

## SPECIFICATIONS

CUSTOMER : CIT017

SAMPLE CODE : SH102600T007-IAC

MASS PRODUCTION CODE : PH102600T007-IAC

SAMPLE VERSION : 01

SPECIFICATIONS EDITION : 002

DRAWING NO. (Ver.) : JLMD-PH102600T007-IAA01\_002

PACKAGING NO. (Ver.) :

**Customer Approved**

Date:

Approved	Checked	Designer
閻偉	李昀	劉進

- ☒ Preliminary specification for design input
- ☐ Specification for sample approval

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## 1. SPECIFICATIONS

### 1.1 Features

#### Main LCD Panel

Item	Standard Value
Display Type	1024* (R、G、B) * 600 Dots
Color filter array	RGB vertical stripe
LCD Type	Normally white
Touch panel	Projective capacitive touch panel
Screen size(inch)	10.1(Diagonal)
Viewing Direction	6 o'clock(Gray inversion)
Backlight	White LED
Interface	LVDS
ROHS	THIS PRODUCT CONFORMS THE ROHS OF PTC Detail information please refer website : <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>

### 1.2 Mechanical Specifications

Item	Standard Value	Unit
Outline Dimension	260.92(W) * 163.48 (L) * 7.08 (H)	mm
Ink Opening	223.72(W) * 126.28 (L)	mm

#### LCD panel

Item	Standard Value	Unit
Active Area	222.72 (W) * 125.28 (L)	mm

Note : For detailed information please refer to LCM drawing

### 1.3 Absolute Maximum Ratings

Item	Symbol	Condition	Min.	Max.	Unit
Digital Supply Voltage	VDD	-	-0.3	+5.0	V
TFT Gate on voltage	VGH	-	-0.3	+40	V
TFT Gate off voltage	VGL	-	-20	0.3	V
Analog power supply voltage	AVDD	-	-0.5	15	V
Operating Temperature	T <sub>OP</sub>	-	-20	+70	°C
Storage Temperature	T <sub>ST</sub>	-	-30	+80	°C
Storage Humidity	H <sub>D</sub>	Ta < 60 °C	20	90	%RH

### 1.4 DC Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Digital Supply Voltage	VDD	-	3.0	3.3	3.6	V
TFT Gate on voltage	VGH	-	20	21	22	V
TFT Gate off voltage	VGL	-	-6.5	-5.5	-4.5	V
TFT Common electrode voltage	VCOM	-	3.7	3.9	4.1	V
Analog power supply voltage	AVDD	-	10.65	10.85	11.05	V
Gate on Current	IVGH	VGH = 21 V	-	0.5	-	mA
Gate off Current	IVGL	VGL = -5.5V	-	4.8	-	mA
Digital Current	IVDD	VDD = 3.3V	-	17.9	-	mA
Analog Current	IAVDD	AVDD = 10.85V	-	29.1	-	mA

## 1.5 Optical Characteristics

### TFT LCD Panel

Ta=25°C

Item		Symbol	Condition	Min.	Typ.	Max.	Unit	-
Response time		Tr + Tf	-	-	8	-	ms	Note2
Viewing angle	Top	ΘY+	CR ≥ 10	-	60	-	Deg.	Note4
	Bottom	ΘY-		-	70	-		
	Left	ΘX-		-	70	-		
	Right	ΘX+		-	70	-		
Contrast ratio		CR	IF=260mA	-	600	-	-	Note3
Color of CIE Coordinate (With B/L )	White	X		-	(0.28)	-	-	Note1
		Y		-	(0.31)	-		
	Red	X		-	(0.61)	-		
		Y		-	(0.34)	-		
	Green	X		-	(0.32)	-		
		Y		-	(0.60)	-		
	Blue	X		-	(0.14)	-		
		Y		-	(0.11)	-		
Average Brightness Pattern=white display (With LCD)*2		IV	IF=260mA	(340)	(380)	-	cd/m2	Note1
Uniformity (With LCD)*1		ΔB	IF= 260mA	70	-	-	%	Note1

Note1:

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

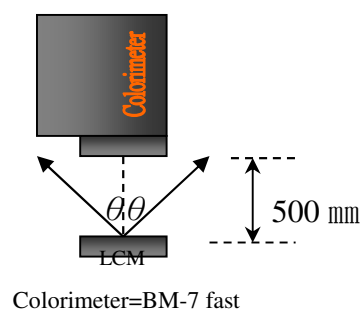
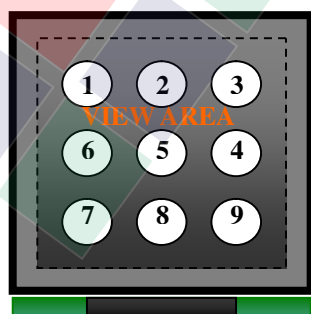
2 : Measurement Condition for Optical Characteristics:

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

b : Measurement Distance: 500 ± 50 mm , (θ = 0°)

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

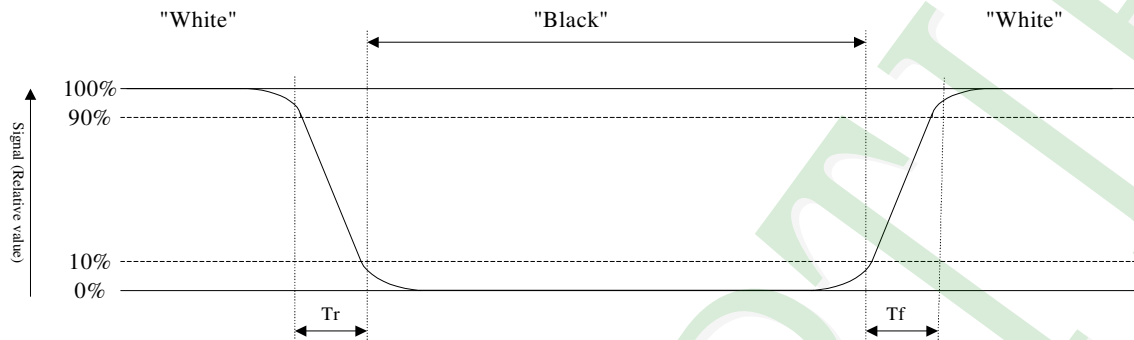
d : The uncertainty of the C.I.E coordinate measurement ± 0.01 , Average Brightness ± 4%



