DATA MODUL

SPECIFICATION

POWERTIP

PH480272T016-ZHA

4.3” - WQVGA - RGB

Version: 1.1
Date: 14.05.2019

Note: This specification is subject to change without prior notice

www.data-modul.com

History of Version

Date (mm / dd / yyyy)	Ver.	Edi.	Description	Page	Design by
05/14/2019	01	001	New Drawing	-	Yuan

Total: 28 Page

Contents

Note: For detailed information please refer to IC data sheet: Sitronix--- SC7283-G4

1. SPECIFICATIONS

1.1 Features

Item	Standard Value
Display Resolution	480 *3 (RGB) * 272 Dots
LCD Type	Full Viewing Angle , Normally Black , Transmissive type
Screen size(inch)	4.3 inch
Surface treatment	Anti-Glare
Color configuration	R.G.B. Vertical Stripe
Weight	- g
Interface	24 Bits RGB Interface
Driver IC	SC7283-G4
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	105.5 (W) * 67.2 (L) * 2.6 (H)	mm

LCD panel

Item	Standard Value	Unit
Active Area	95.04 (W) * 53.856 (L)	mm

Note : For detailed information please refer to LCM drawing.

1.3 Absolute Maximum Ratings

Module

Item	Symbol	Condition	Min.	Max.	Unit
Power Supply for TFT Panel	V_{DD}	GND=0V	-0.3	4.0	V
Power Supply for Backlight Unit	V_{CC}	GND=0V	-0.3	+20.0	V
Operating Temperature	T_{OP}	-	-20	+70	℃
Storage Temperature	T_{ST}	-	-30	+80	℃

The absolute maximum rating values of this product are not allowed to be exceeded at any times. Should a module be used with any of the absolute maximum ratings exceeded, the characteristics of the module may not be recovered, or in an extreme case, the module may be permanently destroyed.

1.4 DC Electrical Characteristics

Module GND = 0V, Ta = 25℃

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Power Supply for TFT Panel	V_{DD}	GND=0V	3.0	3.3	3.6	V
Power Supply for Backlight Unit	V_{CC}	GND=0V	5	12	15	V
Input Voltage for TFT Panel	V_{IH}	GND=0V	$0.7V_{DD}$	-	V_{DD}	V
	V_{IL}	GND=0V	0	-	$0.3V_{DD}$	V
Supply Current for TFT Panel	I_{DD}	I_{DD}@V_{DD}=3.3V	-	-	-	mA
Supply Current for Backlight Unit	I_{CC}	I_{CC}@V_{CC}=5V	-	(180)	-	mA
Supply Current for Backlight Unit	I_{CC}	I_{CC}@V_{CC}=12V	-	(70)	-	mA
Input Voltage for PWM Signal	V_{PH}	GND=0V	1.2	-	-	V
	V_{PL}	GND=0V	-	-	0.4	V
Dimming Clock Rate	fP	GND=0V	5	-	100	KHz

1.5 Optical Characteristics

VDD=3.3V, Ta=25℃

Item		Symbol	Condition	Min.	Typ.	Max.	unit	-
Response time		Tr + Tf	-	-	(30)	-	ms	Note2
Viewing angle	Top	θ+	CR ≥ 10	-	(80)	-	Deg.	Note4
	Bottom	θ-		-	(80)	-		
	Left	θL		-	(80)	-		
	Right	θR		-	(80)	-		
Contrast ratio		CR	-	(650)	(800)	-	-	Note3
Color of CIE Coordinate (LCD & BL)	White	X	VCC=12V PWM="High" (Duty=100%)	-	(0.30)	-	-	Note1
		Y		-	(0.34)	-		
	Red	X		-	(0.64)	-		
		Y		-	(0.33)	-		
	Green	X		-	(0.31)	-		
		Y		-	(0.62)	-		
	Blue	X		-	(0.14)	-		
		Y		-	(0.05)	-		
Average Brightness Pattern=white display (LCD & BL) *1		IV	VCC=12V PWM="High" (Duty=100%)	-	(1000)	-	cd/m^2	
Uniformity (LCD & BL) *2		△B		70	-	-	%	

Note 1:

*1：△B=B(min) / B(max) * 100%

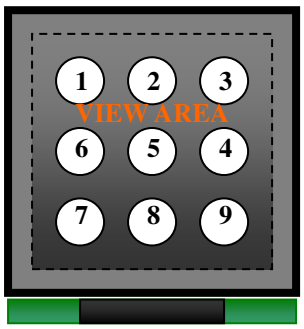
*2：Measurement Condition for Optical Characteristics:

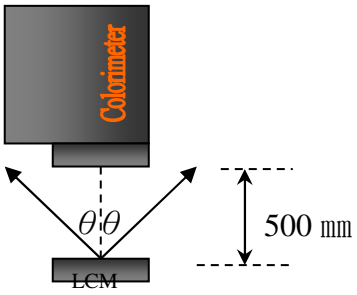
a：Environment: 25℃±5℃ / 60±20%R.H，no wind，dark room below 10 Lux at typical lamp current and typical operating frequency.

b：Measurement Distance: 500 ± 50 ㎜ ，(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%





Colorimeter=BM-7 fast

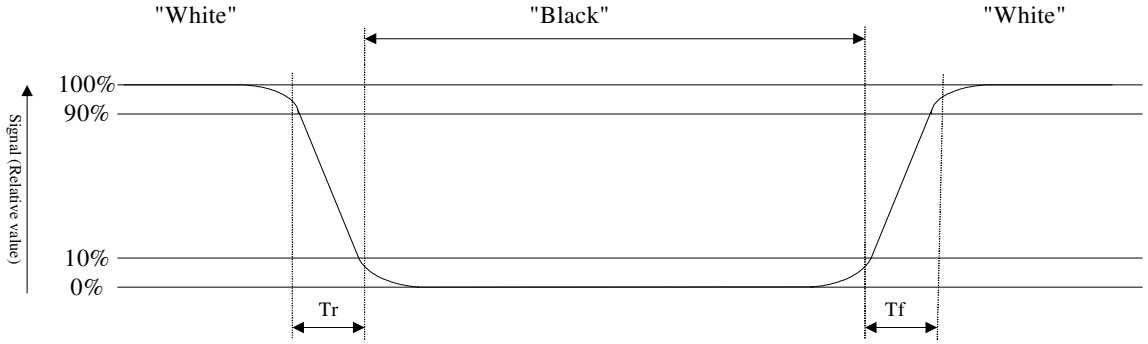
To be measured at the center area of panel with a viewing cone of 1° by Topcon luminance meter BM-7, after 10 minutes operation (module)

