



## SPECIFICATIONS

CUSTOMER : PTC

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SAMPLE CODE : SE320240WRF-021-HQ

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MASS PRODUCTION CODE : PE320240WRF-021-HQ

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SAMPLE VERSION : 01

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SPECIFICATIONS EDITION : 002

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DRAWING NO. (Ver.) : JLMD- PE320240WRF-021-HQ\_001

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PACKAGING NO. (Ver.) : JPKG- PE320240WRF-021-HQ\_001

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### Customer Approved

Date:



Approved	Checked	Designer
閔偉	劉進	張歡

- Preliminary specification for design input
- Specification for sample approval

## POWERTIP TECH. CORP.

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Note : For detailed information please refer to IC data sheet :

UCi7701c, UCi7702c

## 1. SPECIFICATIONS

### 1.1 Features

Item	Standard Value
Display Type	320 * 240 Dots
LCD Type	FSTN, Positive, Transflective
Driver Condition	LCD Module: 1/240 Duty, 1/15.3 Bias
Viewing Direction	6 O'clock
Backlight	LED B/L
Interface	4 bits parallel data input
Driver IC	UCi7701c,UCi7702c
ROHS	<p>THIS PRODUCT CONFORMS THE ROHS OF PTC</p> <p>Detail information please refer web side :</p> <p><a href="http://www.powertip.com.tw/news.php?area_id_view=1085560481/">http://www.powertip.com.tw/news.php?area_id_view=1085560481/</a></p>

### 1.2 Mechanical Specifications

Item	Standard Value	Unit
Outline Dimension	143.0 (L) * 96.8 (w) * 12.6(H)(Max)	mm
Viewing Area	106.0 (L) * 81.0 (w)	mm
Active Area	95.985 (L) * 71.985 (w)	mm
Dot Size	0.285 (L) * 0.285 (w)	mm
Dot Pitch	0.30 (L) * 0.30 (w)	mm

Note : For detailed information please refer to LCM drawing

### 1.3 Absolute Maximum Ratings

Item	Symbol	Condition	Min.	Max.	Unit
Power Supply Voltage	$V_{DD}-V_{SS}$	—	-0.3	+7.0	V
LCD Driver Supply Voltage	$V_0 -V_{SS}$	—	-0.3	+35.0	V
Input Voltage	$V_{IN}$	—	-0.3	$V_{DD}+0.3$	V
Operating Temperature	$T_{OP}$	—	-20	70	°C
Storage Temperature.	$T_{ST}$	—	-30	80	°C
Storage Humidity	$H_D$	$T_a < 60\text{ }^\circ\text{C}$	20	90	%RH

## 1.4 DC Electrical Characteristics

$V_{DD} = 4.5V \sim 5.5V$  ,  $V_{SS} = 0V$  ,  $T_a = 25^{\circ}C$

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Logic Supply Voltage	$V_{DD}$	—	4.5	5.0	5.5	V
“H” Input Voltage	$V_{IH}$	—	$0.8 V_{DD}$	—	$V_{DD}$	V
“L” Input Voltage	$V_{IL}$	—	$V_{SS}$	—	$0.2 V_{DD}$	V
“H” Output Voltage	$V_{OH}$	$I_{OH} = -0.4mA$	$V_{DD} - 0.4$	—	—	V
“L” Output Voltage	$V_{OL}$	$I_{OL} = +0.4mA$	—	—	0.4	V
Supply current	$I_{DD}$	$V_{DD} = 5.0V$	—	0.1	0.3	mA
	$I_{OP}$	$V_{OP} = 21.3V$	—	4.5	7	
LCM driving voltage	$V_{OP}$ ( $V_{C9}$ )	$-20^{\circ}C$	22.3	22.5	22.8	V
		$25^{\circ}C$	21.0	21.3	21.5	
		$70^{\circ}C$	19.5	19.7	19.9	

Test condition : M : 35Hz FLM : 70Hz

Note: Need to make sure that there is no flicker and ripper phenomenon when setting the frame frequency in your set

## 1.5 Optical Characteristics

LCD Panel: 1/240Duty, 1/15.3Bias,  $V_{LCD} = 21.3V$ ,  $T_a = 25^\circ C$

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit	Reference	
Response Time	Rise	tr	-	140	210	ms	Note2	
	Fall	tf	-	320	480			
Viewing angle range	Top	$\Theta Y+$	$C \geq 2.0$	-	35	-	Deg.	Notes 1
	Bottom	$\Theta Y-$		-	35	-		
	Left	$\Theta X-$		-	40	-		
	Right	$\Theta X+$		-	40	-		
Contrast Ratio	C	-	-	5	-	-	Note 3	
Average Brightness (with LCD) *1	IV	IF=120mA	40	70	-	cd/m <sup>2</sup>	Note 4	
CIE Color Coordinate (with LCD)	X		0.28	0.33	0.38	-		
	Y	0.30	0.35	0.40				
Uniformity *2	$\Delta B$	IF=120mA	70	-	-	%		

Note 4 :

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

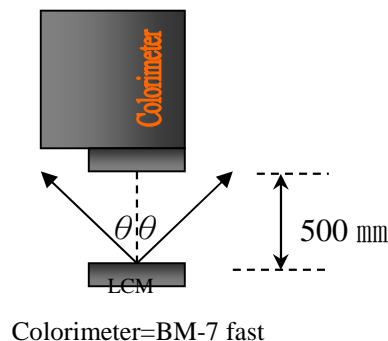
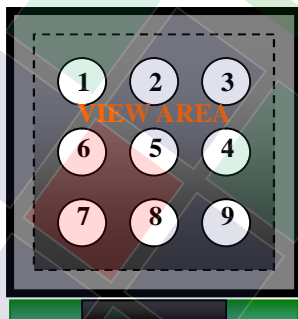
2 : Measurement Condition for Optical Characteristics:

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

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

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

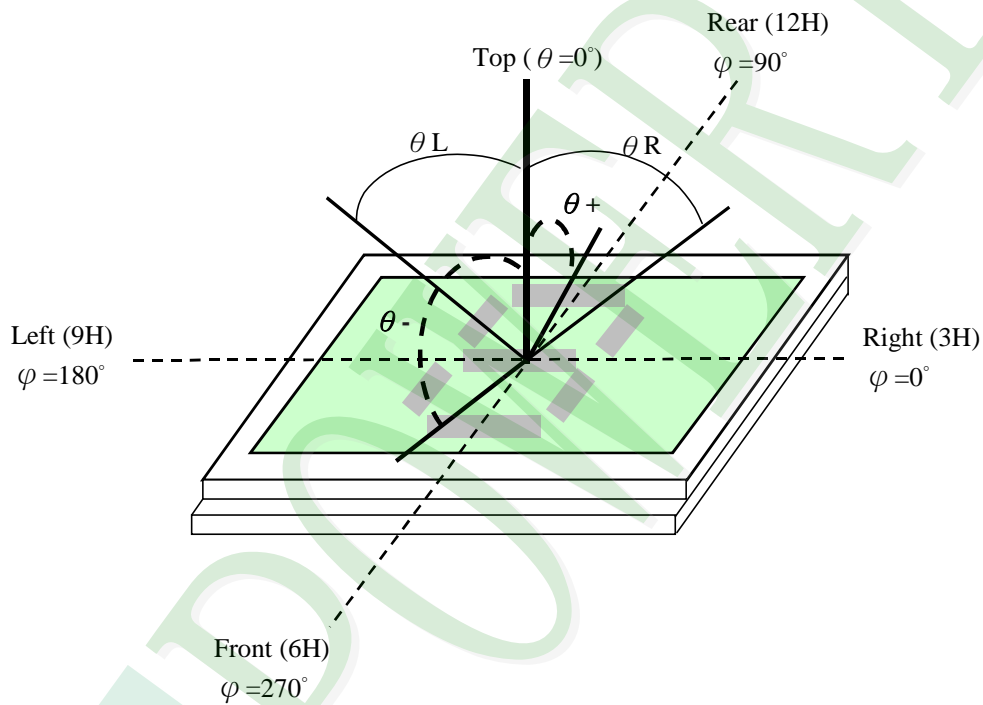
d : The uncertainty of the C.I.E coordinate measurement  $\pm 0.01$  , Average Brightness  $\pm 4\%$



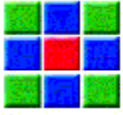
Note 1.

