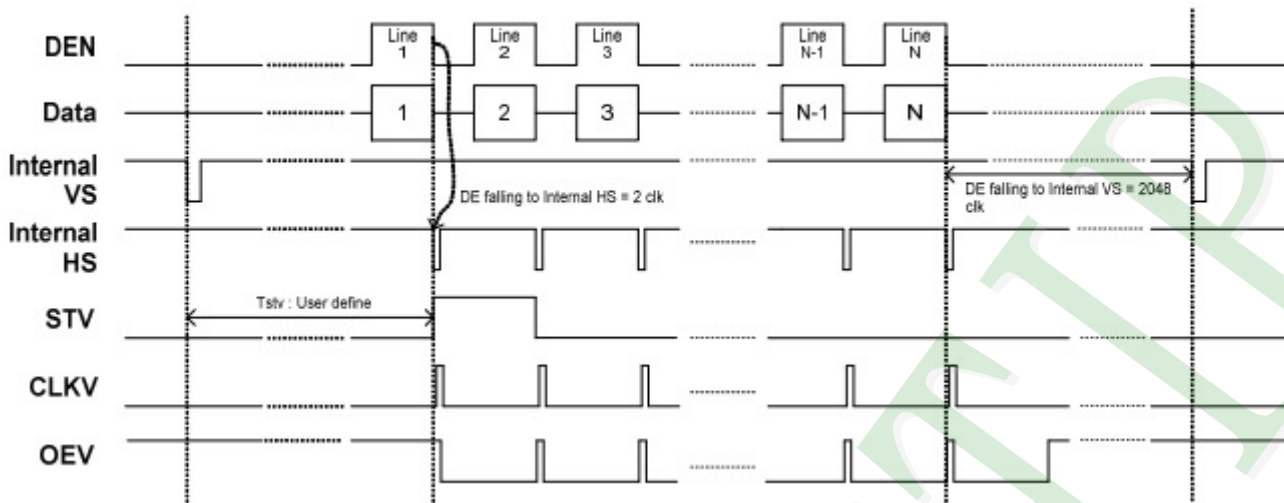
2.3.2 Input Clock and Data Timing Diagram



Vertical Timing Diagram HV (Cascade)



Vertical Timing Diagram DE (Cascade)



Gate output timing diagram (Cascade)



2.3.3 Parallel RGB input timing table

DE Mode

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Horizontal display area	thd	1024			DCLK
DCLK frequency@ Frame rate=60HZ	fclk	40.8	51.2	67.2	MHz
HSYNC period time	th	1114	1344	1400	DCLK
HSYNC blacking	Thb+Thfp	90	320	376	DCLK
Vertical display area	tvd	600			H
VSYNC period time	tv	610	635	800	H
VSYNC blacking	Tvb+Tvfp	10	35	200	H

HV Mode

Horizontal input timing

Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Horizontal display area	thd	1024			DCLK
DCLK frequency@ Frame rate=60HZ	fclk	44.9	51.2	63	MHz
1 Horizontal Line	th	1200	1344	1400	DCLK
HSYNC pulse width	Min	-	1	-	
	Typ	-	-	-	
	Max	-	140	-	
HSYNC Blacking	thp	160	160	160	
HSYNC Front Proch	thfb	16	160	216	