Note2: Definition of response time:

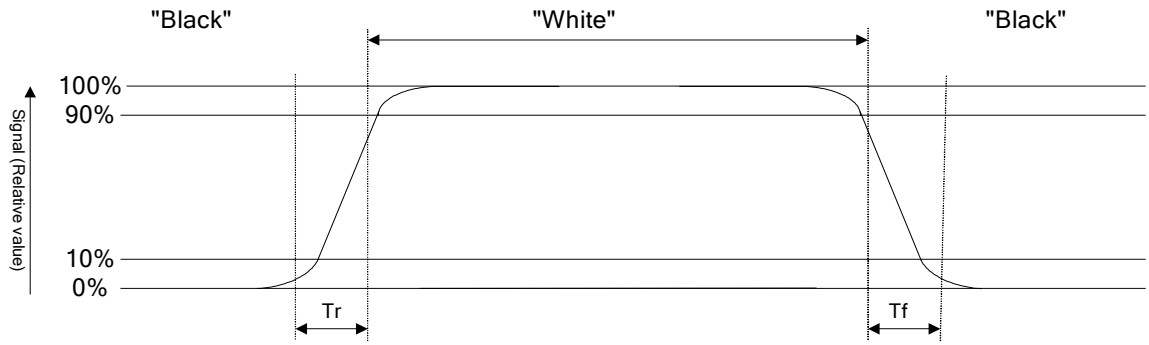
The output signals of photo detector are measured when the input signals are changed from “black” to “white”(falling time) and from “white” to “black”(rising time), respectively. The response time is defined as the time interval between the 10% and 90% of Amplitudes.

Refer to figure as below:

Normally White



Normally Black



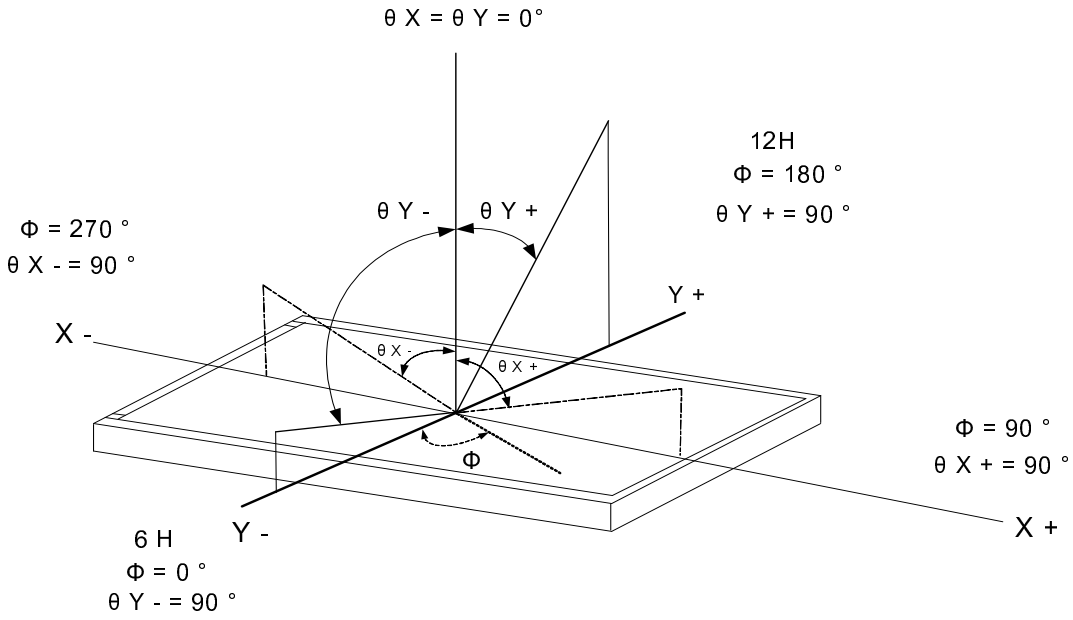
Note3: Definition of contrast ratio:

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

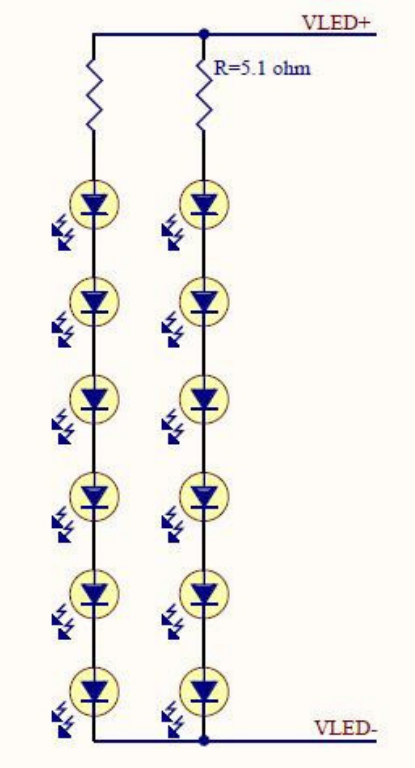
Item	Symbol	Min.	Max.	Unit	Remark
LED Forward Current	I_F	(30)		mA	One LED
LED Reverse Voltage	V_R	5		V	

Electrical / Optical Characteristics

Item	Symbol	Min.	Typ.	Max.	Unit	Remark
LED Voltage	V_L	-	(19.2)	-	V	Note1
LED Current	I_L	-	40	-	mA	-
LED life time	-	50000		-	HR	Note2

Note 1: The LED Supply Voltage is defined by the number of LED at Ta=25℃ and I_L=40 mA.

Note 2: The “LED life time” is defined as the module brightness decrease to 50% original brightness at Ta=25℃ and I_L=40 mA. The LED life time could be decreased if operating I_L is larger than 40 mA.