Optical characteristics-2

Viewing angle



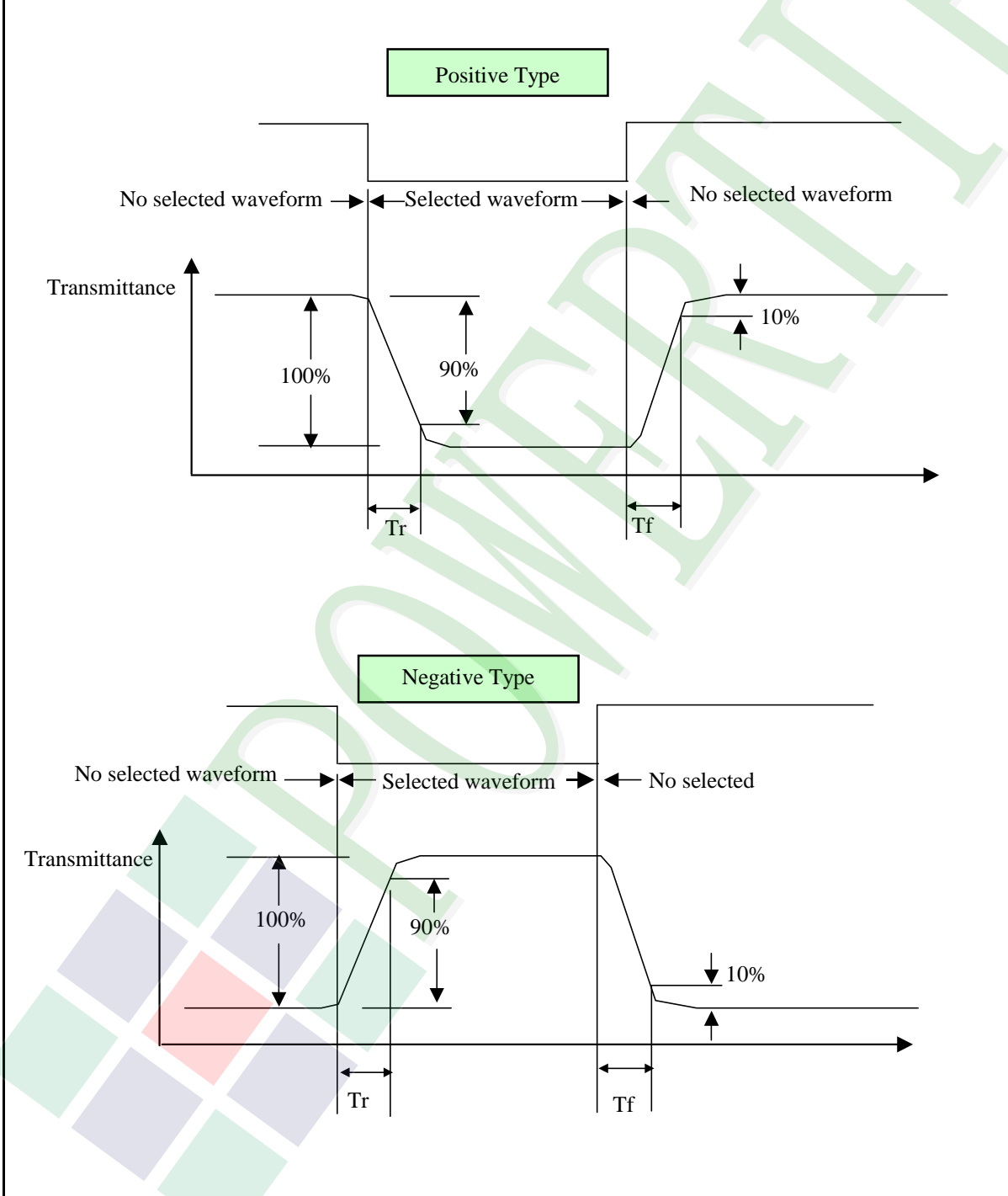
Viewing angle



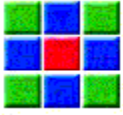
Note 2.

Optical characteristics-3

Fig.2 Definition of response time







## Electrical characteristics-2

※2 Drive waveform

$V_{op}$ : Drive voltage

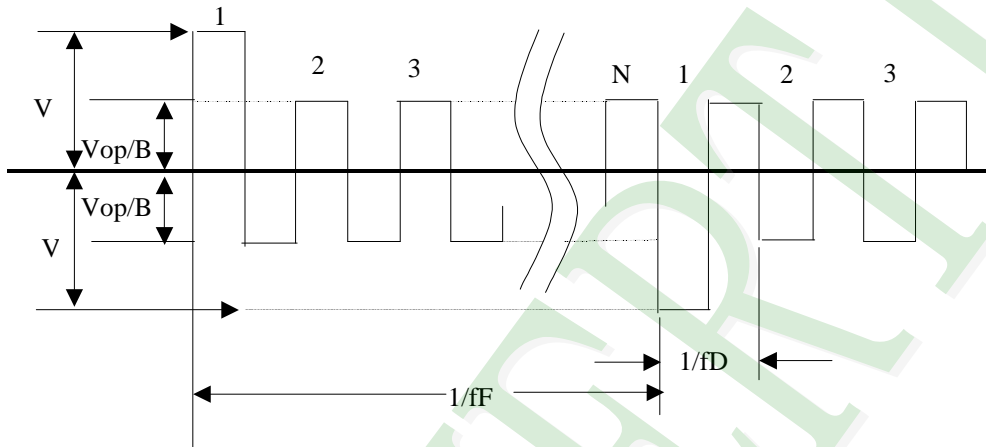
$f_F$ : Frame frequency

$1/B$ : Bias

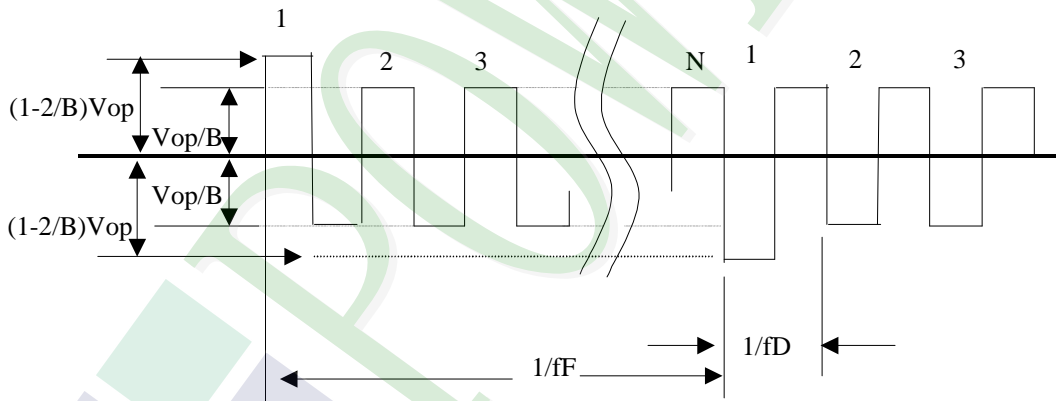
$f_D$ : Drive frequency

$N$ : Duty

### (1) Selected waveform



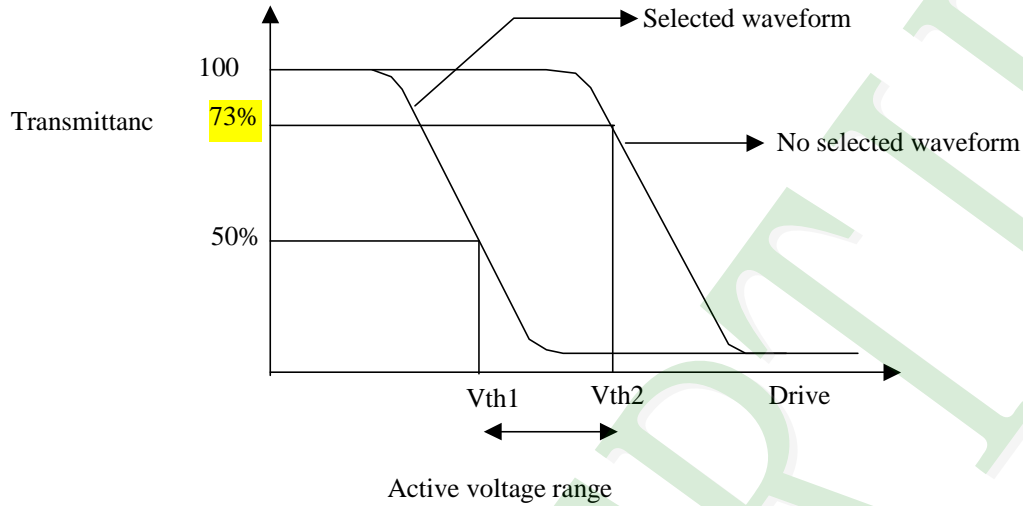
### (2) Non- Selected waveform



Note:

Frame frequency is defined as follows: Common side supply voltage peak - to - peak / 2 = 1 period