**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:



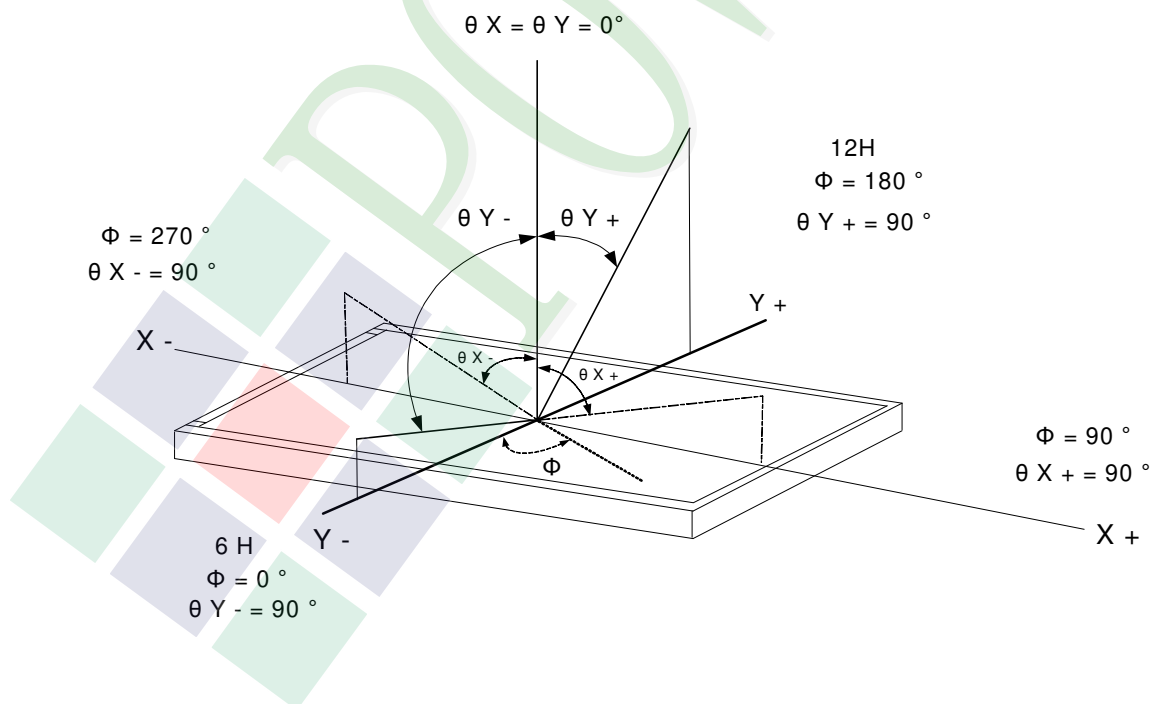
**Note3: Definition of contrast ratio:**

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:

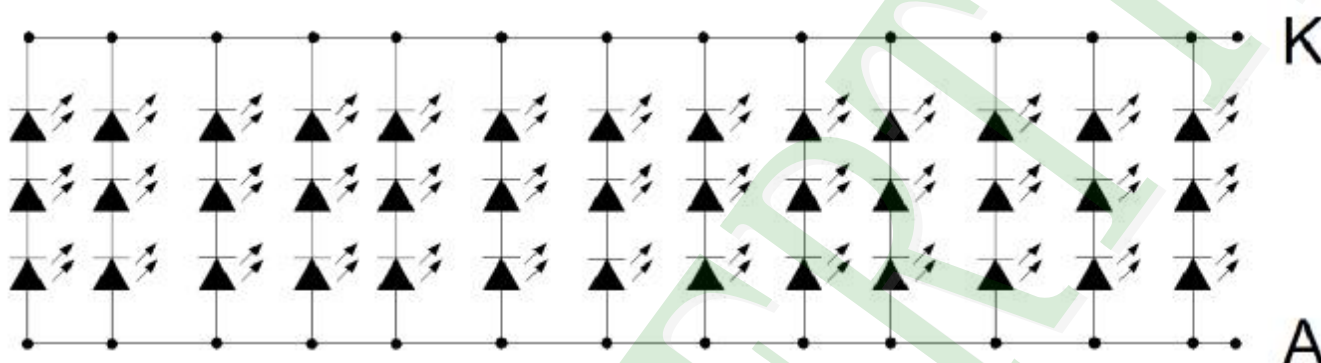


## 1.6 Backlight Characteristics

### Maximum Ratings

Item	Symbol	Conditions	Min.	Typ.	Max.	Unit
Forward voltage	VF	IF=260mA	9.0	9.9	10.5	V
Color	White					

### Internal Circuit Diagram:



### Other Description

Item	Conditions	Description
Life Time	Ta =25°C IF= 260mA	50000 hrs



## 1.7 Touch Panel Characteristics

### Interface Pin

Pin No.	Symbol	Description
1	VDD	Supply Voltage :USB 5V.
2	D-	USB differential signal line.
3	D+	USB differential signal line.
4	X	-
5	GND	Ground Connection.
6	X	-

## 2. MODULE STRUCTURE

### 2.1 Counter Drawing

#### 2.1.1 LCM Mechanical Diagram

\* See Appendix

## 2.2 Interface Pin Description

Pin No.	Symbol	Description
1	VCOM	Common voltage
2	VDD	Digital power
3	VDD	Digital power
4	NC	Not connect
5	RESET	Global reset pin. Active low to enter reset state. Suggest to connecting with an RC reset circuit for stability. Normally pull high. (R=100K <sub>Ω</sub> , C=1μF)
6	STBYB	Standby mode, normally pull high STBYB="1", normal operation STBYB="0", timing control, source driver will turn off, all output are high-Z
7	GND	Ground
8	RXIN0-	Negative LVDS differential data inputs
9	RXIN0+	Positive LVDS differential data inputs
10	GND	Ground
11	RXIN1-	Negative LVDS differential data inputs
12	RXIN1+	Positive LVDS differential data inputs
13	GND	Ground
14	RXIN2-	Negative LVDS differential data inputs
15	RXIN2+	Positive LVDS differential data inputs
16	GND	Ground
17	RXCLKIN-	Negative LVDS differential clock inputs
18	RXCLKIN+	Positive LVDS differential clock inputs
19	GND	Ground
20	RXIN3-	Negative LVDS differential data inputs

Pin No.	Symbol	Description
21	RXIN3+	Positive LVDS differential data inputs
22	GND	Ground
23	NC	Not connect
24	NC	Not connect
25	GND	Ground
26	NC	Not connect
27	NC	Not connect
28	SELB	6bit/8bit mode select H : 6bit / L : 8bit
29	AVDD	Power for Analog Circuit
30	GND	Ground
31	NC	Not connect
32	NC	Not connect
33	L/R	Horizontal inversion
34	U/D	Vertical inversion
35	VGL	Negative power for TFT
36	GND	Ground
37	GND	Ground
38	VGH	Positive power for TFT
39	NC	Not connect
40	NC	Not connect