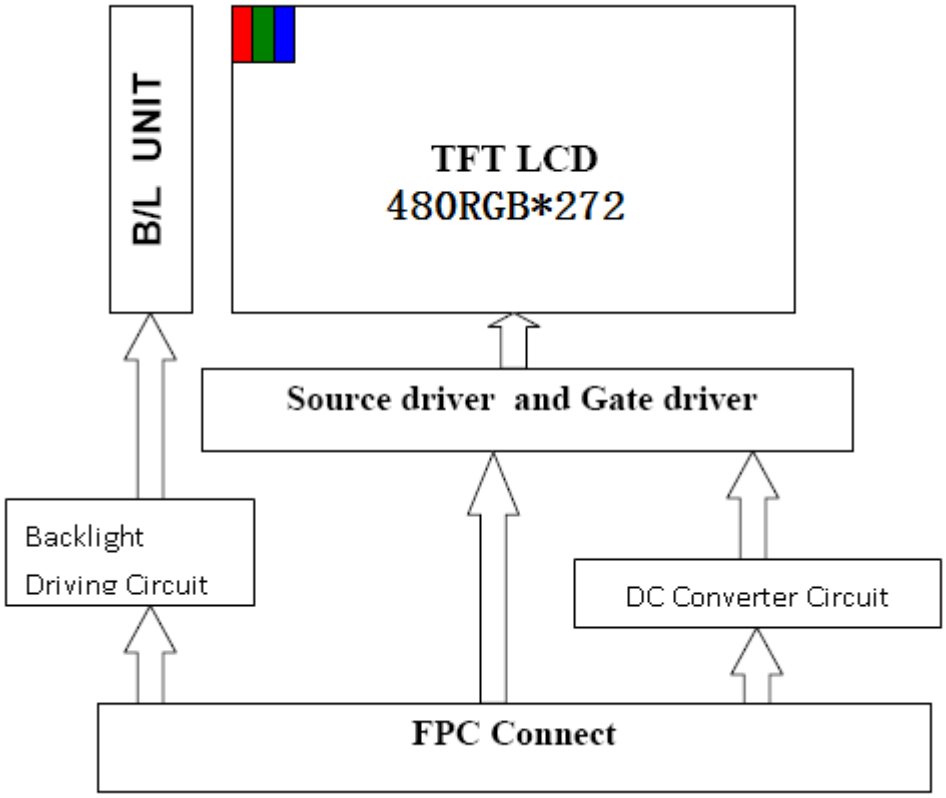
2. MODULE STRUCTURE

2.1 Counter Drawing

2.1.1 LCM Mechanical Diagram

* See Appendix

2.1.2 Block Diagram



2.2 Interface Pin Description

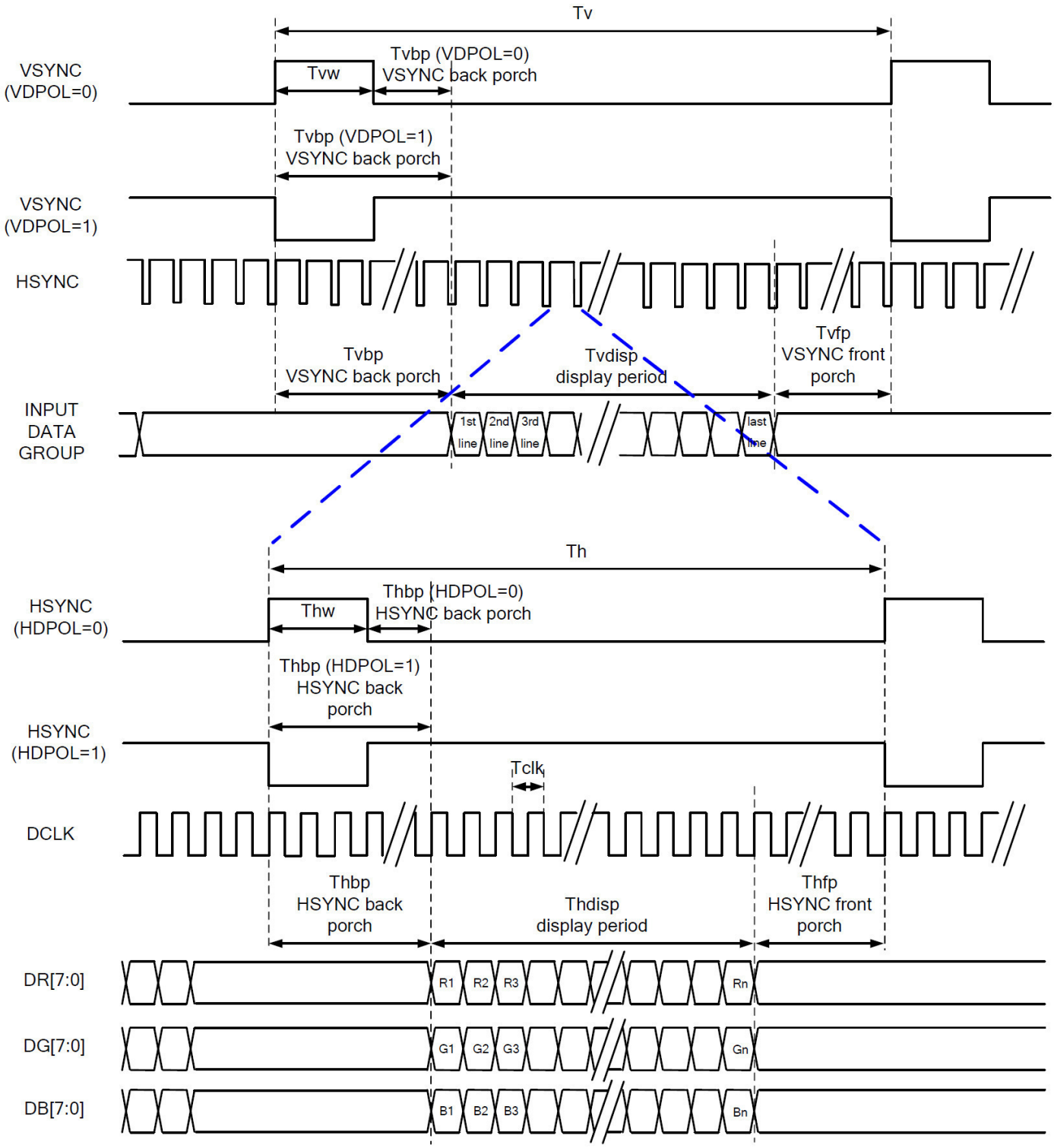
TFT LCM Interface

Pin#	Name	DESCRIPTION
1	GND	Power ground.
2	VDD	Power for Digital Circuit.
3	VDD	Power for Digital Circuit.
4	VCC	Power For LED backlight.
5	VCC	Power For LED backlight.
6	PWM	Shutdown & Dimming control input for backlight. Do not allow this pin to float. “Hi” =100%, “Low” = 0%.
7	GND	Power ground.
8	R0	Red Data.
9	R1	Red Data.
10	R2	Red Data.
11	R3	Red Data.
12	GND	Power ground.
13	R4	Red Data.
14	R5	Red Data.
15	R6	Red Data.
16	R7	Red Data.
17	GND	Power ground.
18	G0	Green Data.
19	G1	Green Data.
20	G2	Green Data.
21	G3	Green Data.
22	GND	Power ground.
23	G4	Green Data.
24	G5	Green Data.
25	G6	Green Data.
26	G7	Green Data.
27	GND	Power ground.
28	B0	Blue Data.
29	B1	Blue Data.