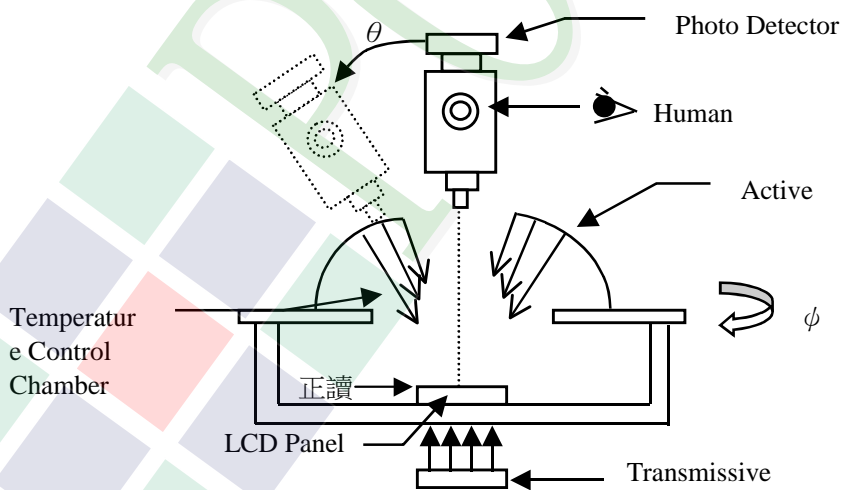
Note 3. : Definition of Vth



	Vth1	Vth2
View direction	10°	40°
Drive waveform	(Selected waveform)	(No selected waveform)
Transmittance	50%	73%

※1 Contrast ratio  
 = (Brightness in OFF state) / (Brightness in ON state)

Outline of Electro-Optical Characteristics Measuring System



## 1.6 Backlight Characteristics

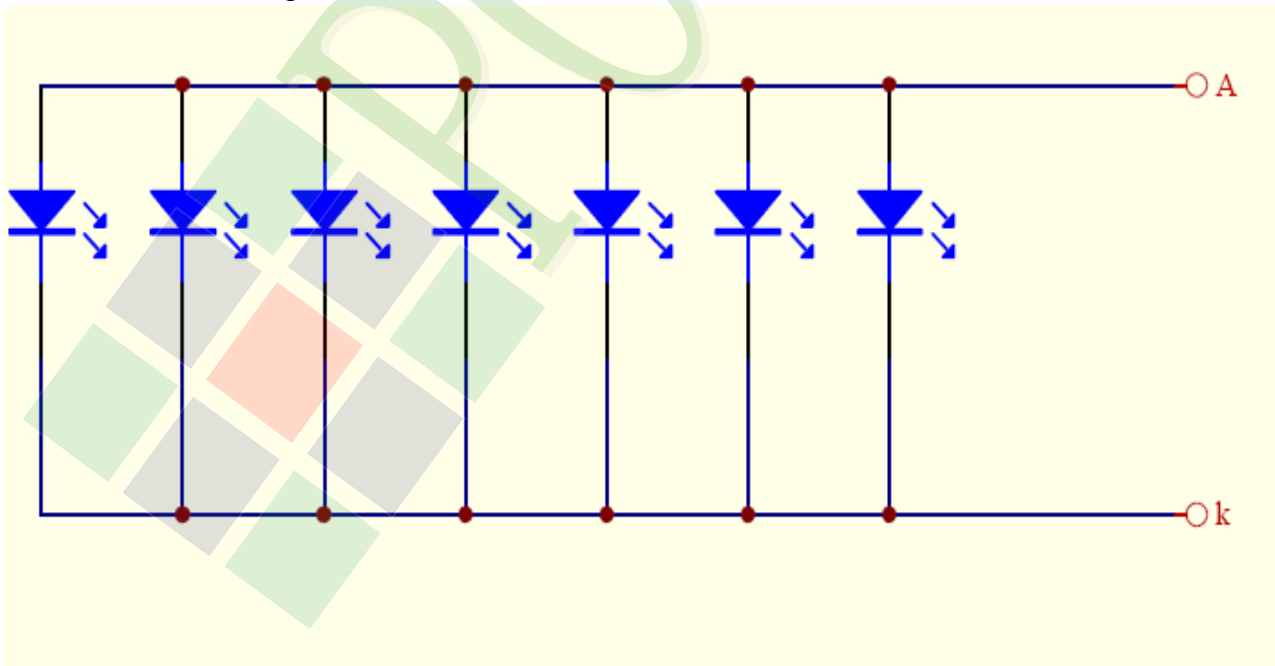
### Maximum Ratings

Item	Symbol	Conditions	Min.	Max.	Unit
Forward Current	IF	Ta =25°C	—	245	mA
Reverse Voltage	VR	Ta =25°C	—	5	V
Reverse Current	IR	VR=5 V	—	0.35	mA
Power Dissipation	PO	Ta =25°C	—	1.03	W

### Electrical / Optical Characteristics

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward Voltage	VF	If= 120mA	—	-	4.2	V
Average Brightness	IV	If=120 mA	250	350	—	cd/m <sup>2</sup>
CIE Color Coordinate	x	IF=120mA	0.28	-	0.34	-
	Y		0.28	-	0.35	
Uniformity *1	△B	IF=120mA	70	—	—	%
Color	white					