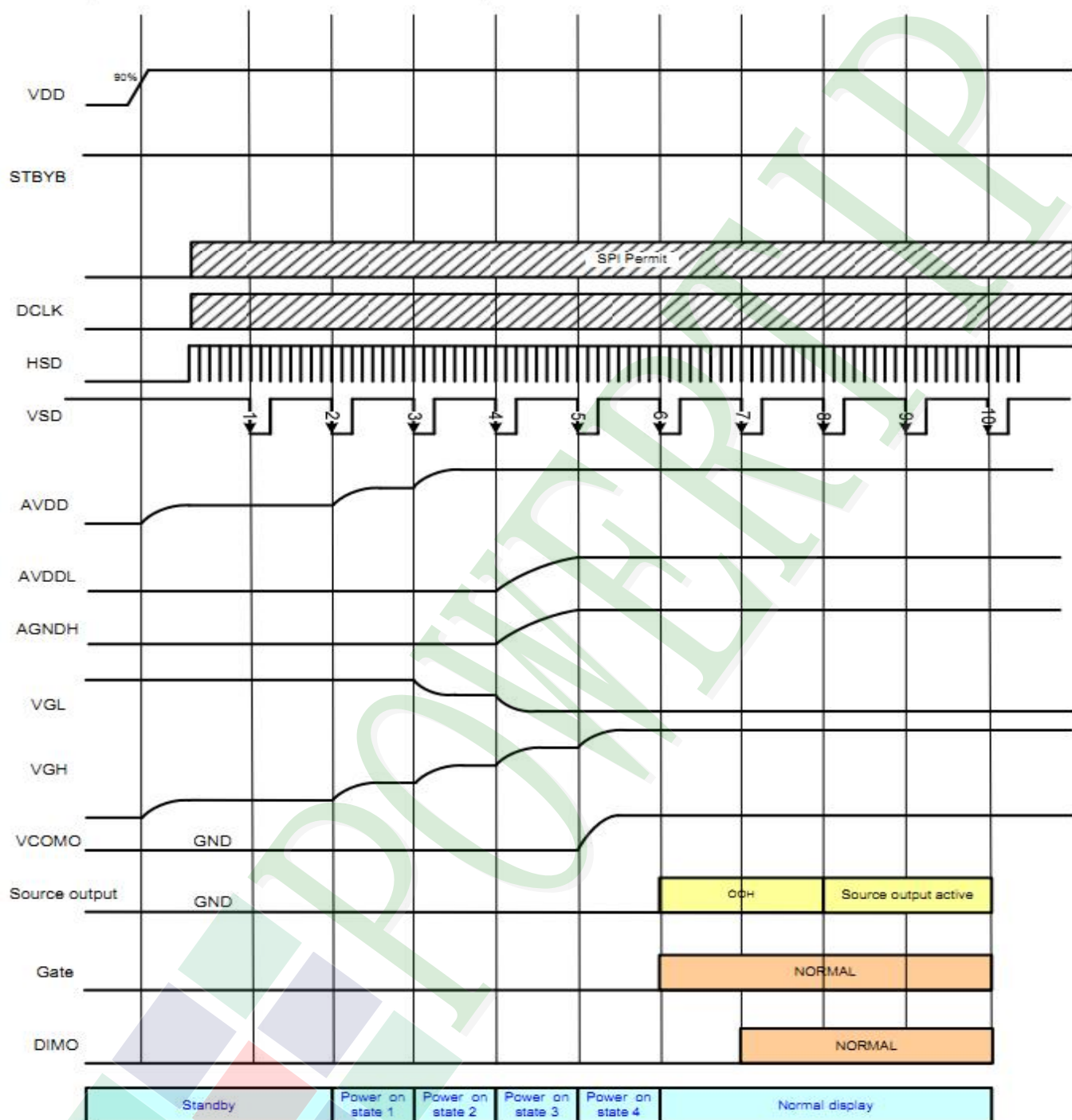
Note:

When L/R="0" , set right to left scan direction; When L/R="1" , set left to right scan direction

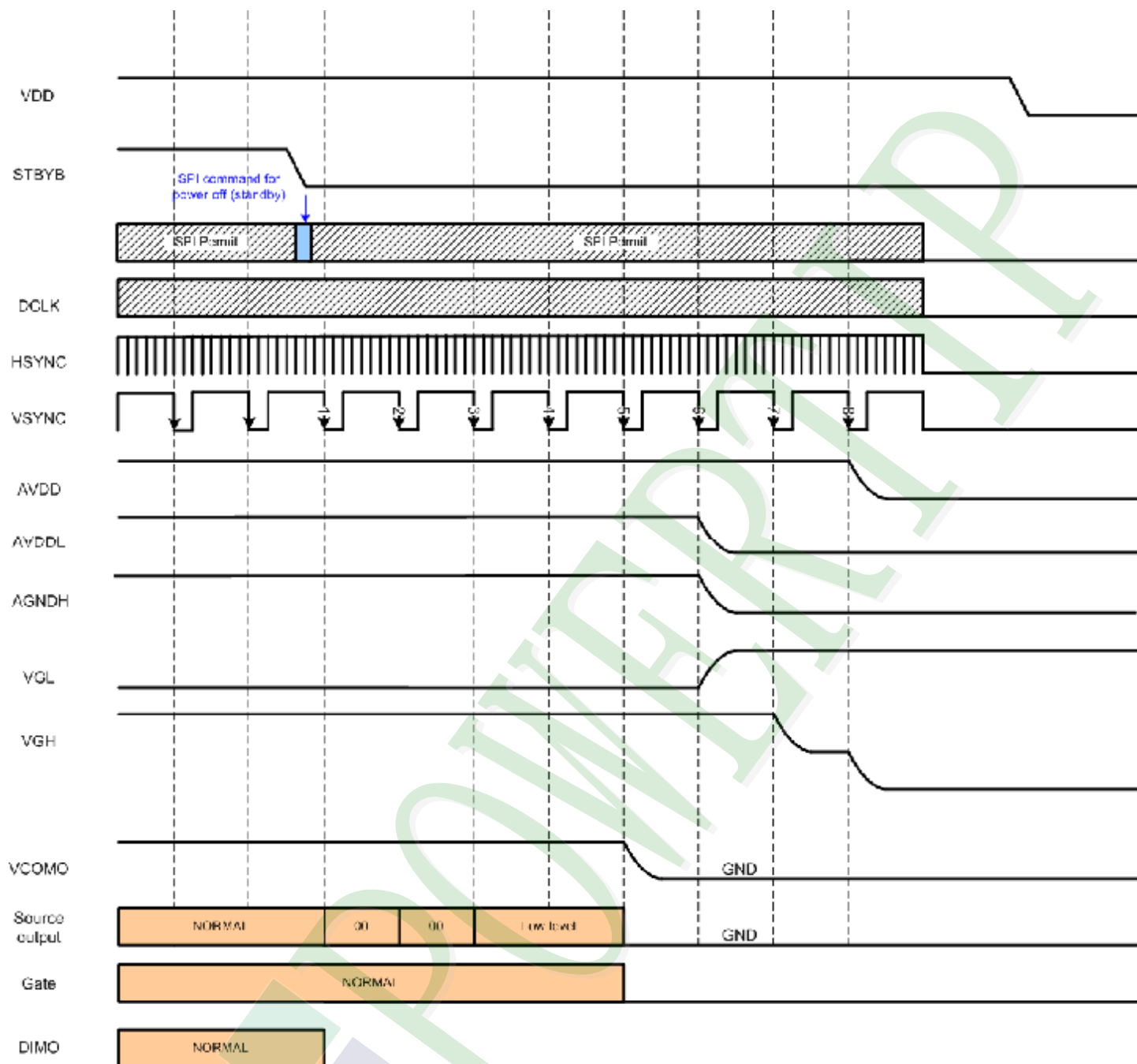
When U/D="0" , set top to bottom scan direction; When U/D="1" , set bottom to top scan direction