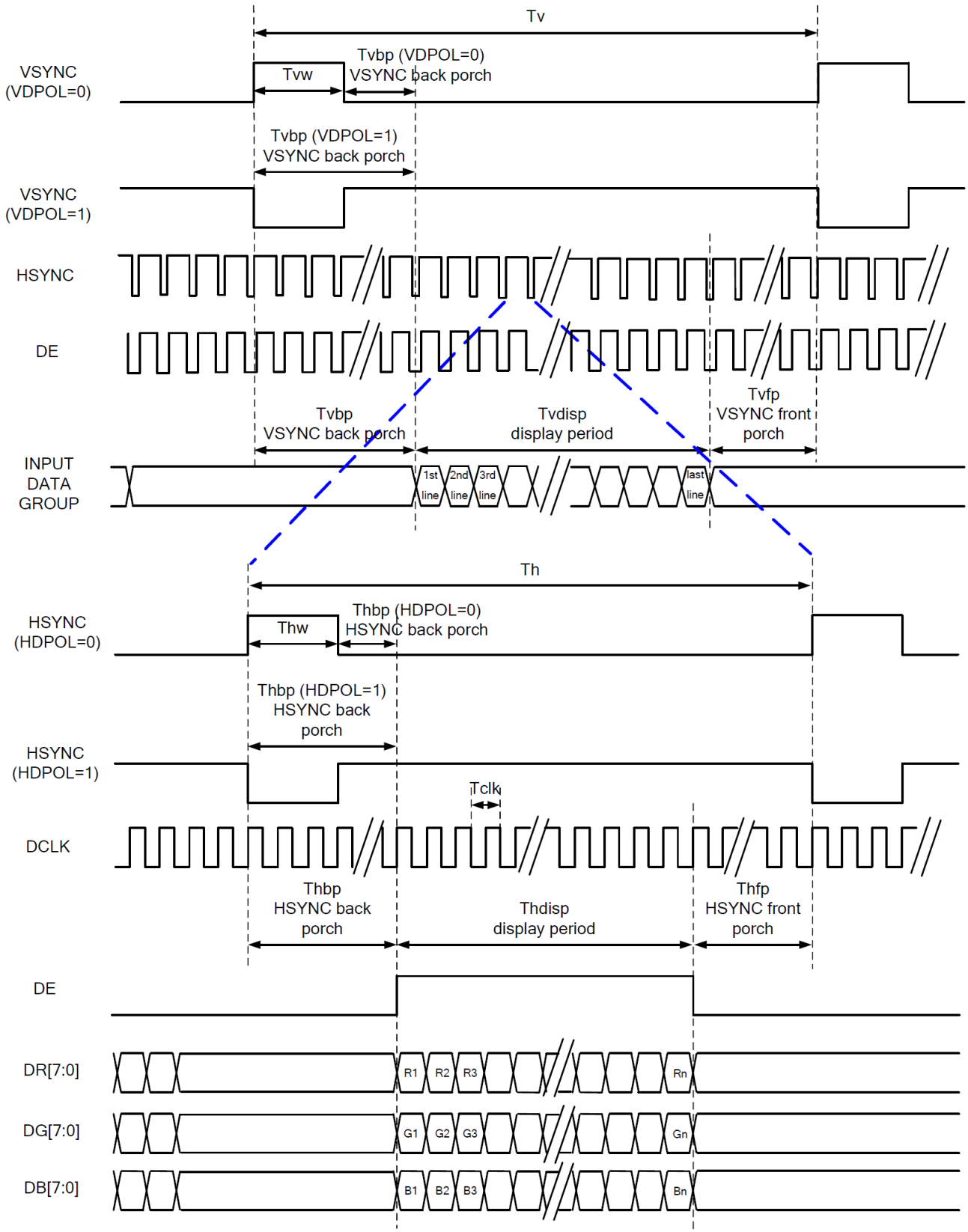
Pin#	Name	DESCRIPTION
30	B2	Blue Data.
31	B3	Blue Data.
32	GND	Power ground.
33	B4	Blue Data.
34	B5	Blue Data.
35	B6	Blue Data.
36	B7	Blue Data.
37	GND	Power ground.
38	HS	Line synchronization signal. Horizontal Sync Input.
39	VS	Frame synchronization signal. Vertical Sync Input.
40	GND	Power ground.
41	DE	Display enable pin from controller. Data Input Enable.
42	GND	Power ground.
43	DCLK	Sample clock. Data will be latched at the falling edge of DCLK.
44	GND	Power ground.
45	CS(NC) / ID1	No Function./ ID[4:1]These pins select LCM type.
46	SDIN(NC) / ID2	No Function./ ID[4:1]These pins select LCM type.
47	SCK(NC) / ID3	No Function ./ ID[4:1]These pins select LCM type.
48	DISPLAY CONTROL / ID4	Display Enable(Hi Active)./ ID[4:1]These pins select LCM type.
49	/RESET	Global Reset (Low Active).
50	GND	Power ground.