Vertical input timing

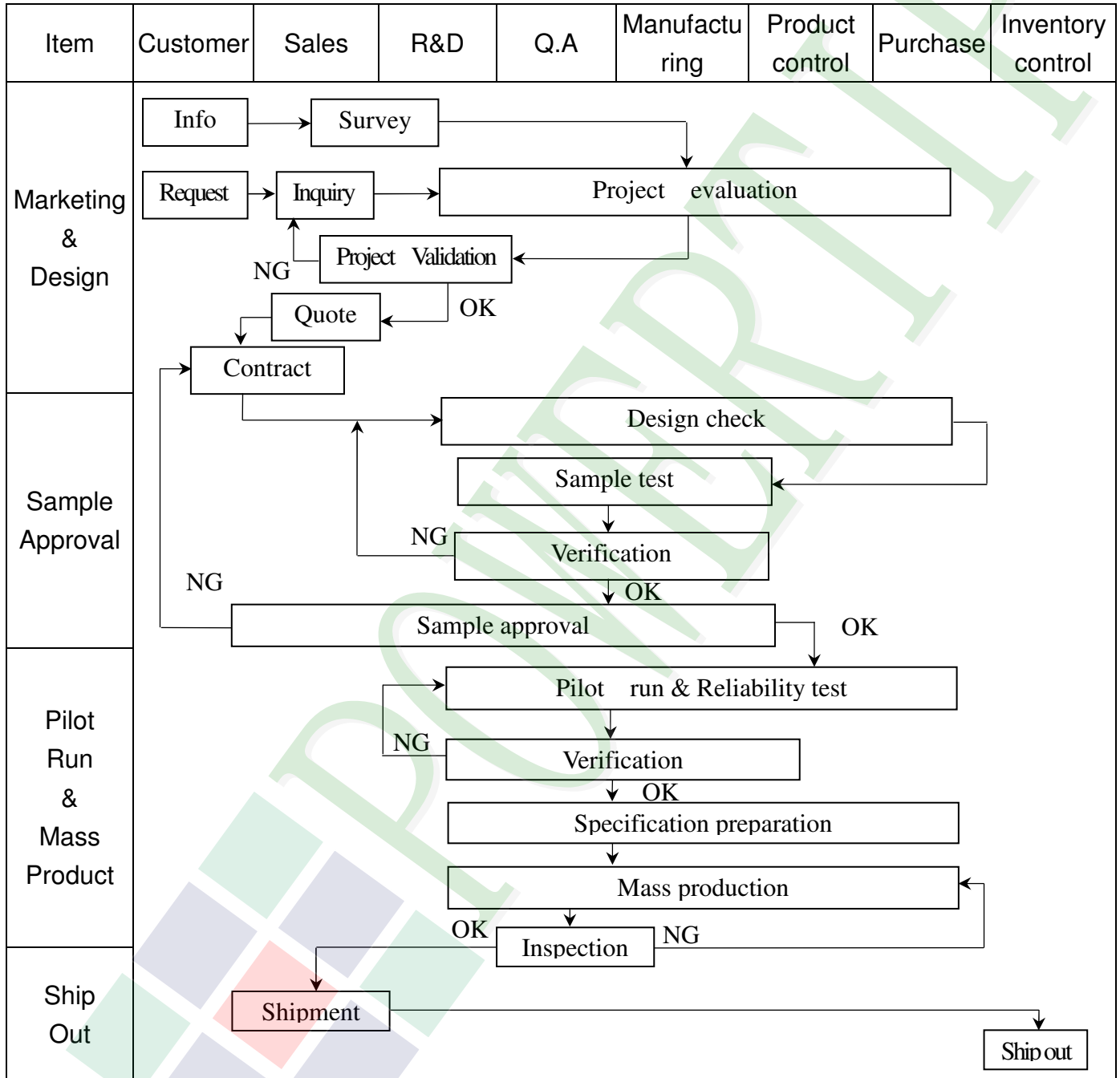
Parameter	Symbol	Value			Unit
		Min	Typ	Max	
Vertical display area	tvd	600			H
VSYNC period time	tv	624	635	750	H
VSYNC pulse width	tvpw	1	-	20	H
VSYNC Blanking	tvb	23	23	23	H
VSYNC Front Porch	tvfb	1	12	127	H

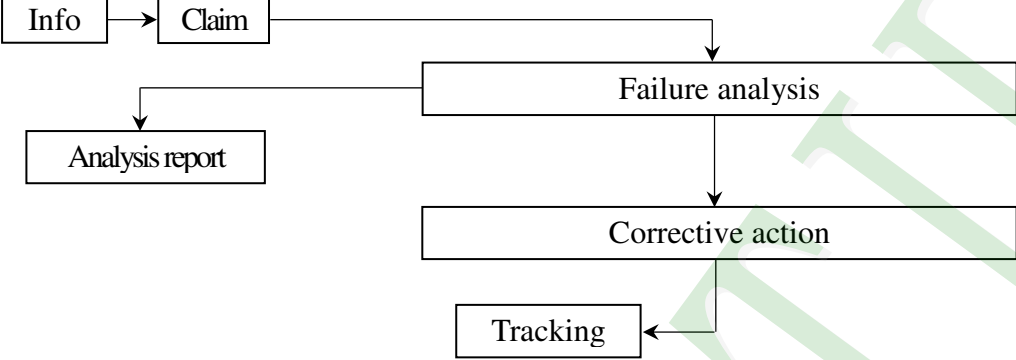
2.4 AC Electrical Characteristics

Parameters	Symbol	Spec			Unit	Conditions
		Min.	Typ.	Max.		
VDD Power ON slew rate	tPOR	--	--	20	ms	0V ~ 90% VDD
RSTB pulse width	tRST	50	--	--	us	CLKIN=65MHz
DCLK cycle time	tCPH	14	--	--	ns	
DCLK pulse duty	tCWH	40	50	60	%	
VSD setup time	tVST	5	--	--	ns	
VSD hold time	tVHD	5	--	--	ns	
HSD setup time	tHST	5	--	--	ns	
HSD hold time	tHHD	5	--	--	ns	
Data setup time	tDST	5	--	--	ns	D0[7:0], D1[7:0], D2[7:0] to DCLK
Data hold time	tDHD	5	--	--	ns	D0[7:0], D1[7:0], D2[7:0] to DCLK
DE setup time	tEST	5	--	--	ns	
DE hold time	tEHD	5	--	--	ns	
Output stable time	tsST	--	--	6	us	10% to 90% target voltage. CL=90pF, R=10K
				3		Dual gate

3. QUALITY ASSURANCE SYSTEM

3.1 Quality Assurance Flow Chart



Item	Customer	Sales	R&D	Q.A	Manufacturing	Product control	Purchase	Inventory control
Sales Service	 <pre> graph TD Info[Info] --> Claim[Claim] Claim --> Failure[Failure analysis] Claim --> Report[Analysis report] Failure --> Action[Corrective action] Action --> Tracking[Tracking] </pre>							
Q.A Activity	1. ISO 9001 Maintenance Activities 3. Equipment calibration 5. Standardization Management				2. Process improvement proposal 4. Education And Training Activities			

3.2. Inspection Specification

◆Scope : The document shall be applied to TFT-LCD Module for 3.5" ~15" (Ver.B01).

◆Inspection Standard : MIL-STD-105E Table Normal Inspection Single Sampling Level II.