## 2.3 Timing Characteristics

### 2.3.1 Power ON/OFF Sequence



Power on timing sequence

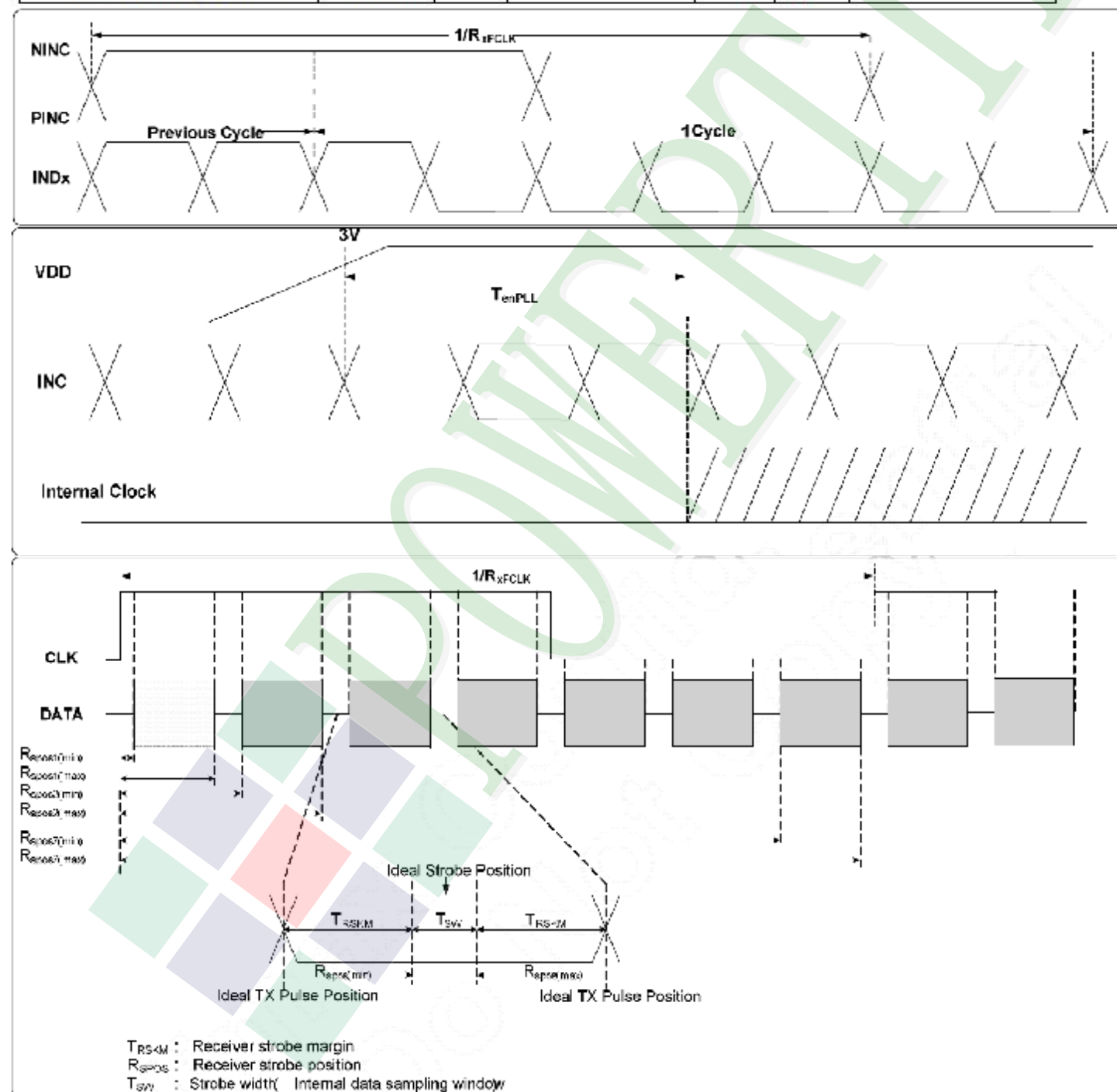


Power off timing sequence

## 2.3.2 Input Signal Timing

LVDS mode AC electrical characteristics

Parameter	Symbol	Spec.			Unit	Condition
		Min.	Typ.	Max.		
Clock frequency	RXFCLK	20	-	71	MHz	-
Input data skew margin	TRSKM	500	-	-	pS	$ V_{ID}  = 400\text{mV}$ $R_{XVCM} = 1.2\text{V}$ $R_{XFCLK} = 71\text{MHz}$
Clock high time	TLVCH	-	$4/(7 \times R_{XFCLK})$	-	ns	-
Clock low time	TLVCL	-	$3/(7 \times R_{XFCLK})$	-	ns	-
PLL wake-up time	TemPLL	-	-	150	$\mu\text{s}$	-

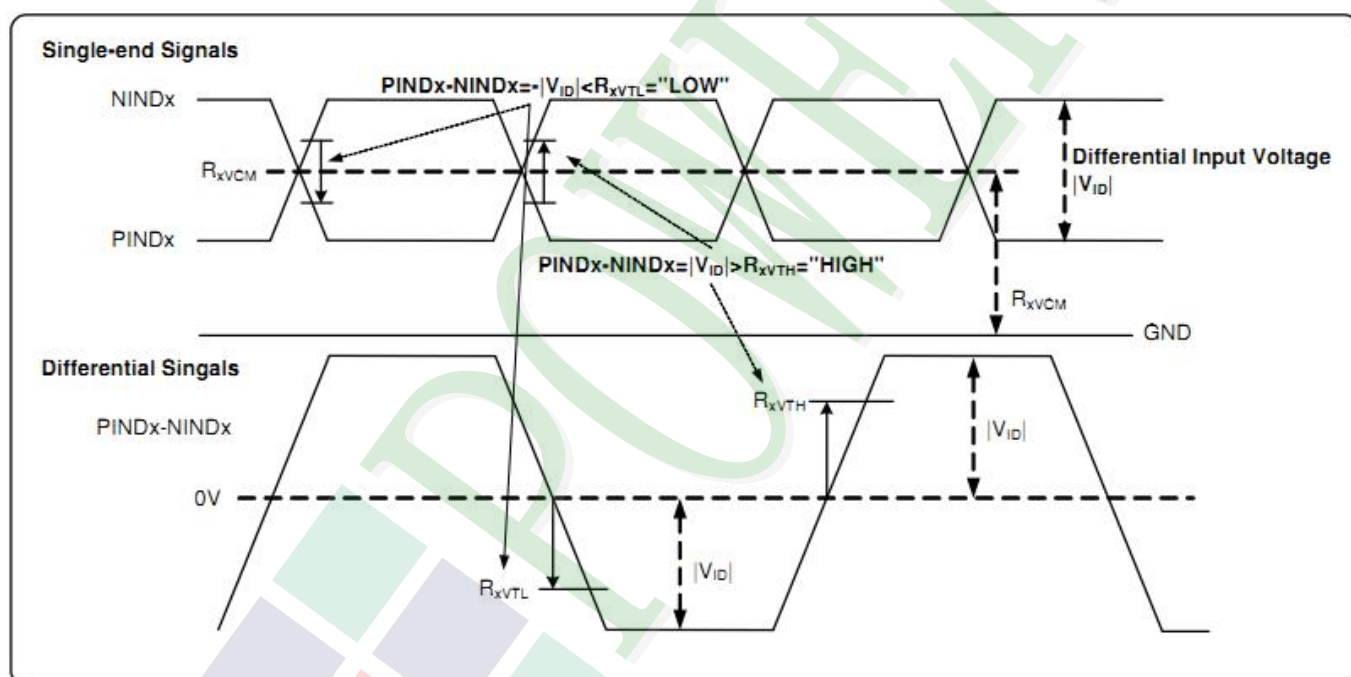




### 2.3.3 LVDS mode DC electrical characteristics

Parameter	Symbol	Spec.			Unit	Condition
		Min.	Typ.	Max.		
Differential input high Threshold voltage	$R_{XVTH}$	-	-	+0.1	V	$R_{XVCM}=1.2V$
Differential input low threshold voltage	$R_{XVTL}$	-0.1	-	-	V	
Input voltage range (singled-end)	$R_{XVIN}$	0	-	$VDD-1.2+ V_{ID} /2$	V	-
Differential input common Mode voltage	$R_{XVCM}$	$ V_{ID} /2$	-	$VDD-1.2$	V	-
Differential input voltage	$ V_{ID} $	0.2	-	0.6	V	-
Differential input leakage Current	$RV_{Xliz}$	-10	-	+10	$\mu A$	-
LVDS Digital Operating Current	$I_{ddlvds}$	-	15	30	mA	$F_{clk}=65MHz, VDD=3.3V$
LVDS Digital Stand-by Current	$I_{stlvds}$	-	10	50	$\mu A$	Clock & all Functions are stopped