### Internal Circuit Diagram:



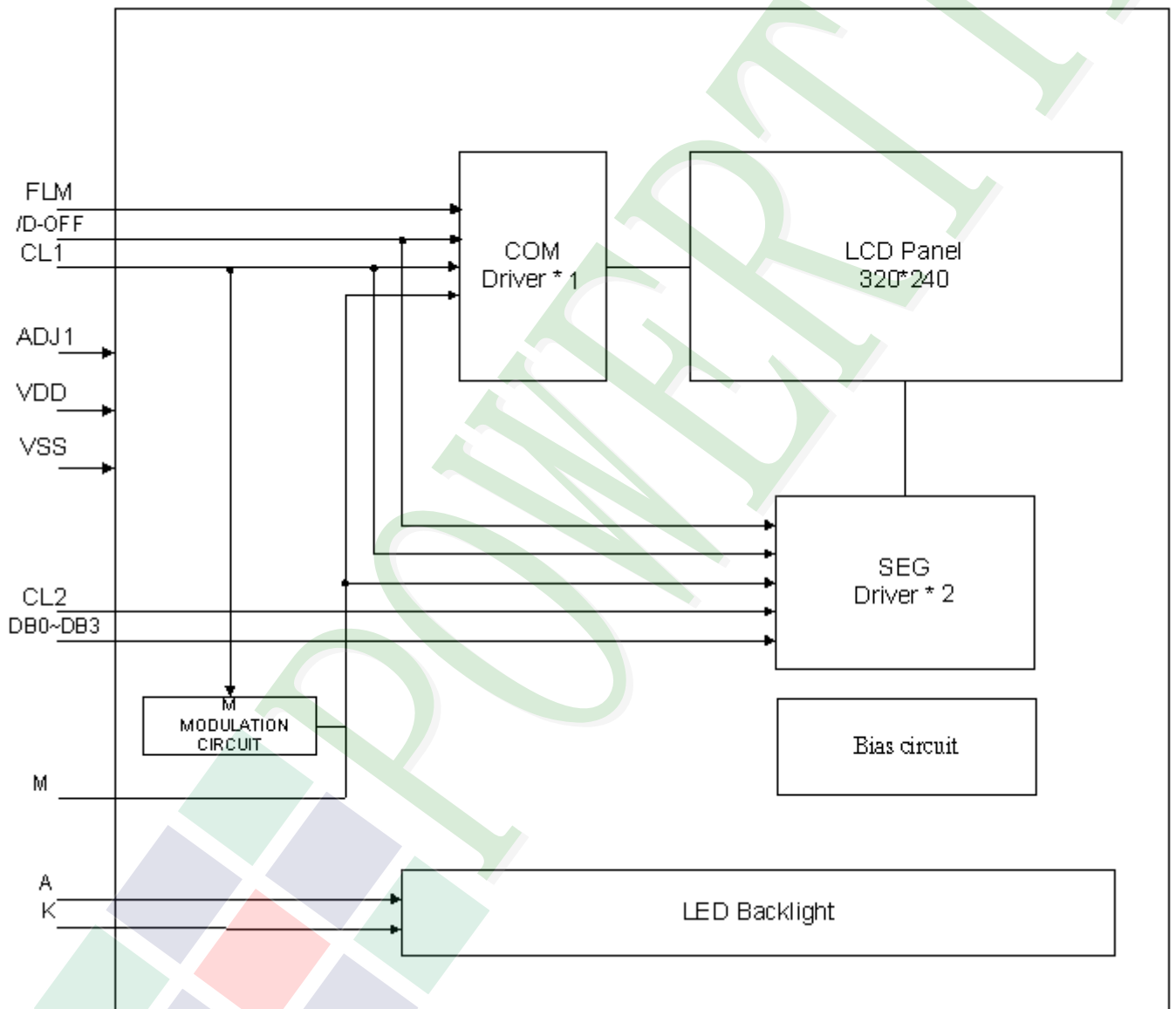
## . MODULE STRUCTURE

### 2.1 Counter Drawing

#### 2.1.1 LCM Mechanical Diagram

\* See Appendix

#### 2.1.2 Block Diagram

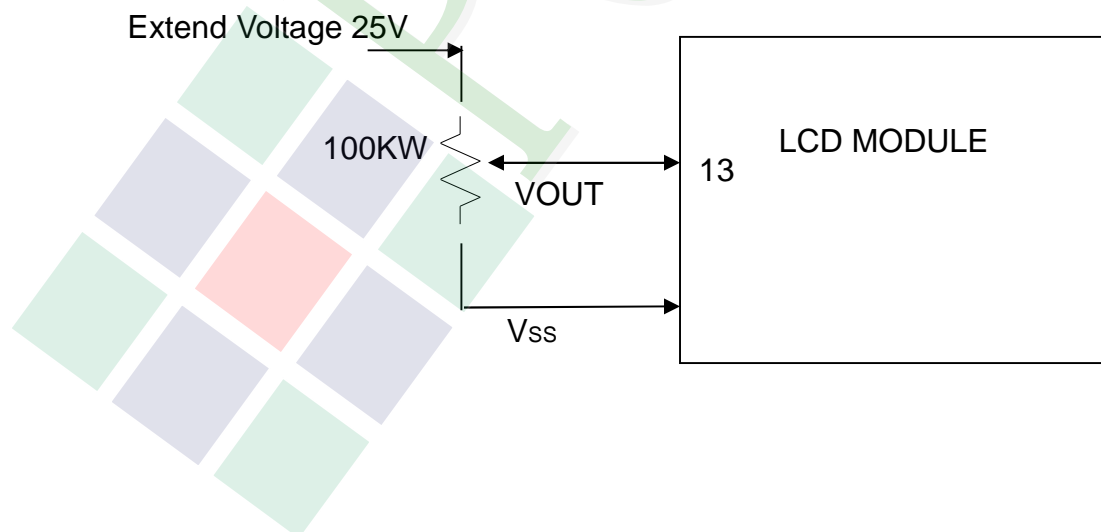


## 2.2 Interface Pin Description

Pin No.	Symbol	Function
1	FLM	Indicates the beginning of each display cycle.
2	M	Alternation control signal ,No connection , Must be open
3	CL1	The CL1 latches the serial data in the shift registers.
4	CL2	Clock signal for shifting the serial data.
5	/D-OFF	Display enable signal . H:ON L:OFF
6	DB0	Data bit 0
7	DB1	Data bit 1
8	DB2	Data bit 2
9	DB3	Data bit 3
10	V <sub>DD</sub>	Power supply voltage for logic.
11	V <sub>SS</sub>	Ground
12	NC	No connection , Must be open
13	VOUT	Operating voltage for LCD driving.
14	NC	No connection , Must be open
15	A	Power supply for LED backlight anode input
16	K	Power supply for LED backlight cathode input