◆Equipment : Gauge 、 MIL-STD 、 Powertip Tester 、 Sample

◆Defect Level : Major Defect AQL : 0.4 ; Minor Defect AQL : 1.5

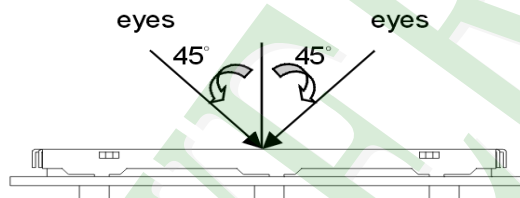
◆OUT Going Defect Level : Sampling.

◆Standard of the product appearance test :

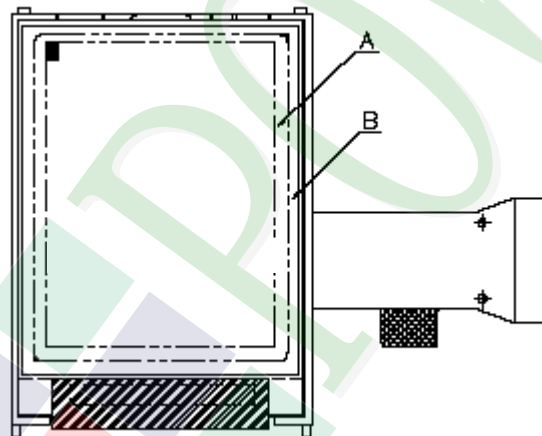
a. Manner of appearance test :

(1). The test best be under 20W×2 fluorescent light , and distance of view must be at 30 cm.

(2). The test direction is base on about around 45° of vertical line.



(3). Definition of area.



A area : viewing area

B area : Outside of viewing area

(4). Standard of inspection : (Unit : mm)

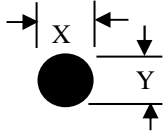
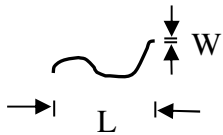
◆Specification For TFT-LCD Module 3.5" ~15" :

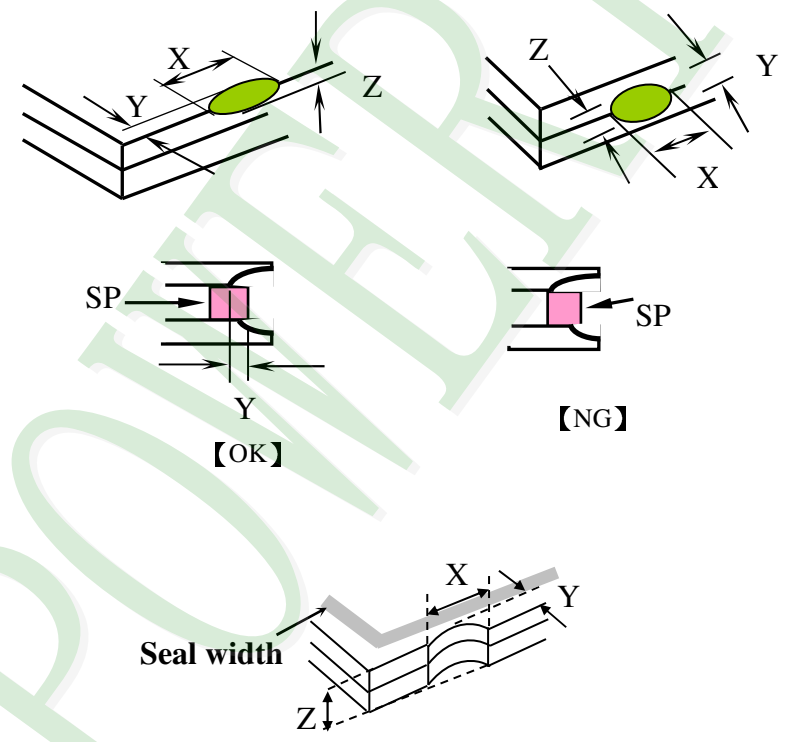
(Ver.B01)