LVDS mode DC electrical characteristics



Single-end signals



### 2.3.4 LVDS mode data input format

#### 6bit LVDS input



#### 8bit LVDS input

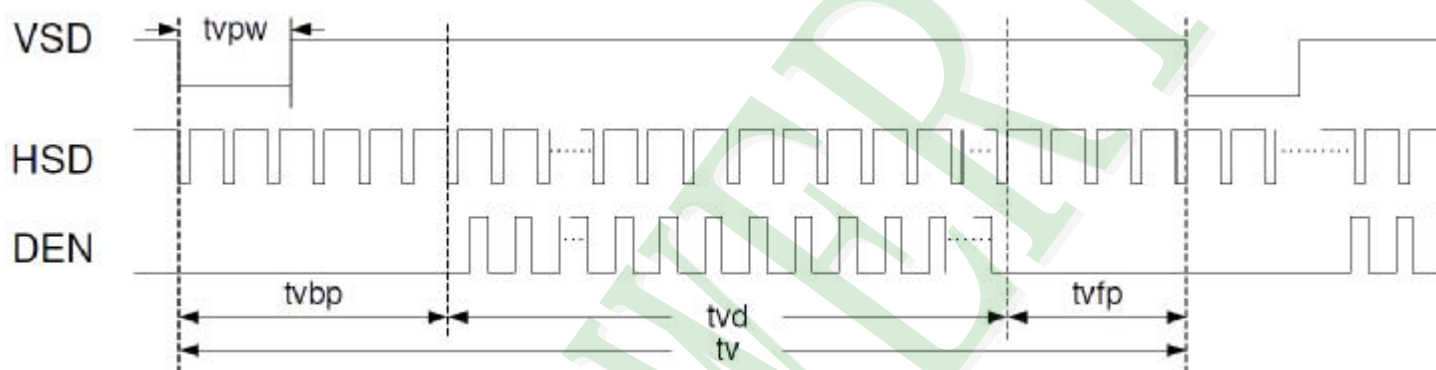


Note: Support DE timing mode only, SYNC mode not supported.