2.3 Timing Characteristics

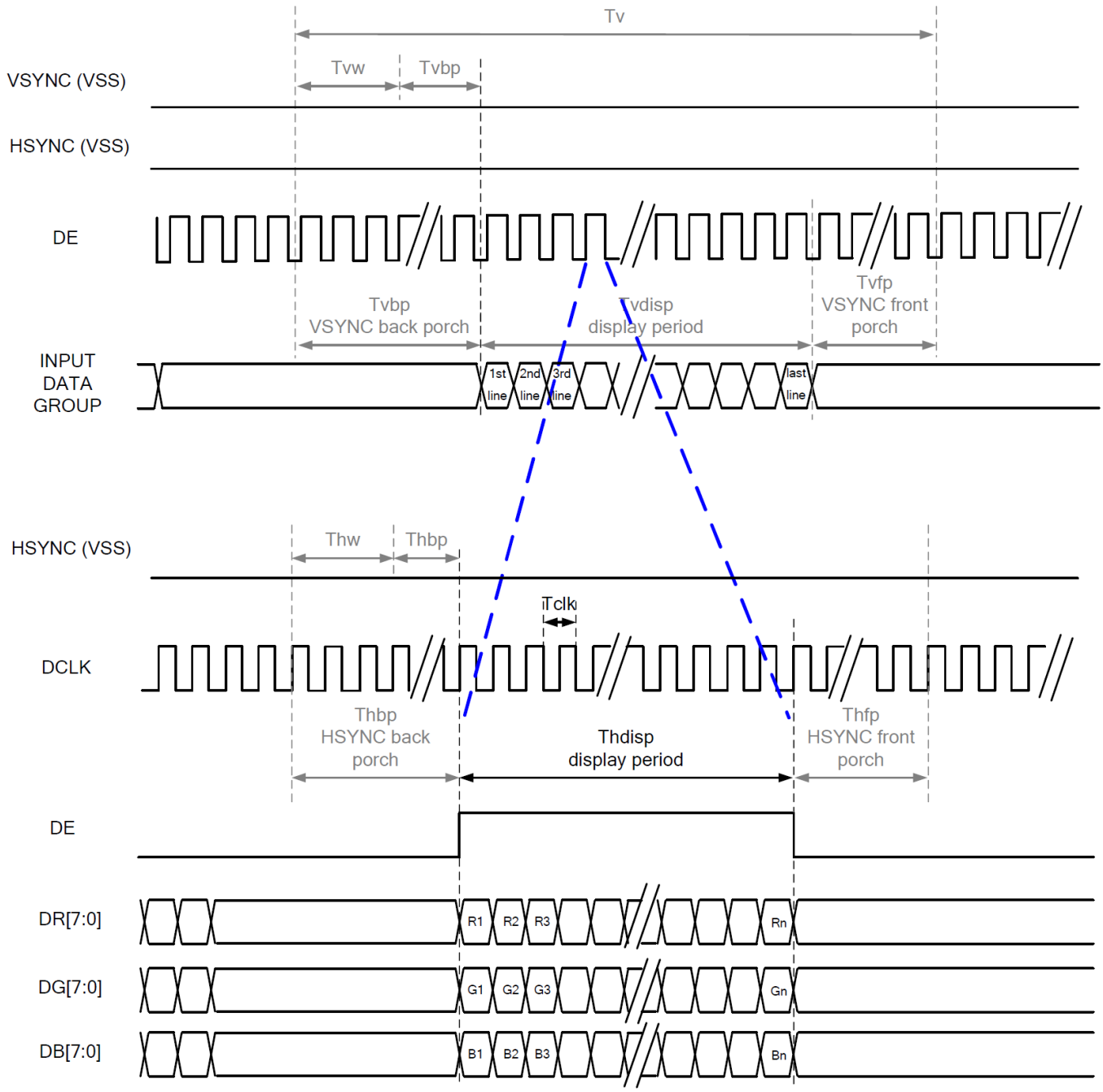
2.3.1 SYNC Mode



2.3.2 SYNC-DE Mode



2.3.3 DE Mode



RGB Mode Selection Table	DCLK	HSYNC	VSYNC	DE
SYNC - DE Mode	Input	Input	Input	Input
SYNC Mode	Input	Input	Input	GND
DE Mode	Input	GND	GND	Input

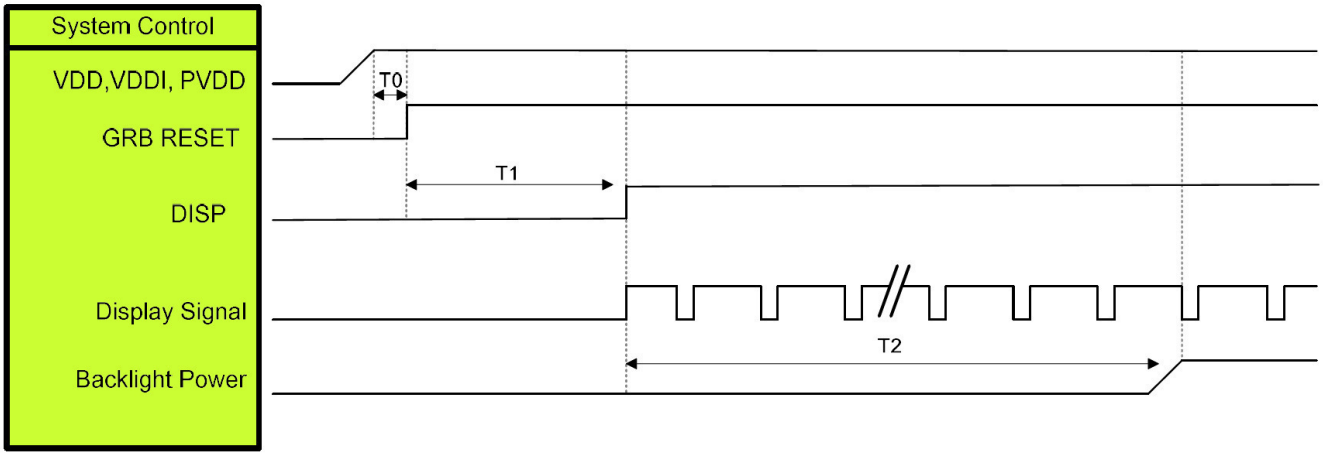
Note: "Input" means these signals are driven by host side.