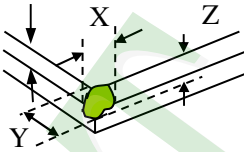
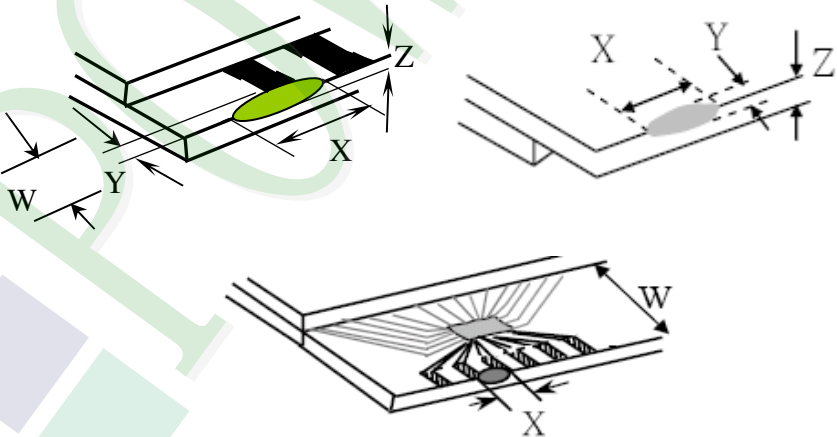
NO	Item	Criterion	Level												
01	Product condition	1. 1 The part number is inconsistent with work order of production.	Major												
		1. 2 Mixed product types.	Major												
		1. 3 Assembled in inverse direction.	Major												
02	Quantity	2. 1 The quantity is inconsistent with work order of production.	Major												
03	Outline dimension	3. 1 Product dimension and structure must conform to structure diagram.	Major												
04	Electrical Testing	4. 1 Missing line character and icon.	Major												
		4. 2 No function or no display.	Major												
		4. 3 Display malfunction.	Major												
		4. 4 LCD viewing angle defect.	Major												
		4. 5 Current consumption exceeds product specifications.	Major												
		4. 6 Mura can not be seen through 5% ND filter. (Mura : Under the normal examination angle of view, the picture has the non-uniform phenomenon.)	Minor												
05	Dot defect (Bright dot 、 Dark dot) On -display	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th colspan="2">Item</th> <th>Acceptance (Q'ty)</th> </tr> </thead> <tbody> <tr> <td rowspan="4" style="text-align: center; vertical-align: middle;">Dot Defect</td> <td style="text-align: center;">Bright Dot</td> <td style="text-align: center;">≤ 4</td> </tr> <tr> <td style="text-align: center;">Dark Dot</td> <td style="text-align: center;">≤ 5</td> </tr> <tr> <td style="text-align: center;">Joint Dot</td> <td style="text-align: center;">≤ 3</td> </tr> <tr> <td style="text-align: center;">Total</td> <td style="text-align: center;">≤ 7</td> </tr> </tbody> </table>	Item		Acceptance (Q'ty)	Dot Defect	Bright Dot	≤ 4	Dark Dot	≤ 5	Joint Dot	≤ 3	Total	≤ 7	Minor
		Item		Acceptance (Q'ty)											
		Dot Defect	Bright Dot	≤ 4											
			Dark Dot	≤ 5											
			Joint Dot	≤ 3											
Total	≤ 7														
5. 1 Inspection pattern : full white , full black , Red , Green and blue screens.															
5. 2 It is defined as dot defect if defect area $> 1/2$ dot.															
5. 3 The distance between two dot defect ≥ 5 mm.															
5. 4 Bright dot that can not be seen through 5% ND filter.															

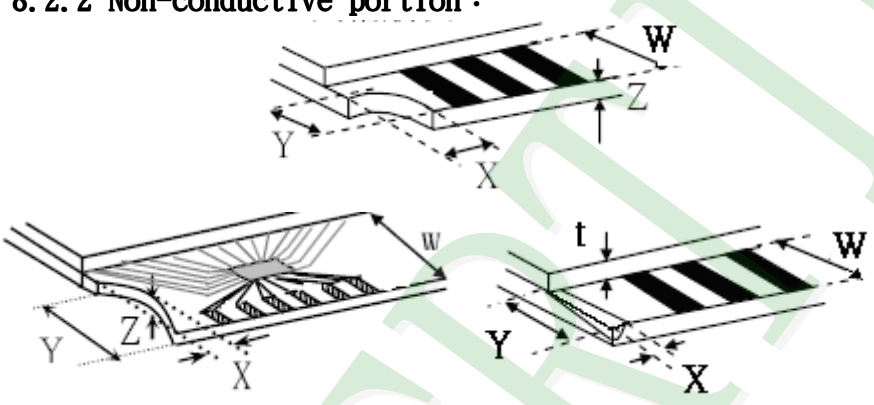
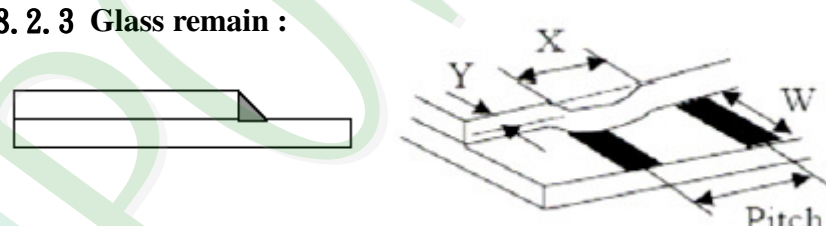
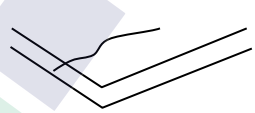
◆Specification For TFT-LCD Module 3.5" ~15" :

(Ver.B01)