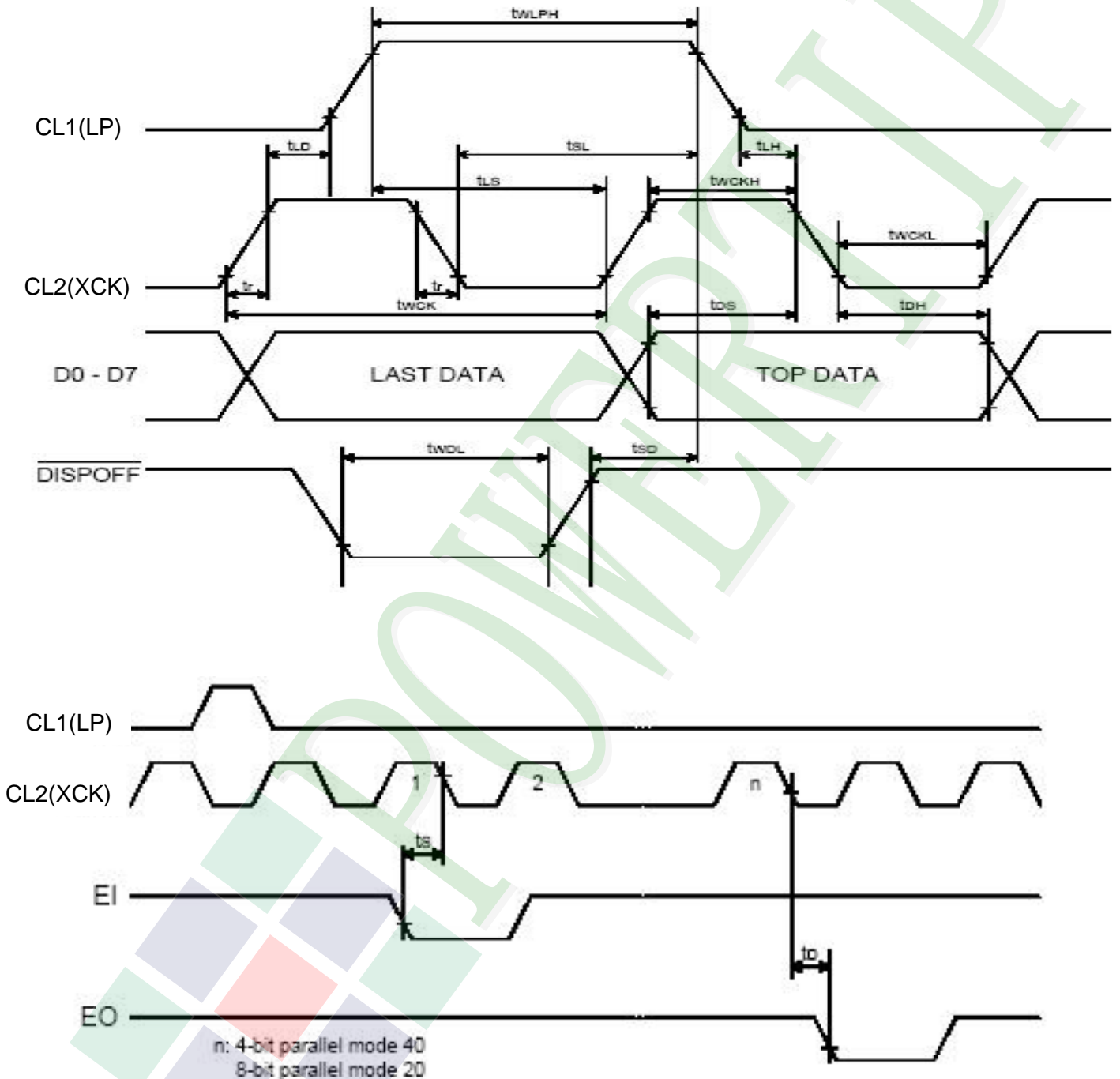
**Note** : FLM Recommended 55Hz ~ 85Hz

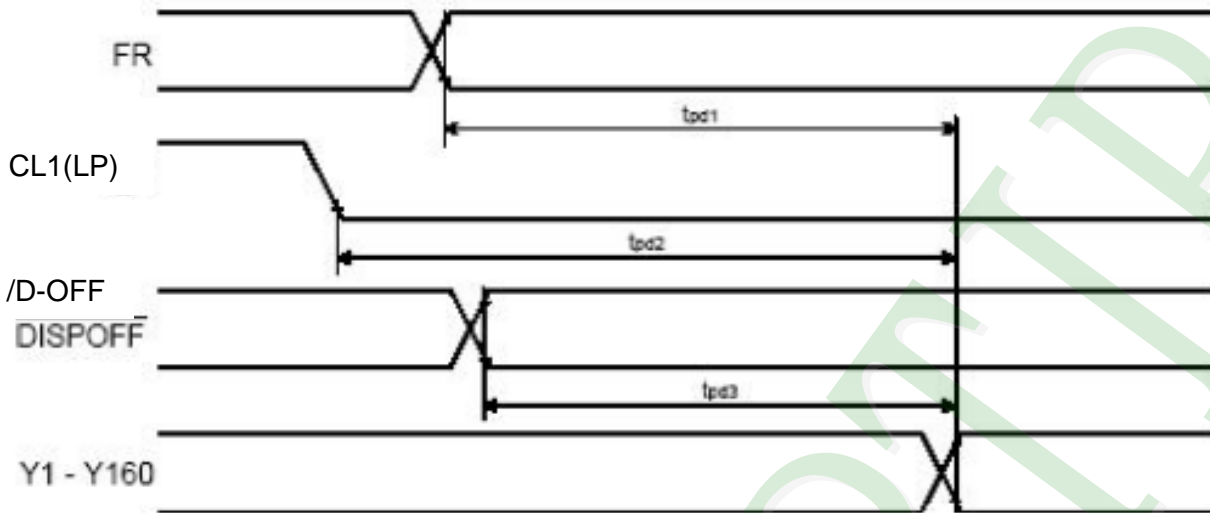
### Contrast adjustment



## 2.3 Timing Characteristics

UCi7701c Segment mode





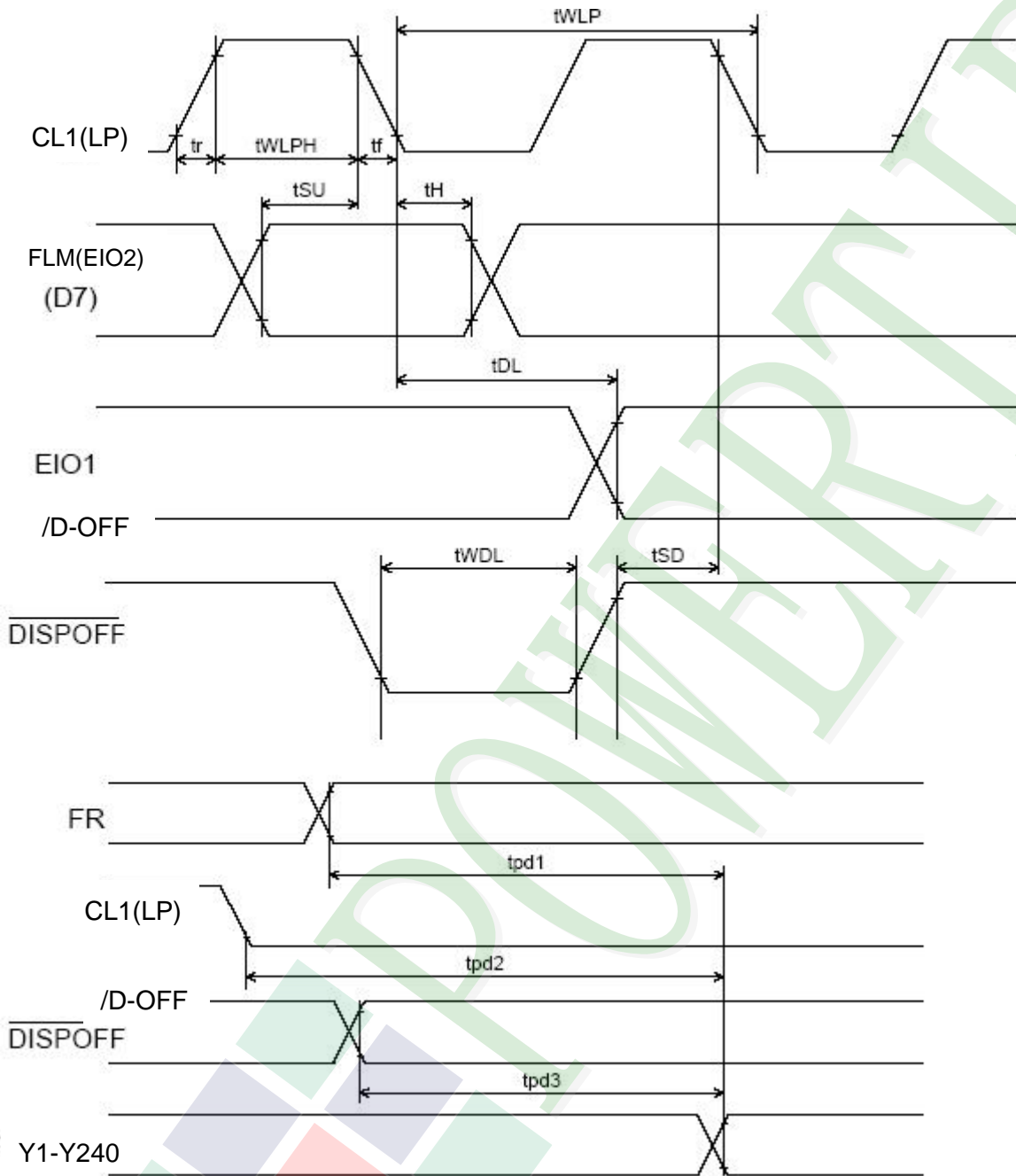
VSS = V5 = 0V, VDD = 4.5 - 5.5V, V0 = 15 to 42V, and TA = -30 to +85°C

Parameter	Symol	Condition	Min.	Typ.	Max.	Unit	NOTE
Shift clock period (Note 1)	t <sub>WCK</sub>	t <sub>r</sub> , t <sub>f</sub> ≤ 11 ns	125			ns	1
Shift clock "H" pulse width	t <sub>WCKH</sub>		51			ns	
Shift clock "L" pulse width	t <sub>WCKL</sub>		51			ns	
Data setup time	t <sub>DS</sub>		30			ns	
Data hold time	t <sub>DH</sub>		40			ns	
Latch pulse "H" pulse width	t <sub>WLPH</sub>		51			ns	
Shift clock rise to Latch pulse rise time	t <sub>LD</sub>		0			ns	
Shift clock fall to Latch pulse fall time	t <sub>SL</sub>		51			ns	
Latch pulse rise to Shift clock rise time	t <sub>LS</sub>		51			ns	
Latch pulse fall to Shift clock fall time	t <sub>LH</sub>		51			ns	
Enable set time	t <sub>S</sub>		36			ns	
Input signal rise time	t <sub>R</sub>				50	ns	2
Input signal fall time	t <sub>F</sub>				50	ns	2
/Dispoff removal time	t <sub>SD</sub>		100			ns	
/Dispoff "L" pulse width	t <sub>WDL</sub>		1.2			us	
Output delay time (1)	t <sub>D</sub>	CL=15 pF			78	ns	
Output delay time (2)	t <sub>pd1</sub> , t <sub>pd2</sub>	CL=15 pF			1.2	us	
Output delay time (3)	t <sub>pd3</sub>	CL=15 pF			1.2	us	

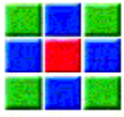
NOTE:

1. Takes the cascade connection into consideration.
2. (t<sub>WCK</sub> - t<sub>WCKH</sub> - t<sub>WCKL</sub>)/2 is maximum in the case of high speed operation.

## UCi7702c Common mode







# POWERTIP

VSS = V5 = 0V, VDD = 2.5 - 5.5V, V0 = 15 to 42V and TA = -30 to +85°C

PARAMETER	SYMBOL	CONDITIONS	MIN.	TYP.	MAX.	UNIT
Shift clock period	t <sub>WLP</sub>	t <sub>r</sub> , t <sub>f</sub> ≤ 20ns	250			ns
Shift clock "H" pulse width	t <sub>WLPH</sub>	VDD = +5.0± 0.5V	15			ns
		VDD = +2.5+ 4.5V	30			ns
Data setup time	t <sub>SU</sub>		30			ns
Data hold time	t <sub>H</sub>		50			ns
Input signal rise time	t <sub>R</sub>				50	ns
Input signal fall time	t <sub>F</sub>				50	ns
DISPOFF removal time	t <sub>SD</sub>		100			ns
DISPOFF "L" pulse width	t <sub>WDL</sub>		1.2			μs
Output delay time (1)	t <sub>DL</sub>	CL = 15 pF			200	ns
Output delay time (2)	t <sub>PD1</sub> , t <sub>PD2</sub>	CL = 15 pF			1.2	μs
Output delay time (3)	t <sub>PD3</sub>	CL = 15 pF			1.2	μs



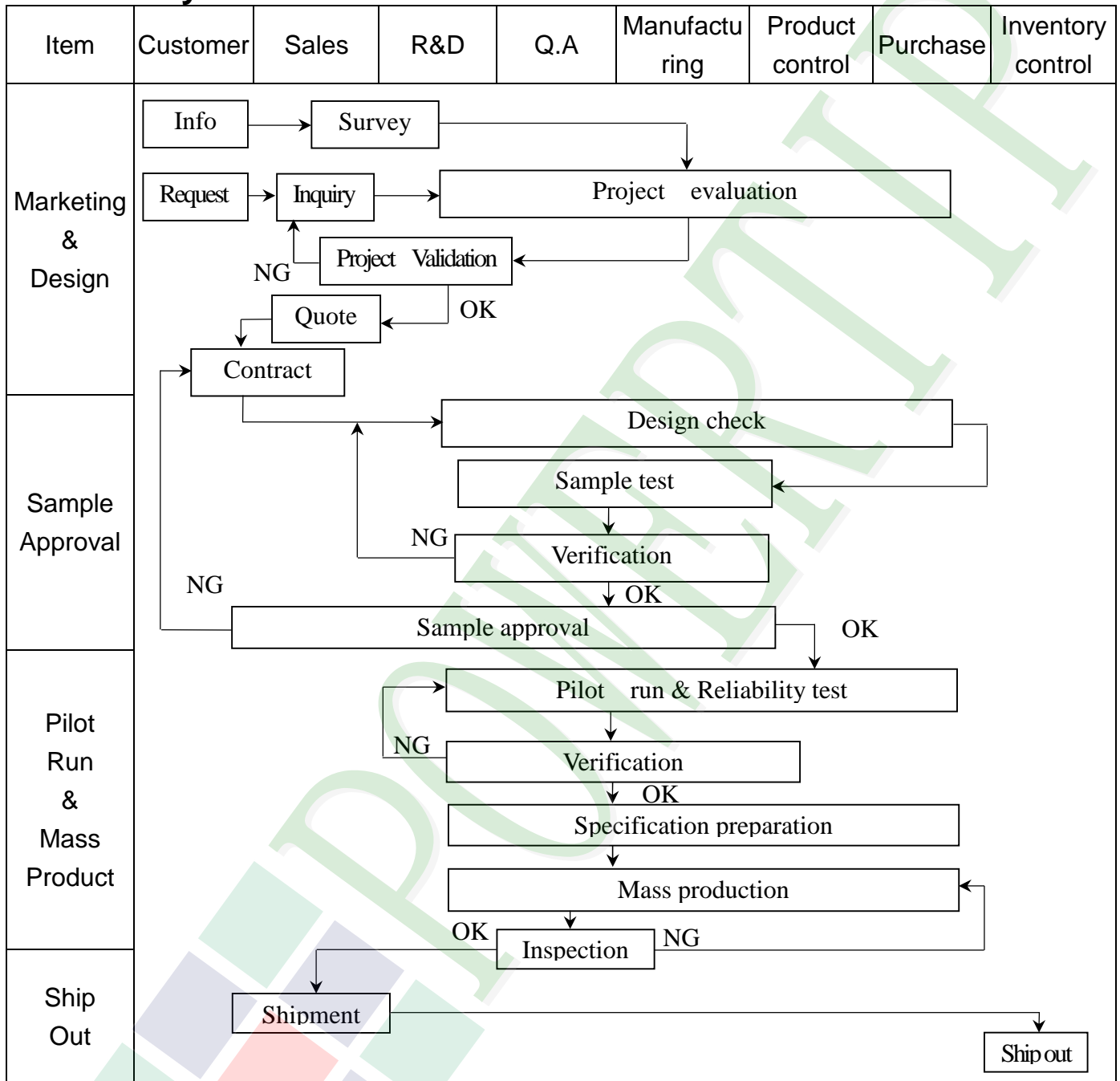
## 2.4 JUMPER(Setting different use)