## 2.3.5 Parallel RGB Input Timing Table

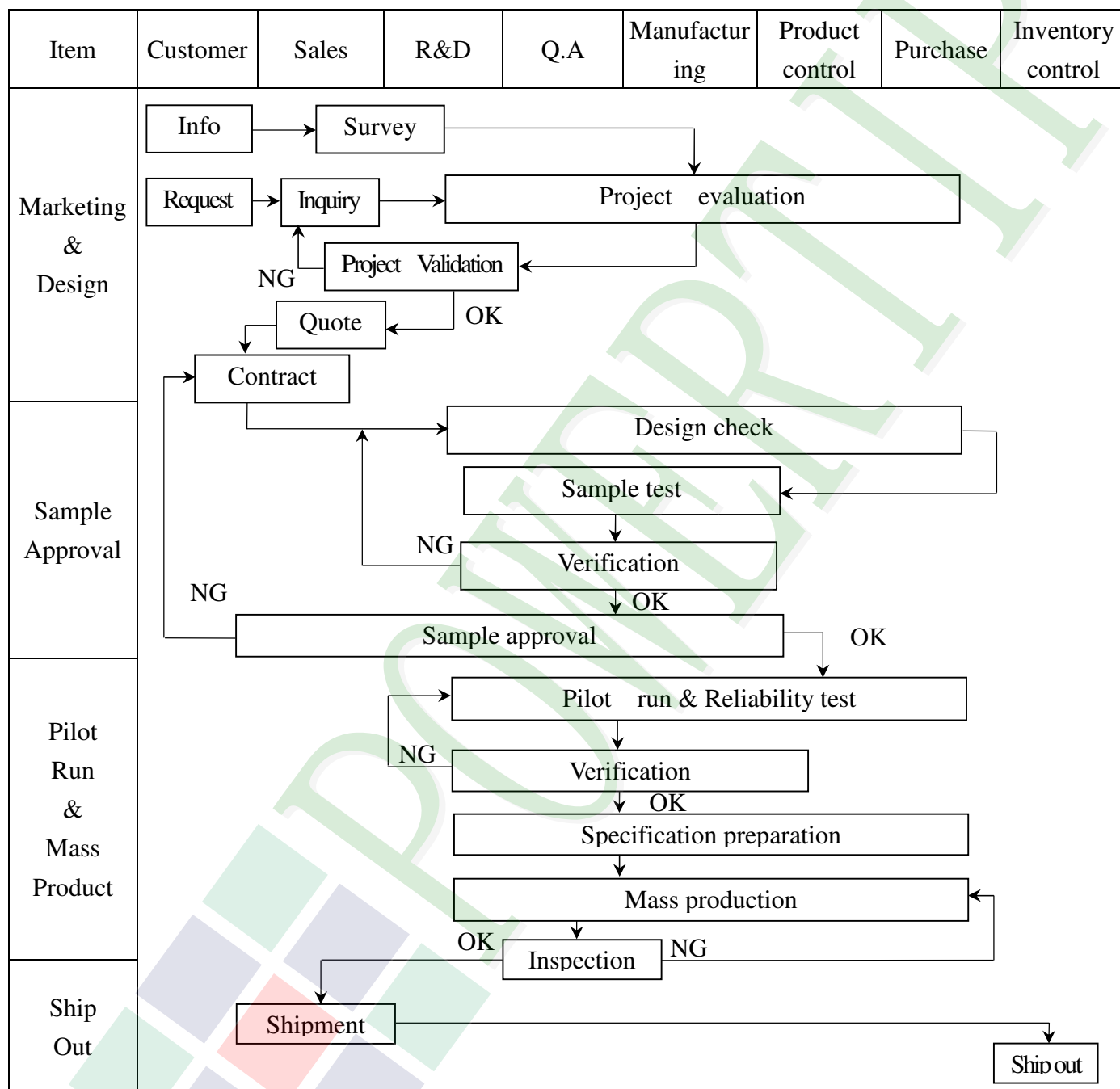
DE mode

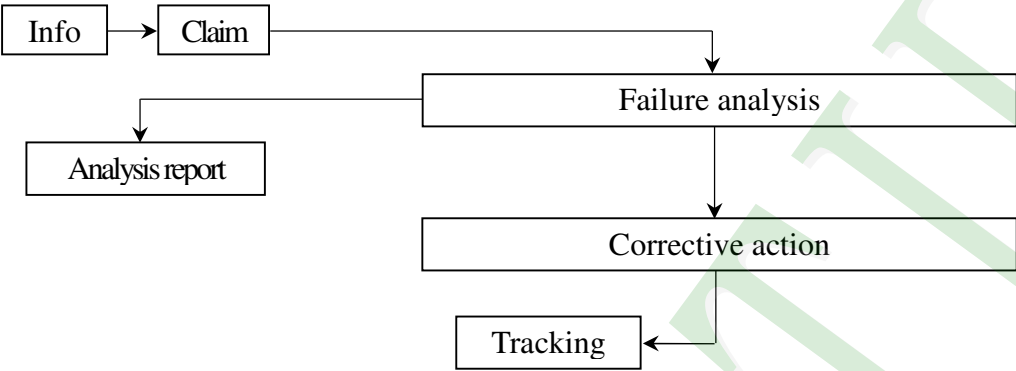
Parameter	Symbol	Spec.			Unit
		Min.	Typ.	Max.	
DCLK Frequency	fclk	40.8	51.2	67.2	MHz
Horizontal Display Area	thd	1024			DCLK
HSD Period	th	1114	1344	1400	DCLK
HSD Pulse Width	thpw	1	-	140	DCLK
HSD Blanking	thbp+ thfp	90	320	376	DCLK
Vertical Display Area	tvd	600			T <sub>H</sub>
VSD Period	tv	610	635	800	T <sub>H</sub>
VSD Pulse Width	tvpw	1	-	20	T <sub>H</sub>
VSD Blanking	tvbp+ tvfp	10	35	200	T <sub>H</sub>



### 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]     Claim --&gt; Report[Analysis report]     Failure --&gt; Action[Corrective action]     Action --&gt; Tracking[Tracking]         </pre>							
Q.A Activity	<div> 1. ISO 9001 Maintenance Activities  3. Equipment calibration  5. Standardization Management </div> <div> 2. Process improvement proposal  4. Education And Training Activities </div>							

## 3.2 Inspection Specification

### 3.2.1. QUALITY :

THE QUALITY OF GOODS SUPPLIED TO PURCHASER SHALL COME UP TO THE FOLLOWING STANDARD.

#### 1. THE METHOD OF PRESERVING GOODS

AFTER DELIVERY OF GOODS FROM AMSON TO PURCHASER. PURCHASER SHALL CONTROL THE LCM AT -10°C TO 40°C ,AND IT MIGHT BE DESIRABLE TO KEEP AT THE NORMAL ROOM TEMPERATURE AND HUMIDITY UNTIL INCOMING INSPECTION OR THROWING INTO PROCESS LINE.

#### 2. INCOMING INSPECTION

##### (A) THE METHOD OF INSPECTION

IF PURCHASER MAKE AN INCOMING INSPECTION , A SAMPLING PLAN SHALL BE APPLIED ON THE CONDITION THAT QUALITY OF ONE DELIVERY SHALL BE REGARDED AS ONE LOT.

##### (B) THE STANDARD OF QUALITY

ISO-2859-1 (SAME AS MIL-STD-105E ) , LEVEL II SINGLE PLAN.

CLASS	AQL(%)
CRITICAL	0.4 %
MAJOR	0.65 %
MINOR	1.5 %
TOTAL	1.5 %

EVERY ITEM SHALL BE INSPECTED ACCORDING TO THE CLASS.

##### (C) MEASURE

IF AS THE RESULT OF ABOVE RECEIVING INSPECTION , A LOT OUT IS DISCOVERED.

PURCHASER SHALL BE INFORM SELLER OF IT WITHIN SEVEN DAYS. BUT FIRST SHIPMENT WITHIN FOURTEEN DAYS.

#### 3. WARRANTY POLICY

AMSON WILL PROVIDE ONE-YEAR WARRANTY FOR THE PRODUCTS ONLY IF UNDER SPECIFICATION OPERATING CONDITIONS. AMSON WILL REPLACE NEW PRODUCTS FOR THESE DEFECT PRODUCTS WHICH UNDER WARRANTY PERIOD AND BELONG TO THE RESPONSIBILITY OF AMSON.

### 3.2.2. CHECKING CONDITION

1.CHECKING DIRECTION SHALL BE IN THE 45 DEGREE AREA TO FACE THE SAMPLE.

2.CHECKER SHALL SEE OVER 300±25 mm. WITH BARE EYES FAR FROM SAMPLE AND USING 2 PCS. OF 20W FLUORESCENT LAMP.

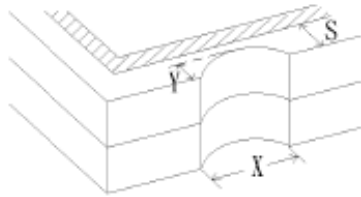
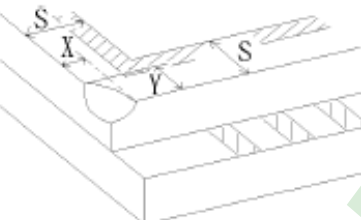
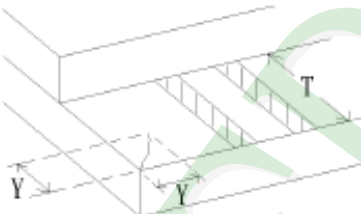
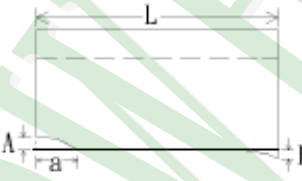
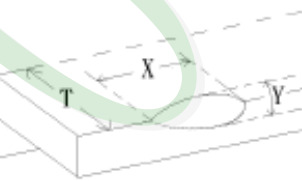
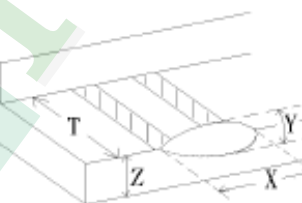
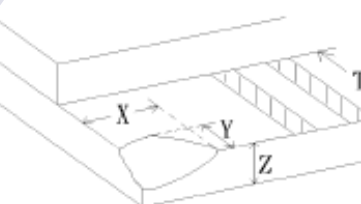