NO	Item	Criterion	Level																																												
06	Black or white dot、scratch、contamination Round type  $\Phi = (x + y) / 2$ Line type 	6.1 Round type (Non-display or display) : <table border="1"> <thead> <tr> <th rowspan="2">Dimension (diameter : Φ)</th> <th colspan="2">Acceptance (Q'ty)</th> </tr> <tr> <th>A area</th> <th>B area</th> </tr> </thead> <tbody> <tr> <td>$\Phi \leq 0.25$</td> <td colspan="2">Ignore</td> </tr> <tr> <td>$0.25 < \Phi \leq 0.50$</td> <td>5</td> <td rowspan="3">Ignore</td> </tr> <tr> <td>$\Phi > 0.50$</td> <td>0</td> </tr> <tr> <td>Total</td> <td>5</td> </tr> </tbody> </table>	Dimension (diameter : Φ)	Acceptance (Q'ty)		A area	B area	$\Phi \leq 0.25$	Ignore		$0.25 < \Phi \leq 0.50$	5	Ignore	$\Phi > 0.50$	0	Total	5	Minor																													
		Dimension (diameter : Φ)		Acceptance (Q'ty)																																											
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Total	5																																														
6.2 Line type(Non-display or display) : <table border="1"> <thead> <tr> <th rowspan="2">module size</th> <th rowspan="2">Length (L)</th> <th rowspan="2">Width (W)</th> <th colspan="2">Acceptance (Q'ty)</th> </tr> <tr> <th>A area</th> <th>B area</th> </tr> </thead> <tbody> <tr> <td rowspan="4">3.5" to less 9"</td> <td>---</td> <td>$W \leq 0.03$</td> <td colspan="2">Ignore</td> </tr> <tr> <td>$L \leq 10.0$</td> <td>$0.03 < W \leq 0.05$</td> <td>4</td> <td rowspan="4">Ignore</td> </tr> <tr> <td>$L \leq 5.0$</td> <td>$0.05 < W \leq 0.10$</td> <td>2</td> </tr> <tr> <td>---</td> <td>$W > 0.10$</td> <td colspan="2">As round type</td> </tr> <tr> <td colspan="3">Total</td> <td colspan="2">5</td> </tr> <tr> <td rowspan="4">9" to 15"</td> <td>---</td> <td>$W \leq 0.05$</td> <td colspan="2">Ignore</td> </tr> <tr> <td>$L \leq 10.0$</td> <td>$0.05 < W \leq 0.10$</td> <td>5</td> <td rowspan="4">Ignore</td> </tr> <tr> <td>---</td> <td>$W > 0.10$</td> <td colspan="2">As round type</td> </tr> <tr> <td colspan="3">Total</td> <td colspan="2">5</td> </tr> </tbody> </table>	module size	Length (L)	Width (W)	Acceptance (Q'ty)		A area	B area	3.5" to less 9"	---	$W \leq 0.03$	Ignore		$L \leq 10.0$	$0.03 < W \leq 0.05$	4	Ignore	$L \leq 5.0$	$0.05 < W \leq 0.10$	2	---	$W > 0.10$	As round type		Total			5		9" to 15"	---	$W \leq 0.05$	Ignore		$L \leq 10.0$	$0.05 < W \leq 0.10$	5	Ignore	---	$W > 0.10$	As round type		Total			5		Minor
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		<p>8.2 Protrusion over terminal :</p> <p>8.2.1 Chip on electrode pad :</p>  <table border="1" data-bbox="560 1697 1345 1872"> <thead> <tr> <th></th> <th>X</th> <th>Y</th> <th>Z</th> </tr> </thead> <tbody> <tr> <td>Front</td> <td>$\leq a$</td> <td>$\leq 1/2 W$</td> <td>$\leq t$</td> </tr> <tr> <td>Back</td> <td>$\leq a$</td> <td>$\leq W$</td> <td>$\leq 1/2 t$</td> </tr> </tbody> </table>		X	Y	Z	Front	$\leq a$	$\leq 1/2 W$	$\leq t$	Back	$\leq a$	$\leq W$	$\leq 1/2 t$	Minor
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X	Y	Z													
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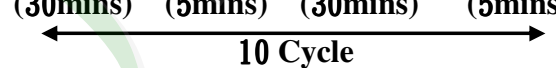
◆Specification For TFT-LCD Module 3.5" ~15" :
(Ver.B01)

NO	Item	Criterion	Level
09	Backlight elements	9. 1 Backlight can't work normally.	Major
		9. 2 Backlight doesn't light or color is wrong.	Major
		9. 3 Illumination source flickers when lit.	Major
10	General appearance	10. 1 Pin type 、 quantity 、 dimension must match type in structure diagram.	Major
		10. 2 No short circuits in components on PCB or FPC .	Major
		10. 3 Parts on PCB or FPC must be the same as on the production characteristic chart .There should be no wrong parts , missing parts or excess parts.	Major
		10. 4 Product packaging must the same as specified on packaging specification sheet.	Minor
		10. 5 The folding and peeled off in polarizer are not acceptable.	Minor
		10. 6 The PCB or FPC between B/L assembled distance(PCB or FPC) is ≤ 1.5 mm.	Minor

4. RELIABILITY TEST

4.1 Reliability Test Condition

(Ver.B01)