2.3.4 Parallel 24-bit RGB Input Timing

480RGB X 272 Resolution Timing Table							
Item		Symbol	Min.	Typ.	Max.	Unit	Remark
DCLK Frequency		Fclk	8	9	12	MHz	
DCLK Period		Tclk	83	111	125	ns	
HSYNC	Period Time	Th	485	531	598	DCLK	
	Display Period	Thdisp		480		DCLK	
	Back Porch	Thbp	3	43	43	DCLK	By H_BLANKING setting
	Front Porch	Thfp	2	8	75	DCLK	
	Pulse Width	Thw	2	4	43	DCLK	
VSYNC	Period Time	Tv	276	292	321	HSYNC	
	Display Period	Tvdisp		272		HSYNC	
	Back Porch	Tvbp	2	12	12	HSYNC	By V_BLANKING setting
	Front Porch	Tvfp	2	8	37	HSYNC	
	Pulse Width	Tvw	2	4	12	HSYNC	

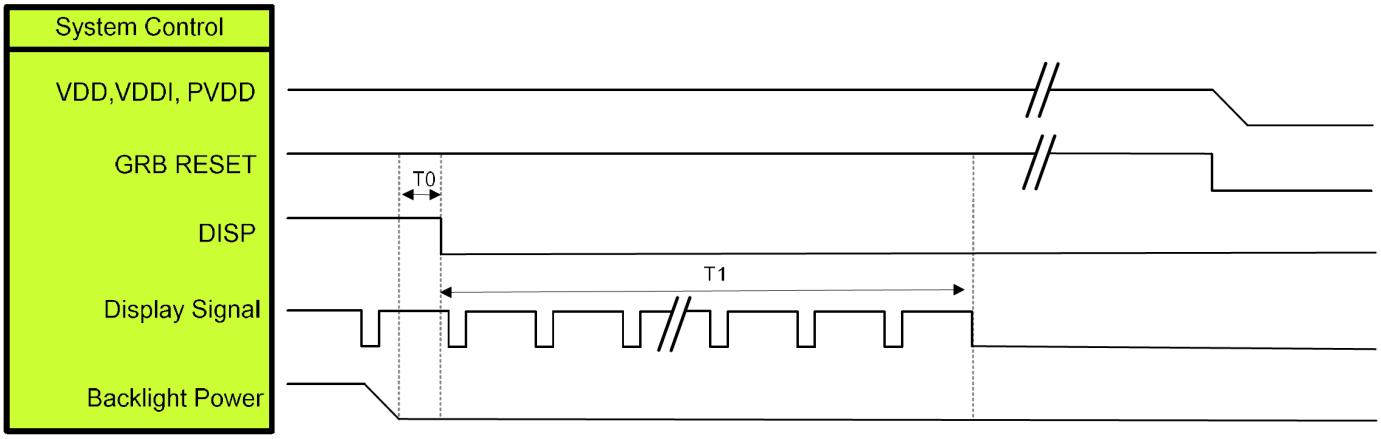
Note: It is necessary to keep Tvbp =12 and Thbp =43 in sync mode. DE mode is unnecessary to keep it.

2.3.5 Power ON Sequence



Symbol	Description	Min. Time	Unit
T0	System power stability to GRB RESET signal	0	ms
T1	GRB RESET= “High” to DISP=”High”	10	ms
T2	Display Signal output to Backlight Power on	250	ms