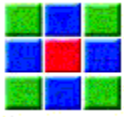
JP70-1,JP71-2,JP72-1,JP73-1,JP74-2,JP75-2,JP76-2,JP77-2 SHORT



### 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] --&gt; Claim[Claim]     Claim --&gt; Failure[Failure analysis]     Failure --&gt; Report[Analysis report]     Failure --&gt; Action[Corrective action]     Action --&gt; 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 LCD Module for Monotype and Color STN(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 .

◆ Manner of appearance test :

- (1). The test be under 20W×2 fluorescent light ' and distance of view must be at 30 cm.
- (2). Standard of inspection : (Unit : mm)
- (3). The test direction is base on about around 45° of vertical line. (Fig. 1)
- (4). Definition of area . (Fig. 2)

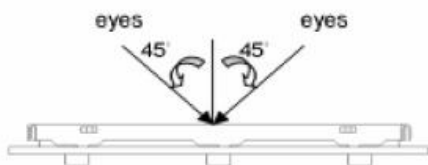


Fig.1

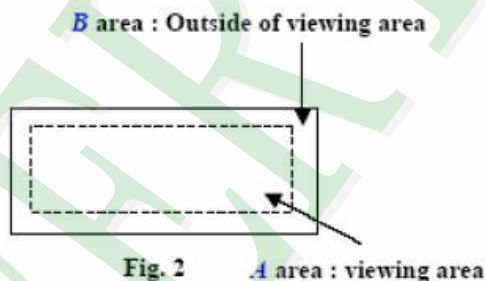


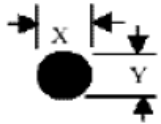
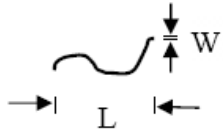
Fig. 2

◆ Specification:

NO	Item	Criterion	Level
01	Product condition	1. 1 The part number is inconsistent with work order of Production.	Major
		1. 2 Mixed production 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 Output data is error.	Major
		4. 4 LCD viewing angle defect.	Major
		4. 5 Current consumption exceeds product specifications.	Major

**◆ Specification For Monotype and Color STN :**

(Ver. B01)

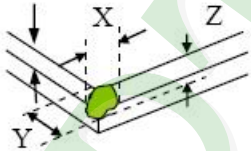
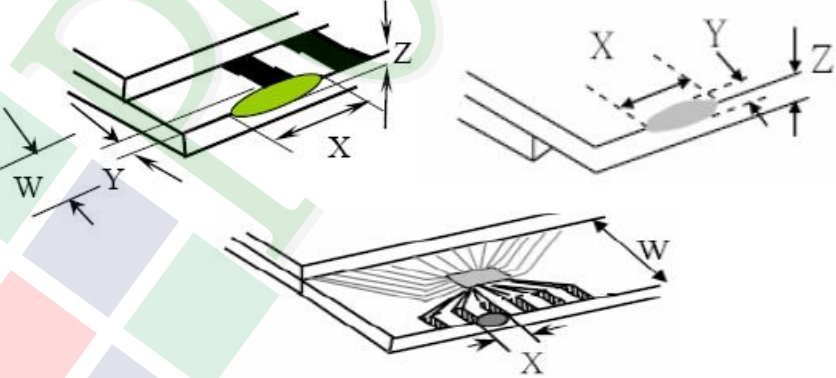
NO	Item	Criterion	Level																																					
05	<p>Black or white dot、scratch、contamination</p> <p>Round type</p>  <p><math>\Phi = (x+y)/2</math></p> <p>Line type</p> 	<p>5. 1 Round type:</p> <p>5. 1. 1 display only :</p> <ul style="list-style-type: none"> <li>• White and black spots on display <math>\leq 0.30</math> mm , no more than 4 white or black spots present.</li> <li>• Densely spaced : NO more than two spots or lines within 3 mm.</li> </ul> <p>5. 1. 2 Non-display :</p> <table border="1"> <thead> <tr> <th rowspan="2">Dimension (diameter : <math>\Phi</math>)</th> <th colspan="2">Acceptance (Q'ty)</th> </tr> <tr> <th>A area</th> <th>B area</th> </tr> </thead> <tbody> <tr> <td><math>\Phi \leq 0.10</math></td> <td colspan="2">Accept no dense</td> </tr> <tr> <td><math>0.10 &lt; \Phi \leq 0.20</math></td> <td>3</td> <td rowspan="2">Ignore</td> </tr> <tr> <td><math>0.20 &lt; \Phi \leq 0.30</math></td> <td>2</td> </tr> <tr> <td>Total quantity</td> <td colspan="2">4</td> </tr> </tbody> </table> <p>5. 1. 3 Line type:</p> <table border="1"> <thead> <tr> <th colspan="2">Dimension</th> <th colspan="2">Acceptance (Q'ty)</th> </tr> <tr> <th>Length (L)</th> <th>Width (W)</th> <th>A area</th> <th>B area</th> </tr> </thead> <tbody> <tr> <td>---</td> <td><math>W \leq 0.03</math></td> <td>Accept no dense</td> <td rowspan="3">Ignore</td> </tr> <tr> <td><math>L \leq 3.0</math></td> <td><math>0.03 &lt; W \leq 0.05</math></td> <td rowspan="2">4</td> </tr> <tr> <td><math>L \leq 2.5</math></td> <td><math>0.05 &lt; W \leq 0.075</math></td> </tr> <tr> <td>---</td> <td><math>W &gt; 0.075</math></td> <td colspan="2">As round type</td> </tr> </tbody> </table>	Dimension (diameter : $\Phi$ )	Acceptance (Q'ty)		A area	B area	$\Phi \leq 0.10$	Accept no dense		$0.10 < \Phi \leq 0.20$	3	Ignore	$0.20 < \Phi \leq 0.30$	2	Total quantity	4		Dimension		Acceptance (Q'ty)		Length (L)	Width (W)	A area	B area	---	$W \leq 0.03$	Accept no dense	Ignore	$L \leq 3.0$	$0.03 < W \leq 0.05$	4	$L \leq 2.5$	$0.05 < W \leq 0.075$	---	$W > 0.075$	As round type		Minor
Dimension (diameter : $\Phi$ )	Acceptance (Q'ty)																																							
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---	$W > 0.075$	As round type																																						
06	<p>Polarizer Bubble</p>	<table border="1"> <thead> <tr> <th rowspan="2">Dimension (diameter : <math>\Phi</math>)</th> <th colspan="2">Acceptance (Q'ty)</th> </tr> <tr> <th>A area</th> <th>B area</th> </tr> </thead> <tbody> <tr> <td><math>\Phi \leq 0.20</math></td> <td colspan="2">Accept no dense</td> </tr> <tr> <td><math>0.20 &lt; \Phi \leq 0.50</math></td> <td>3</td> <td rowspan="3">Ignore</td> </tr> <tr> <td><math>0.50 &lt; \Phi \leq 1.00</math></td> <td>2</td> </tr> <tr> <td><math>\Phi &gt; 1.00</math></td> <td>0</td> </tr> <tr> <td>Total quantity</td> <td colspan="2">4</td> </tr> </tbody> </table>	Dimension (diameter : $\Phi$ )	Acceptance (Q'ty)		A area	B area	$\Phi \leq 0.20$	Accept no dense		$0.20 < \Phi \leq 0.50$	3	Ignore	$0.50 < \Phi \leq 1.00$	2	$\Phi > 1.00$	0	Total quantity	4		Minor																			
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**◆ Specification For Monotype and Color STN :**