### 3.2.3. INSPECTION PLAN :

CLASS	ITEM	JUDGEMENT	CLASS
PACKING & INDICATE	1. OUTSIDE AND INSIDE PACKAGE	"MODEL NO." , "LOT NO." AND "QUANTITY" SHOULD INDICATE ON THE PACKAGE.	Minor
	2. MODEL MIXED AND QUANTITY	OTHER MODEL MIXED.....REJECTED QUANTITY SHORT OR OVER.....REJECTED	Critical
	3. PRODUCT INDICATION	"MODEL NO." SHOULD INDICATE ON THE PRODUCT	Major
ASSEMBLY	4. DIMENSION, LCD GLASS SCRATCH AND SCRIBE DEFECT.	ACCORDING TO SPECIFICATION OR DRAWING.	Major
APPEARANCE	5. VIEWING AREA	POLARIZER EDGE OR LCD'S SEALING LINE IS VISABLE IN THE VIEWING AREA .....REJECTED	Minor
	6. BLEMISH · BLACK SPOT · WHITE SPOT IN THE LCD AND LCD GLASS CRACKS	ACCORDING TO STANDARD OF VISUAL INSPECTION(INSIDE VIEWING AREA)	Minor
	7. BLEMISH · BLACK SPOT WHITE SPOT AND SCRATCH ON THE POLARIZER	ACCORDING TO STANDARD OF VISUAL INSPECTION(INSIDE VIEWING AREA)	Minor
	8. BUBBLE IN POLARIZER	ACCORDING TO STANDARD OF VISUAL INSPECTION(INSIDE VIEWING AREA)	Minor
	9. LCD'S RAINBOW COLOR	STRONG DEVIATION COLOR ( OR NEWTON RING) OF LCD.....REJECTED. OR ACCORDING TO LIMITED SAMPLE ( IF NEEDED, AND INSIDE VIEWING AREA )	Minor
ELECTRICAL	10. ELECTRICAL AND OPTICAL CHARACTERISTICS ( CONTRAST · VOP · CHROMATICITY ... ETC )	ACCORDING TO SPECIFICATION OR DRAWING . ( INSIDE VIEWING AREA )	Critical
	11.MISSING LINE	MISSING DOT · LINE · CHARACTER .....REJECTED	Critical
	12.SHORT CIRCUIT · WRONG PATTERN DISPLAY	NO DISPLAY · WRONG PATTERN DISPLAY · CURRENT CONSUMPTION OUT OF SPECIFICATION..... REJECTED	Critical
	13. DOT DEFECT (FOR COLOR AND TFT)	ACCORDING TO STANDARD OF VISUAL INSPECTION	Minor

### 3.2.4. STANDARD OF VISUAL INSPECTION

CLASS	ITEM	JUDGEMENT																				
MINOR	BLACK AND WHITE SPOT FOREIGN MATERIEL DUST IN THE CELL BLEMISH SCRATCH	<div>(A) ROUND TYPE: <span>unit : mm.</span><table><tr><th>DIAMETER (mm.)</th><th>ACCEPTABLE Q'TY</th></tr><tr><td><math>\Phi \leq 0.1</math></td><td>DISREGARD</td></tr><tr><td><math>0.1 &lt; \Phi \leq 0.25</math></td><td>3 (Distance&gt;5mm)</td></tr><tr><td><math>0.25 &lt; \Phi</math></td><td>0</td></tr></table><p>NOTE: <math>\Phi = (\text{LENGTH} + \text{WIDTH}) / 2</math></p><div>(B) LINEAR TYPE: <span>unit : mm.</span><table><tr><th>LENGTH</th><th>WIDTH</th><th>ACCEPTABLE Q'TY</th></tr><tr><td>-----</td><td><math>W \leq 0.03</math></td><td>DISREGARD</td></tr><tr><td><math>L \leq 5.0</math></td><td><math>0.03 &lt; W \leq 0.07</math></td><td>3 (Distance&gt;5mm)</td></tr><tr><td>-----</td><td><math>0.07 &lt; W</math></td><td>FOLLOW ROUND TYPE</td></tr></table></div></div>	DIAMETER (mm.)	ACCEPTABLE Q'TY	$\Phi \leq 0.1$	DISREGARD	$0.1 < \Phi \leq 0.25$	3 (Distance>5mm)	$0.25 < \Phi$	0	LENGTH	WIDTH	ACCEPTABLE Q'TY	-----	$W \leq 0.03$	DISREGARD	$L \leq 5.0$	$0.03 < W \leq 0.07$	3 (Distance>5mm)	-----	$0.07 < W$	FOLLOW ROUND TYPE
DIAMETER (mm.)	ACCEPTABLE Q'TY																					
$\Phi \leq 0.1$	DISREGARD																					
$0.1 < \Phi \leq 0.25$	3 (Distance>5mm)																					
$0.25 < \Phi$	0																					
LENGTH	WIDTH	ACCEPTABLE Q'TY																				
-----	$W \leq 0.03$	DISREGARD																				
$L \leq 5.0$	$0.03 < W \leq 0.07$	3 (Distance>5mm)																				
-----	$0.07 < W$	FOLLOW ROUND TYPE																				
MINOR	BUBBLE IN POLARIZER DENT ON POLARIZER	<div><span>unit : mm.</span><table><tr><th>DIAMETER</th><th>ACCEPTABLE Q'TY</th></tr><tr><td><math>\Phi \leq 0.2</math></td><td>DISREGARD</td></tr><tr><td><math>0.2 &lt; \Phi \leq 0.5</math></td><td>2 (Distance&gt;5mm)</td></tr><tr><td><math>0.5 &lt; \Phi</math></td><td>0</td></tr></table></div>	DIAMETER	ACCEPTABLE Q'TY	$\Phi \leq 0.2$	DISREGARD	$0.2 < \Phi \leq 0.5$	2 (Distance>5mm)	$0.5 < \Phi$	0												
DIAMETER	ACCEPTABLE Q'TY																					
$\Phi \leq 0.2$	DISREGARD																					
$0.2 < \Phi \leq 0.5$	2 (Distance>5mm)																					
$0.5 < \Phi$	0																					
MINOR	Dot Defect	<table><tr><th>Items</th><th>ACC. Q'TY</th></tr><tr><td>Bright dot</td><td><math>N \leq 4</math></td></tr><tr><td>Dark dot</td><td><math>N \leq 4</math></td></tr></table> <div><p>Pixel Define :</p><div><div><div></div><div></div><div></div></div><div><div>Pixel</div><div></div></div><div><div></div><div></div><div></div></div><div><div>Dot</div><div>Dot</div><div>Dot</div></div></div></div> <div><p>Note 1: The definition of dot: The size of a defective dot over 1/2 of whole dot is regarded as one defective dot.</p><p>Note 2: Bright dot: Dots appear bright and unchanged in size in which LCD panel is displaying under black pattern.</p><p>Note 3: Dark dot: Dots appear dark and unchanged in size in which LCD panel is displaying under pure red, green ,blue pattern.</p></div>	Items	ACC. Q'TY	Bright dot	$N \leq 4$	Dark dot	$N \leq 4$														
Items	ACC. Q'TY																					
Bright dot	$N \leq 4$																					
Dark dot	$N \leq 4$																					

CLASS	ITEM	JUDGEMENT
MINOR	LCD GLASS CHIPPING	 $Y > S$ Reject
MINOR	LCD GLASS CHIPPING	 $X \text{ or } Y > S$ Reject
MAJOR	LCD GLASS GLASS CRACK	 $Y > (1/2) T$ Reject
MAJOR	LCD GLASS SCRIBE DEFECT	 <ol style="list-style-type: none"> <li><math>a &gt; L/3</math>, <math>A &gt; 1.5\text{mm}</math>.</li> <li>B : ACCORDING TO DIMENSION</li> </ol> Reject
MINOR	LCD GLASS CHIPPING ( ON THE TERMINAL AREA )	 $\Phi = (x+y)/2 > 2.5 \text{ mm}$ Reject
MINOR	LCD GLASS CHIPPING ( ON THE TERMINAL SURFACE )	 $Y > (1/3) T$ Reject
MINOR	LCD GLASS CHIPPING	 $Y > T$ Reject



## 4. RELIABILITY TEST

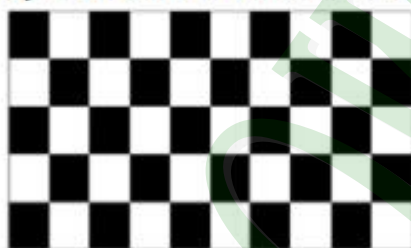
### 4.1 Reliability Test Condition

(Ver.A01)