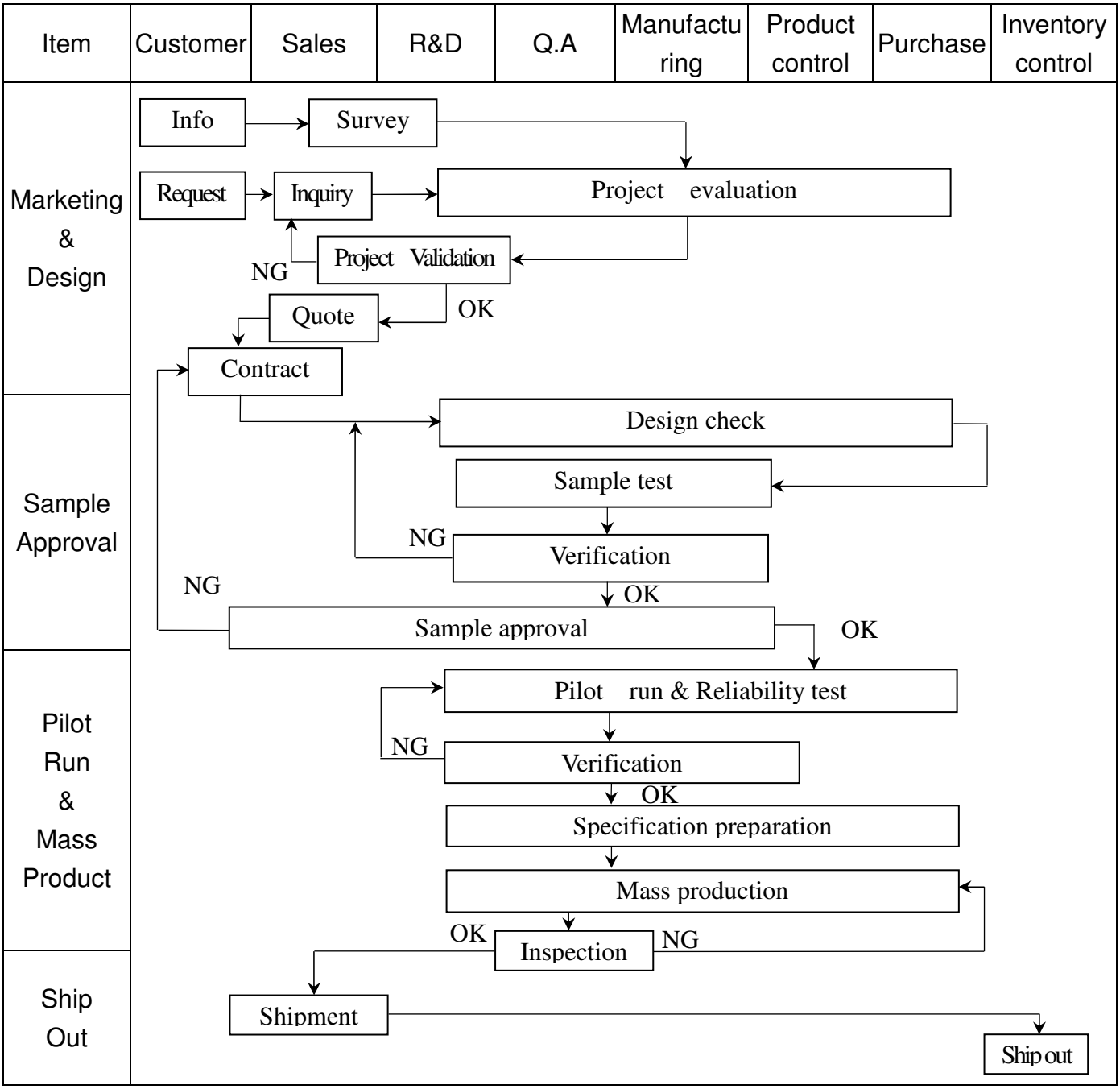
2.3.6 Power Off Sequence

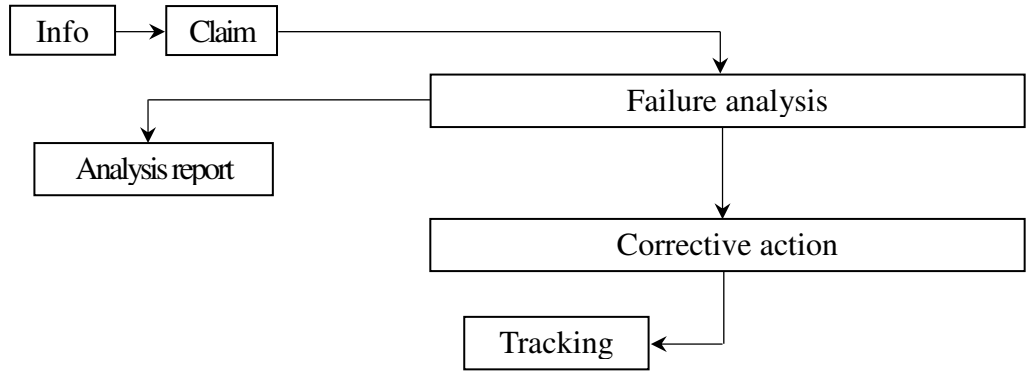


Symbol	Description	Min. Time	Unit
T0	Backlight Power off to DISP=”Low”	5	ms
T1	DISP=”Low” to IC internal voltage discharge complete	80	ms

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								
Q.A Activity	1. ISO 9001 Maintenance Activities 2. Process improvement proposal 3. Equipment calibration 4. Education And Training Activities 5. Standardization Management							

3.2. Inspection Specification

◆Scope：The document shall be applied to TFT-LCD Module for 3.5″ ~10″ (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

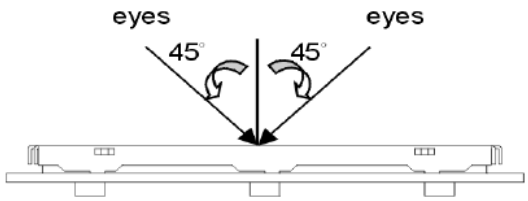
◆OUT Going Defect Level：Sampling.

◆Standard of the product appearance test：

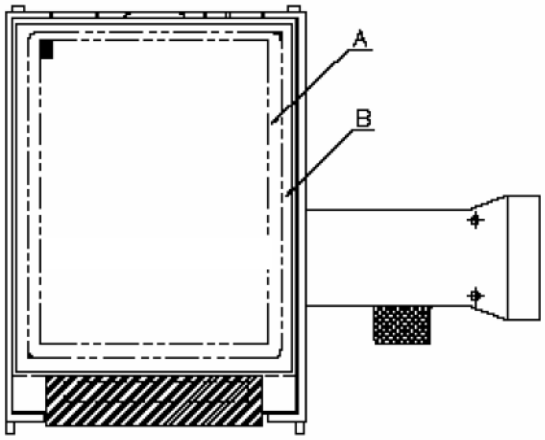
a. Manner of appearance test：

(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″ ~10″ : (Ver.B01)

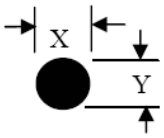
<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>Level</th></tr>
<tr><td rowspan="3">01</td><td rowspan="3">Product condition</td><td>1.1 The part number is inconsistent with work order of production.</td><td>Major</td></tr>
<tr><td>1.2 Mixed product types.</td><td>Major</td></tr>
<tr><td>1.3 Assembled in inverse direction.</td><td>Major</td></tr>
<tr><td>02</td><td>Quantity</td><td>2.1 The quantity is inconsistent with work order of production.</td><td>Major</td></tr>
<tr><td>03</td><td>Outline dimension</td><td>3.1 Product dimension and structure must conform to structure diagram.</td><td>Major</td></tr>
<tr><td rowspan="5">04</td><td rowspan="5">Electrical Testing</td><td>4.1 Missing line character and icon.</td><td>Major</td></tr>
<tr><td>4.2 No function or no display.</td><td>Major</td></tr>
<tr><td>4.3 Display malfunction.</td><td>Major</td></tr>
<tr><td>4.4 LCD viewing angle defect.</td><td>Major</td></tr>
<tr><td>4.5 Current consumption exceeds product specifications.</td><td>Major</td></tr>
<tr><td>05</td><td>Dot defect

(Bright dot、Dark dot)

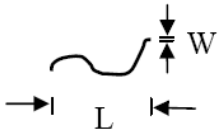
On -display</td><td>
<table>
<tr><th colspan="2">Item</th><th>Acceptance (Q'ty)</th></tr>
<tr><td rowspan="4">Dot Defect</td><td>Bright Dot</td><td>≦ 4</td></tr>
<tr><td>Dark Dot</td><td>≦ 5</td></tr>
<tr><td>Joint Dot</td><td>≦ 3</td></tr>
<tr><td>Total</td><td>≦ 7</td></tr>
</table>
5.1 Inspection 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.
</td><td>Minor</td></tr>
</table>

◆Specification For TFT-LCD Module 3.5″ ~10″ : (Ver.B01)

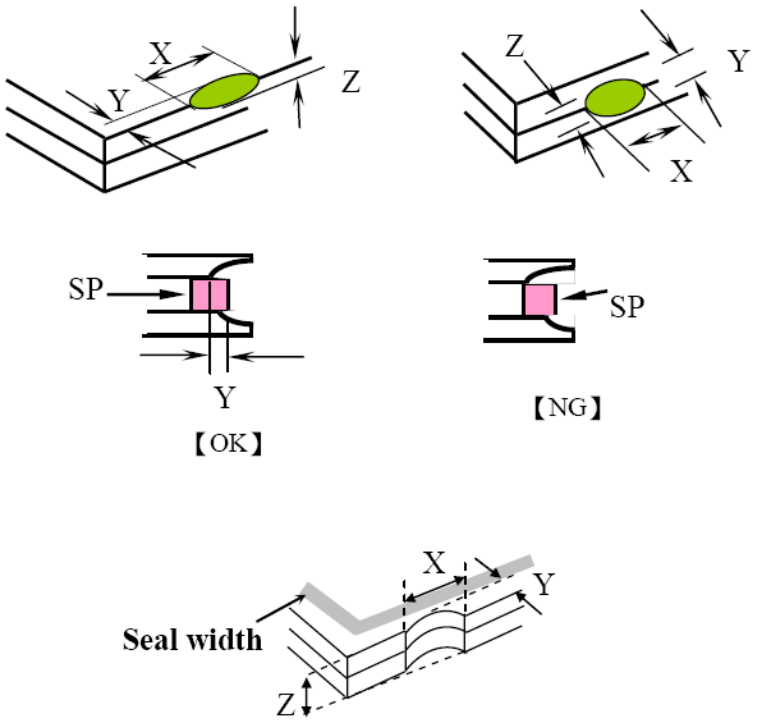
<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>Level</th></tr>
<tr><td>06</td><td>Black or white dot、scratch、contamination