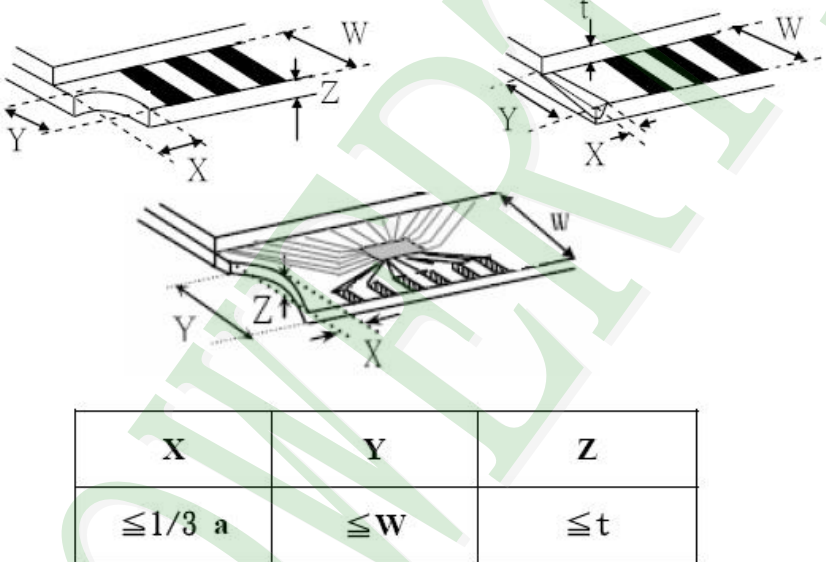
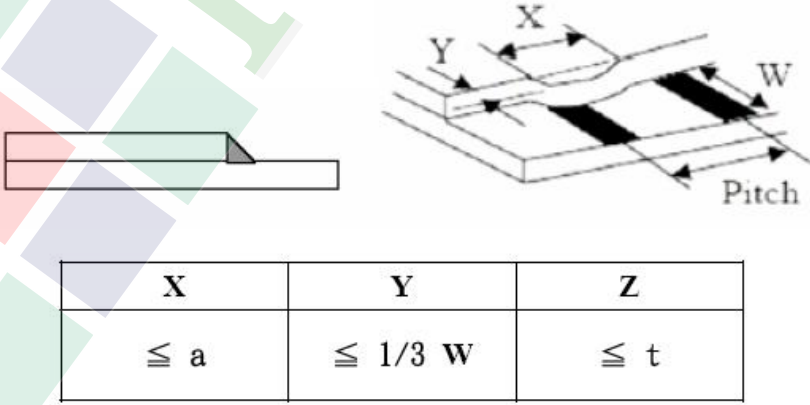
(Ver. B01)

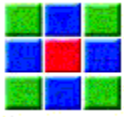
NO	Item	Criterion	Level									
07	The crack of glass	<p>Symbols :</p> <p>X : The length of crack                      Z : The thickness of crack                      t : The thickness of glass</p> <p>Y : The width of crack.                      W : terminal length                      a : LCD side length</p> <hr/> <p>7.1.2 Corner crack :</p>  <table border="1" data-bbox="501 887 1318 1178"> <thead> <tr> <th>X</th> <th>Y</th> <th>Z</th> </tr> </thead> <tbody> <tr> <td><math>\leq 1/5 a</math></td> <td>Crack can't enter viewing area</td> <td><math>Z \leq 1/2 t</math></td> </tr> <tr> <td><math>\leq 1/5 a</math></td> <td>Crack can't exceed the half of SP width.</td> <td><math>1/2 t &lt; Z \leq 2 t</math></td> </tr> </tbody> </table>	X	Y	Z	$\leq 1/5 a$	Crack can't enter viewing area	$Z \leq 1/2 t$	$\leq 1/5 a$	Crack can't exceed the half of SP width.	$1/2 t < Z \leq 2 t$	Minor
		X	Y	Z								
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<p>7.2 Protrusion over terminal :</p> <p>7.2.1 Chip on electrode pad :</p>  <table border="1" data-bbox="467 1760 1254 1933"> <thead> <tr> <th></th> <th>X</th> <th>Y</th> <th>Z</th> </tr> </thead> <tbody> <tr> <td>Front</td> <td><math>\leq a</math></td> <td><math>\leq 1/2 W</math></td> <td><math>\leq t</math></td> </tr> <tr> <td>Back</td> <td colspan="3">Neglect</td> </tr> </tbody> </table>		X	Y	Z	Front	$\leq a$	$\leq 1/2 W$	$\leq t$	Back	Neglect		
	X	Y	Z									
Front	$\leq a$	$\leq 1/2 W$	$\leq t$									
Back	Neglect											



◆ Specification For Monotype and Color STN :

(Ver. B01)

NO	Item	Criterion	Level
07	The crack of glass	<p>Symbols :</p> <p><b>X</b> : The length of crack  <b>Z</b> : The thickness of crack  <b>t</b> : The thickness of glass</p> <p><b>Y</b> : The width of crack.  <b>W</b> : terminal length  <b>a</b> : LCD side length</p>	Minor
		<p>7.2.2 Non-conductive portion :</p>  <p>⊙ If the chipped area touches the ITO terminal, over 2/3 of the ITO must remain and be inspected according to electrode terminal specifications.</p> <p>7.2.3 Glass remain :</p> 	



◆ Specification For Monotype and Color STN :

(Ver. B01)

NO	Item	Criterion	Level
08	Backlight elements	8. 1 Backlight can't work normally.	Major
		8. 2 Backlight doesn't light or color is wrong.	Major
		8. 3 Illumination source flickers when lit.	Major
09	General appearance	9. 1 Pin type must match type in specification sheet.	Major
		9. 2 No short circuits in components on PCB or FPC.	Major
		9. 3 Product packaging must the same as specified on packaging specification sheet.	Minor
		9. 4 The folding and peeled off in polarizer are not acceptable.	Minor
		9. 5 The PCB or FPC between B/L assembled distance (PCB or FPC) is $\leq 1.5$ mm.	Minor



## 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.

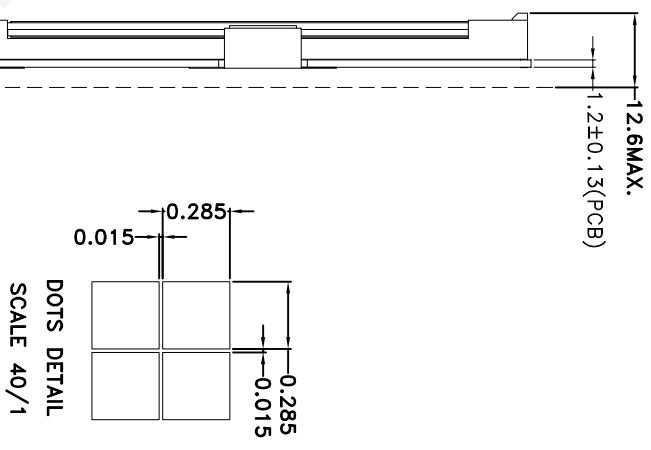
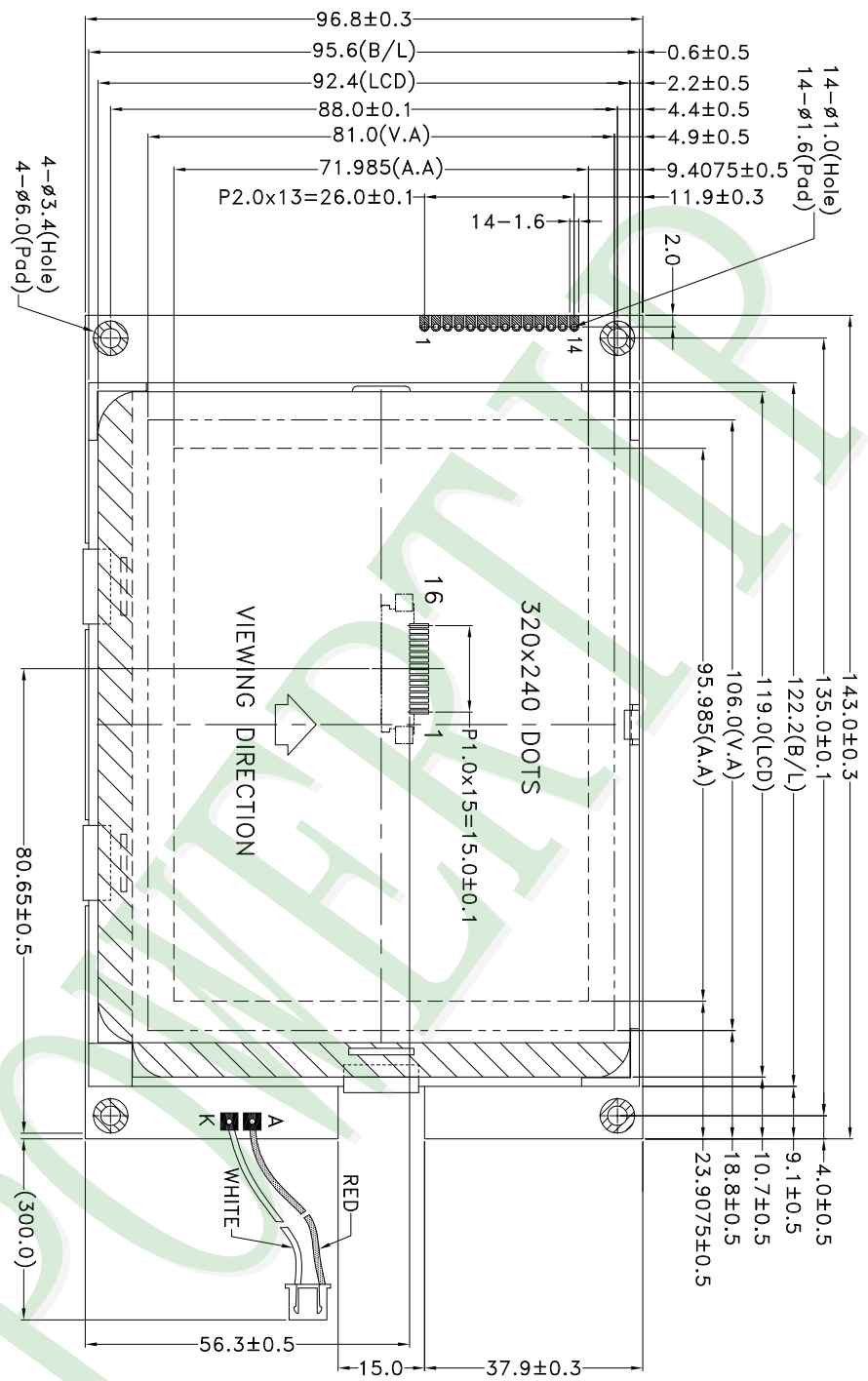
### 5.3 STORAGE