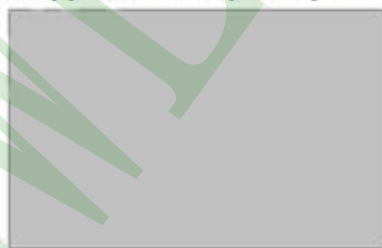
Test Item	Test Condition	Remark
High Temperature Storage	Ta=80℃; 240hrs	IEC60068-2-1 : 2007 GB2423.2-2008
Low Temperature Storage	Ta=-30℃; 240hrs	IEC60068-2-1 : 2007 GB2423.1-2008
High Temperature Operation	Ta=70℃ , 240Hrs	IEC60068-2-1 : 2007 GB2423.2-2008
Low Temperature Operation	Ta=-20℃; 240hrs	IEC60068-2-1 : 2007 GB2423.1-2008
High Temperature High Humidity Operation	Ta=60℃ , 90%RH , 240Hrs(no condensation)	IEC60068-2-78 : 2001 GB/T2423.3-2006
Thermal Shock	-30℃ (0.5h) ~ 80℃ (0.5h) / 100cycles	Start with cold temperature , End with high temperature , IEC60068-2-14:1984,GB2423.22-2002
Image Sticking	25℃ ; 4hrs	Note1

Note1:Condition of image sticking test :25℃±2℃

Operation with test pattern sustained for 4hrs,then change to gray pattern immediately.after5 mins,themura must be disappeared completely



(a) Test Pattern (chess board Pattern )



(b) Gray Pattern

## 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

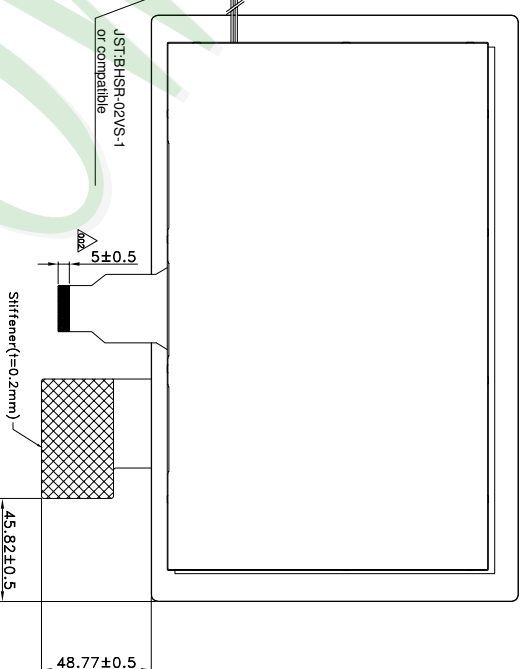
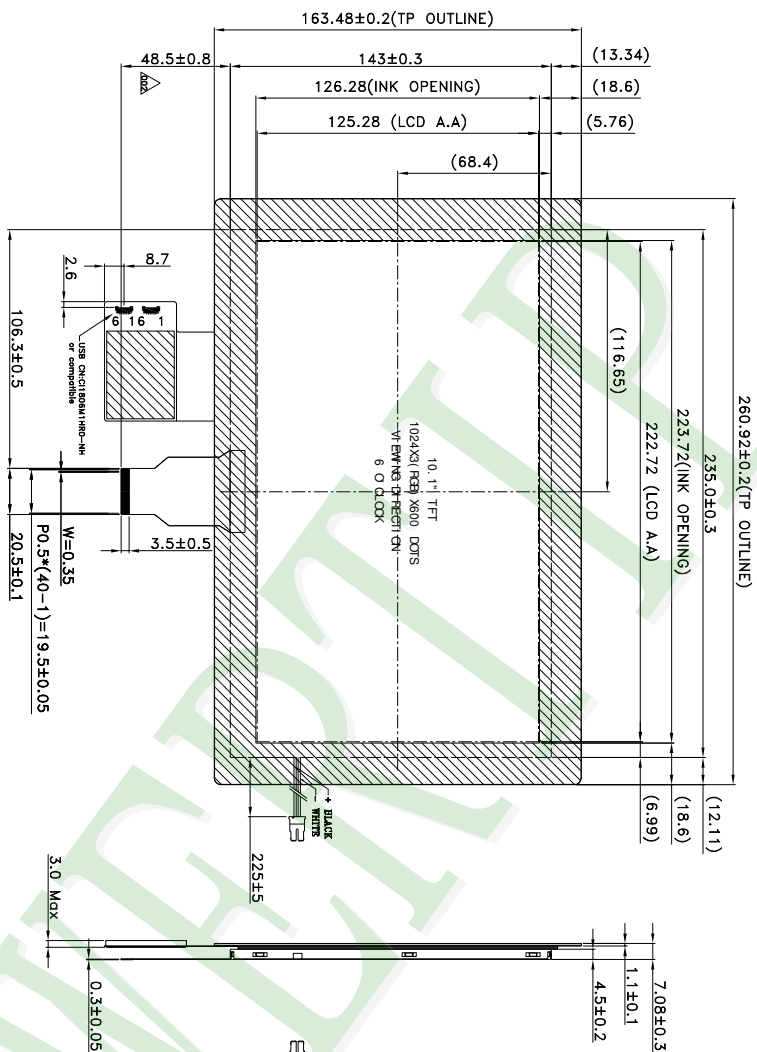
- 5.2.1 Avoid any strong mechanical shock which can break the glass.
- 5.2.2 Avoid static electricity which can damage the CMOS LSI—When working with the module , be sure to ground your body and any electrical equipment you may be using.
- 5.2.3 Do not remove the panel or frame from the module.
- 5.2.4 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.



PN	ASSIGNMENT
1	VOD
2	VOD
3	VOD
4	NC
5	RESET
6	STROM
7	GD
8	PRO-N
9	PRO-N <sub>1</sub>
10	GD
11	PRO-N <sub>1</sub>
12	PRO-N <sub>1</sub>
13	GD
14	PRO-N
15	PRO-N <sub>1</sub>
16	GD
17	PRO-K
18	PRO-K <sub>1</sub>
19	GD
20	PRO-N
21	PRO-N <sub>1</sub>
22	GD
23	NC
24	NC
25	GD
26	NC
27	DIO
28	SE-B
29	AOD
30	GD
31	LED
32	LED
33	L/R
34	U/D
35	V/L
36	GD
37	GD
38	VH
39	LED
40	L/D

USB Connector	
1	VDD_5.0
2	D-
3	D+
4	X
5	GND
6	X

- TFT NOTE:
1. LCD TYPE: 16.7M COLOR , TFT
  2. VIEWING RECTANGLE: 6.0" CLOCK
  3. BACKLIGHT: WHITE LED 39 connection
  4. OPERATING TEMP: -20° ~70°
  5. STORAGE TEMP: -30° ~80°
  6. UNMARKETPLACE:  $\pm 0.30$
  7. FPC suggested connector : (HFS) FH12-40S-0.5SH or compatible

007				PART NO:	<div><div><div></div><div></div><div></div><div></div></div><div>久正光电股份有限公司</div><div>POWER TIP TECHNOLOGY CORPORATION</div></div>									
006				PHI102600T007-IAC										
005				DRAWING NAME :	Design		Terry		<div><div></div><div></div><div>(3)</div></div>		Surface		<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><di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