NO.	TEST ITEM	TEST CONDITION										
1	High Temperature Storage Test	Keep in +80 ±2°C 96 hrs Surrounding temperature, then storage at normal condition 4hrs.										
2	Low Temperature Storage Test	Keep in -30 ±2°C 96 hrs Surrounding temperature, then storage at normal condition 4hrs.										
3	High Temperature / High Humidity Storage Test	Keep in +60°C / 90% R.H duration for 96 hrs Surrounding temperature, then storage at normal condition 4hrs. (Excluding the polarizer)										
4	ESD Test	Air Discharge: (include mobile phone) Apply 2 KV with 5 times Discharge for each polarity +/-	Contact Discharge: (include mobile phone) Apply 250V with 5 times discharge for each polarity +/-									
		<ol style="list-style-type: none"> 1. Temperature ambience: 15°C ~ 35°C 2. Humidity relative: 30% ~ 60% 3. Energy Storage Capacitance(Cs+Cd): 150pF±10% 4. Discharge Resistance(Rd): 330Ω±10% 5. Discharge, mode of operation: Single Discharge (time between successive discharges at least 1 s) (Tolerance if the output voltage indication: ±5%) 										
5	Temperature Cycling Storage Test	<p style="text-align: center;"> -30°C → +25°C → +80°C → +25°C (30mins) (5mins) (30mins) (5mins)  10 Cycle </p> Surrounding temperature, then storage at normal condition 4hrs.										
6	Vibration Test (Packaged)	<ol style="list-style-type: none"> 1. Sine wave 10~55 Hz frequency (1 min) 2. The amplitude of vibration : 1.5 mm 3. Each direction (X、Y、Z) duration for 2 Hrs 										
7	Drop Test (Packaged)	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Packing Weight (Kg)</th> <th>Drop Height (cm)</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0 ~ 45.4</td> <td style="text-align: center;">122</td> </tr> <tr> <td style="text-align: center;">45.4 ~ 90.8</td> <td style="text-align: center;">76</td> </tr> <tr> <td style="text-align: center;">90.8 ~ 454</td> <td style="text-align: center;">61</td> </tr> <tr> <td style="text-align: center;">Over 454</td> <td style="text-align: center;">46</td> </tr> </tbody> </table> <p style="text-align: center;">Drop direction : ※ 1 corner / 3 edges / 6 sides each 1times</p>	Packing Weight (Kg)	Drop Height (cm)	0 ~ 45.4	122	45.4 ~ 90.8	76	90.8 ~ 454	61	Over 454	46
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0 ~ 45.4	122											
45.4 ~ 90.8	76											
90.8 ~ 454	61											
Over 454	46											

5. PRECAUTION RELATING PRODUCT HANDLING

5.1 SAFETY

- 5.1.1 If the LCD panel breaks , be careful not to get the liquid crystal to touch your skin.
- 5.1.2 If the liquid crystal touches your skin or clothes , please wash it off immediately by using soap and water.

5.2 HANDLING

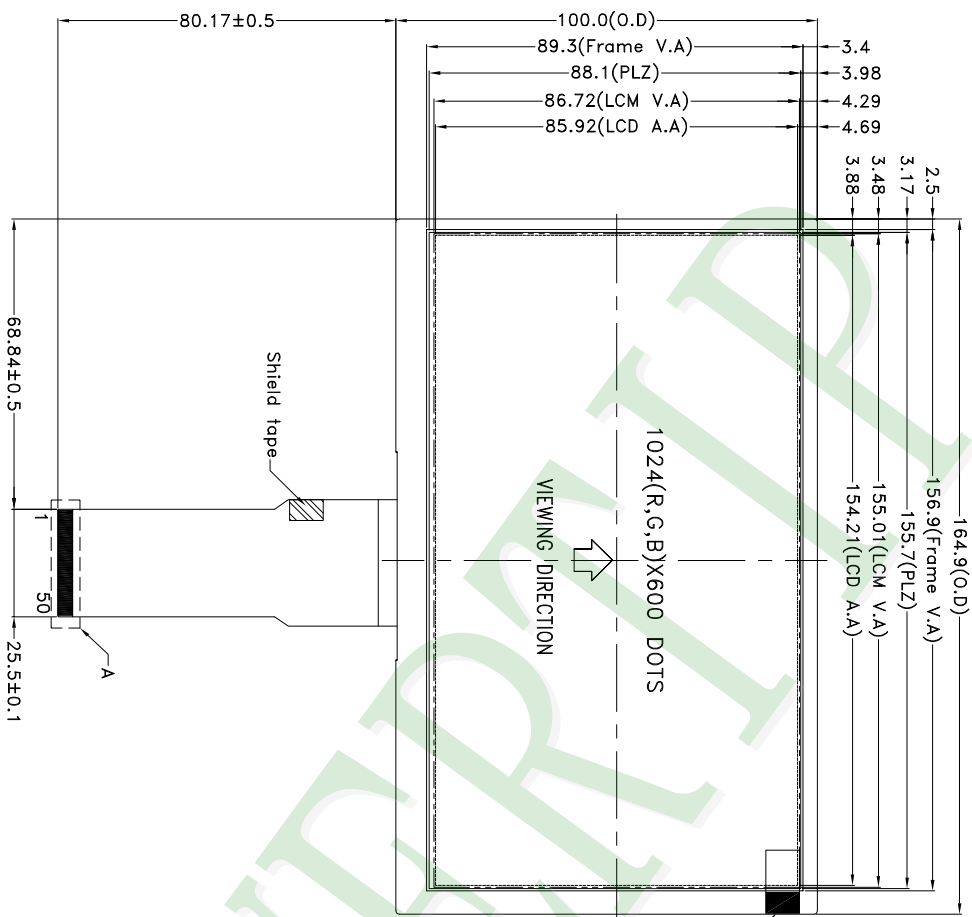
- 5.2.1 Avoid any strong mechanical shock which can break the glass.
- 5.2.2 Avoid static electricity which can damage the CMOS LSI—When working with the module , be sure to ground your body and any electrical equipment you may be using.
- 5.2.3 Do not remove the panel or frame from the module.
- 5.2.4 The polarizing plate of the display is very fragile. So , please handle it very carefully ,do not touch , push or rub the exposed polarizing with anything harder than an HB pencil lead (glass , tweezers , etc.)
- 5.2.5 Do not wipe the polarizing plate with a dry cloth , as it may easily scratch the surface of plate.
- 5.2.6 Do not touch the display area with bare hands , this will stain the display area.
- 5.2.7 Do not use ketonics solvent & aromatic solvent. Use with a soft cloth soaked with a cleaning naphtha solvent.
- 5.2.8 To control temperature and time of soldering is $320\pm 10^{\circ}\text{C}$ and 3-5 sec.
- 5.2.9 To avoid liquid (include organic solvent) stained on LCM .