- 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.

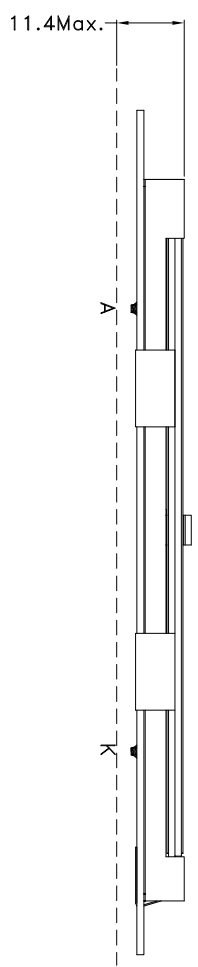
### 5.4 TERMS OF WARRANTY

- 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.

A B C D E F G H



- NOTE:
- 1.Connector:ENTERY 6901K-E14N-00L or equivalent
  - 2.The tolerance unless classified  $\pm 0.3\text{mm}$
  - 3.LCD type : FSTN
  - 4.LCD mode : Positive / Transflective
  - 5.T<sub>op</sub>: $-20^{\circ}\text{C}\sim 70^{\circ}\text{C}$  , T<sub>st</sub>: $-30^{\circ}\text{C}\sim 80^{\circ}\text{C}$
  - 6.Viewing Direction : 6 O'clock
  - 7.LED:Whitex7Pcs
  - 8.IC:UCI7701cGAC-U0P+UCI7702cGAA-U0P



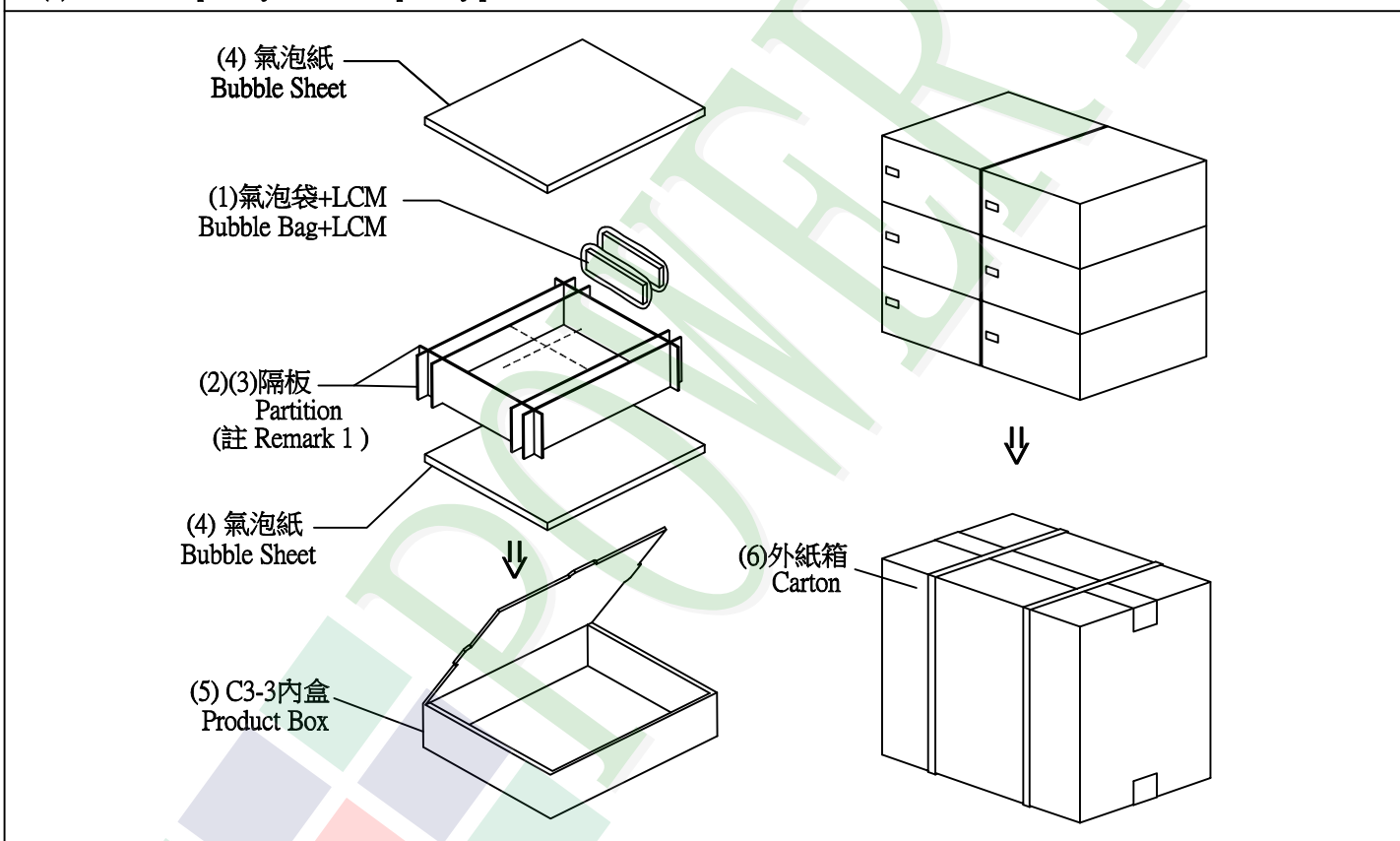
007		PART NO:	PE320240WRF-021-HQ	久正光電股份有限公司 POWER TIP TECHNOLOGY CORPORATION	Design Air Check Terry	Approve Ryan	Unit MM Scale 1:1 Page 1/1	Surface Material Thickness Quantity	飛小 公差 標準 精度
006		DRAWING NAME:	JLMD-PE320240WRF-021-HQ						
005		TITLE:	LCD Module Drawing						
004		REVISER	Air						
003		DATE	2017/03/13						
002									
001	NEW DRAWING	REV BY							

1 2 3 4 5 6

**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)	PE320240WRF-021-HQ	143.0 X 96.8 X 12.6	0.155	66	10.23
2	氣泡袋(1)Bubble Bag	BAG170150BRABA	170 X 150	0.0045	66	0.297
3	A8隔板(2)A8 Partition	BX00000000051	245 X 105 X 3	0.0135	72	0.972
4	B8隔板(3)B8 Partition	BX00000000050	295 X 105 X 3	0.0168	24	0.4032
5	氣泡紙(4)Bubble Sheet	BAG280240BWABA	280 X 240	0.006	12	0.144
6	C3-3內盒(5)Product Box	BX31025511AABA	310 X 255 X 116	0.17	6	1.02
7	外紙箱(6)Carton	BX52732536CCBA	527 X 325 X 360	0.83	1	0.83
8						
9						

2. 一整箱總重量 (Total LCD Weight in carton) : 13.90 Kg±10% 取小數2位  
 3. 單箱數量規格表 (Packaging Specifications and Quantity) :  
 (1)Quantity Of Spacer : A8隔板 X 12 , B8隔板 X 4  
 (2)Total LCM quantity in carton : quantity per box 11 x no of boxes 6 = 66



**特 記 事 項 (REMARK)**

1. LCM排放示意圖(前後間隔不放置):  
 1. LCM placed as figure showing:  
 ( First and last slot should be empty)

▣ 模組(LCM) X 1pcs.