5.3 STORAGE

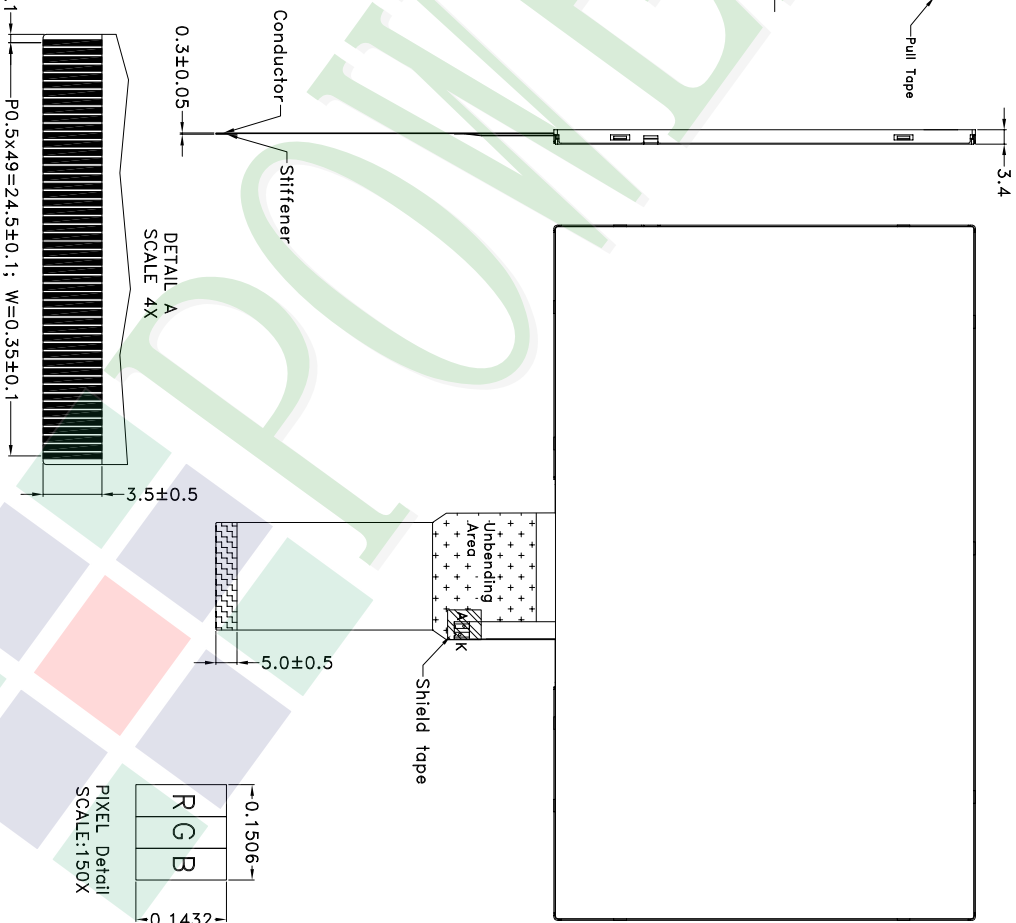
- 5.3.1 Store the panel or module in a dark place where the temperature is $25^{\circ}\text{C} \pm 5^{\circ}\text{C}$ and the humidity is below 65% RH.
- 5.3.2 Do not place the module near organics solvents or corrosive gases.
- 5.3.3 Do not crush , shake , or jolt the module.

5.4 TERMS OF WARRANTY

- 5.4.1 Applicable warrant period
The period is within thirteen months since the date of shipping out under normal using and storage conditions.
- 5.4.2 Unaccepted responsibility
This product has been manufactured to your company's specification as a part for use in your company's general electronic products. It is guaranteed to perform according to delivery specifications. For any other use apart from general electronic equipment , we cannot take responsibility if the product is used in nuclear power control equipment , aerospace equipment , fire and security systems or any other applications in which there is a direct risk to human life and where extremely high levels of reliability are required.



- NOTES:
- 1.LCD TYPE: a-Si TFT
 - 2.LCD DISPLAY: POSITIVE/TRANSMISSIVE
 - 3.VIEW DIRECTION: 6 O'CLOCK
 - 4.The tolerance unless classified $\pm 0.3\text{mm}$
 - 5.FPC suggested connector : HIROSE FH12A-50S-0.5H or compatible



007	REV								
006									
005									
004									
003									
002									
001	NEW DRAWING	REV BY	Mandy	REVISER		DATE	2017/05/24		

PART NO:		PH102600T009-IBA	
DRAWING NAME:		LMD-PH102600T009-IBA	
TITLE:		LCD MODULE DRAWING	

Design	Mandy Chang	久正光電股份有限公司 POWER TIP TECHNOLOGY CORPORATION
Check	Tina Chen	
Approve	Jimmy Chen	

Unit	MM	Surface	Material	Thickness	Quantity
	Scale				
Page	1/1				

1	2	3	4	5	6
---	---	---	---	---	---

Ver.001

LCM包裝規格書

LCM Packaging Specifications

Documents NO. PKG-PH102600T009-IBA

Approve	Check	Contact
Jimmy	Tina	Mandy

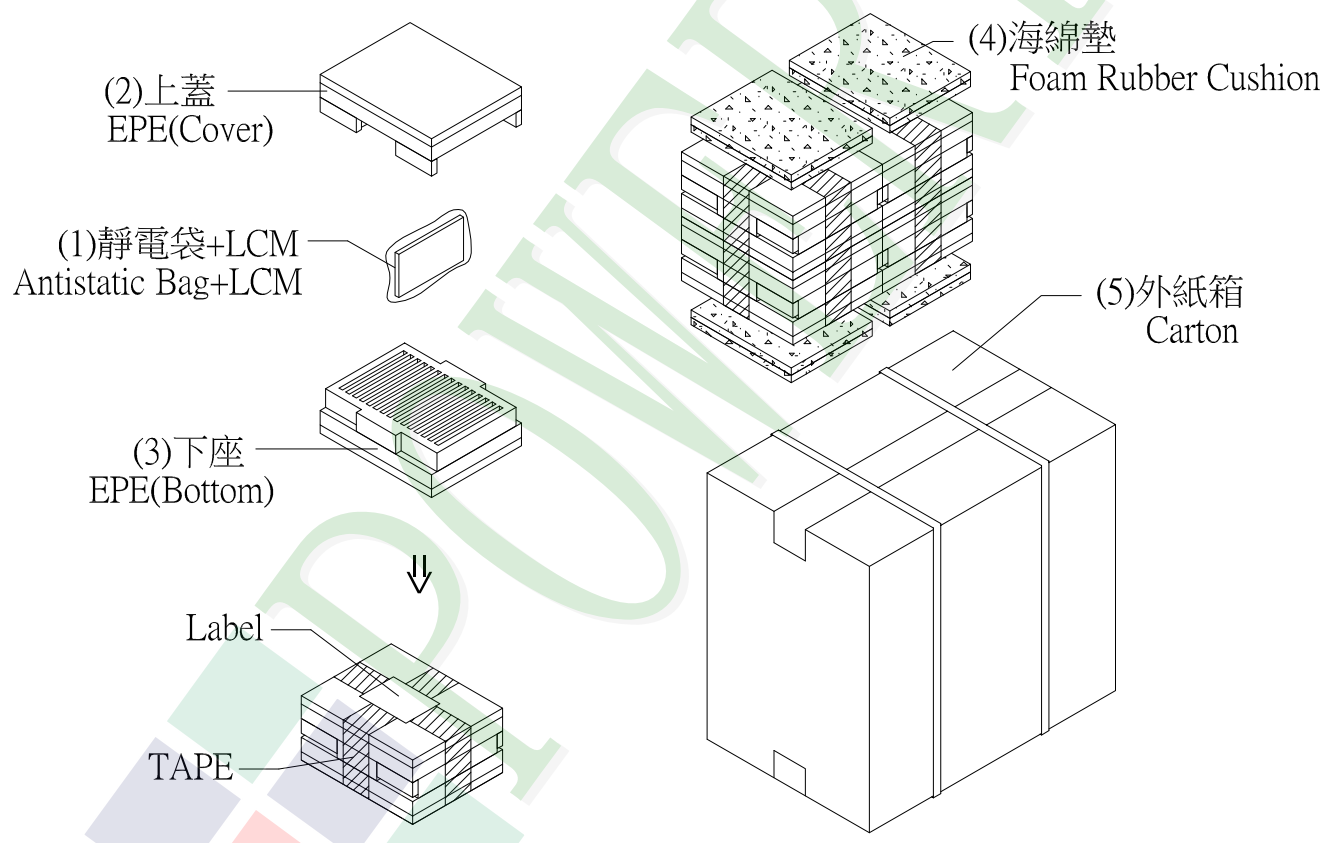
1. 包裝材料規格表 (Packaging Material) : (per carton)

No.	Item	Model	Dimensions (mm)	1Pcs Weight	Quantity	Total Weight
1	成品 (LCM)	PH102600T009-IBA	164.9 X 100.0 X 3.4	0.1098	60	6.588
2	靜電袋(1)Antistatic Bag	BAG240170ARABA	240 X 170	0.0048	60	0.288
3	上蓋(2)EPE	FOAM000000078	310 X 250 X 90	0.1	4	0.4
4	下座(3)EPE	FOAM000000079	310 X 250 X 100	0.17	4	0.68
5	海綿墊(4)Foam Rubber Cushion	OTFOAM00006ABA	290 X 240 X 10	0.0058	4	0.0232
6	外紙箱(5)Carton	BX52732536CCBA	527 X 325 X 360	1.092	1	1.092
7						
8						
9						

2. 一整箱總重量 (Total LCD Weight in carton) : 9.07 Kg±10%

3. 單箱數量規格表 (Packaging Specifications and Quantity) :

(1)Total LCD quantity in carton : quantity per box 15 x no of boxes 4 = 60



特 記 事 項 (REMARK)

4. 包裝數量不足時需以EPE(舒美墊)填補空槽
 EPE:OTFOAMEP0003BA自裁成
 (166.5X109.0X10mm)