Round type
 

Φ=(x+y) / 2

Line type
 
</td><td>6.1 Round type (Non-display or display) :
<table><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><tr><td>Φ ≦ 0.25</td><td>Ignore</td><td rowspan="4">Ignore</td></tr><tr><td>0.25 < Φ ≦ 0.50</td><td>5</td></tr><tr><td>Φ > 0.50</td><td>0</td></tr><tr><td>Total</td><td>5</td></tr></table>
6.2 Line type(Non-display or display) :
<table><tr><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><tr><td>---</td><td>W ≦ 0.03</td><td>Ignore</td><td rowspan="5">Ignore</td></tr><tr><td>L ≦10.0</td><td>0.03 < W ≦ 0.05</td><td>4</td></tr><tr><td>L ≦5.0</td><td>0.05 < W ≦ 0.10</td><td>2</td></tr><tr><td>---</td><td>W >0.10</td><td>As round type</td></tr><tr><td colspan="2">Total</td><td>5</td></tr></table></td><td>Minor</td></tr>
<tr><td>07</td><td>Polarizer Bubble</td><td><table><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><tr><td>Φ ≦ 0.25</td><td>Ignore</td><td rowspan="5">Ignore</td></tr><tr><td>0.25 < Φ ≦ 0.50</td><td>4</td></tr><tr><td>0.50 < Φ ≦ 0.80</td><td>1</td></tr><tr><td>Φ > 0.80</td><td>0</td></tr><tr><td>Total</td><td>5</td></tr></table></td><td>Minor</td></tr>
</table>

◆Specification For TFT-LCD Module 3.5″ ~10″ : (Ver.B01)

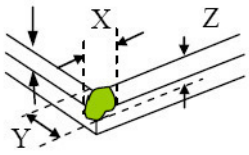
NO	Item	Criterion	Level
08	The crack of glass	Symbols : X : The length of crack Y : The width of crack. Z : The thickness of crack W : terminal length t : The thickness of glass a : LCD side length 8.1 General glass chip : 8.1.1 Chip on panel surface and crack between panels:  	Minor

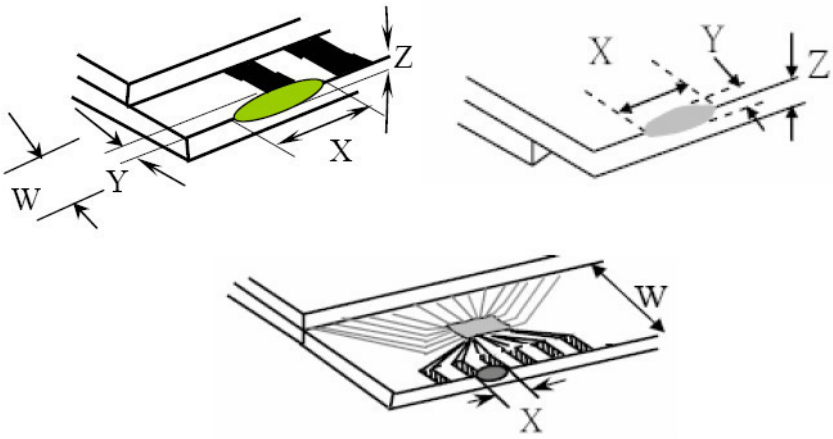
X	Y	Z
≦ a	Crack can't enter viewing area	≦1/2 t
≦ a	Crack can't exceed the half of SP width.	1/2 t < Z ≦2 t

◆Specification For TFT-LCD Module 3.5″ ~10″ : (Ver.B01)

<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>Level</th></tr>
<tr><td rowspan="2">08</td><td rowspan="2">The crack of glass</td><td>Symbols :

X : The length of crack
Z : The thickness of crack
t : The thickness of glass
Y : The width of crack.
W : terminal length
a : LCD side length

8.1.2 Corner crack :
 

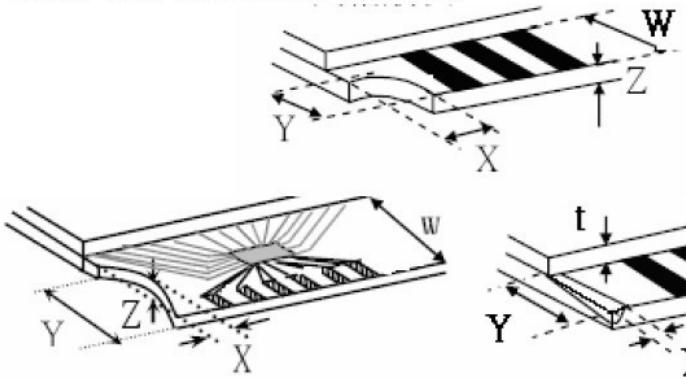
<table>
<tr><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>≦1/5 a</td><td>Crack can’t enter viewing area</td><td>Z ≦ 1/2 t</td></tr>
<tr><td>≦1/5 a</td><td>Crack can’t exceed the half of SP width.</td><td>1/2 t < Z ≦ 2 t</td></tr>
</table></td><td>Minor</td></tr>
<tr><td>8.2 Protrusion over terminal :
8.2.1 Chip on electrode pad :
 

<table>
<tr><th></th><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>Front</td><td>≦ a</td><td>≦ 1/2 W</td><td>≦ t</td></tr>
<tr><td>Back</td><td>≦ a</td><td>≦ W</td><td>≦ 1/2 t</td></tr>
</table></td></tr>
</table>

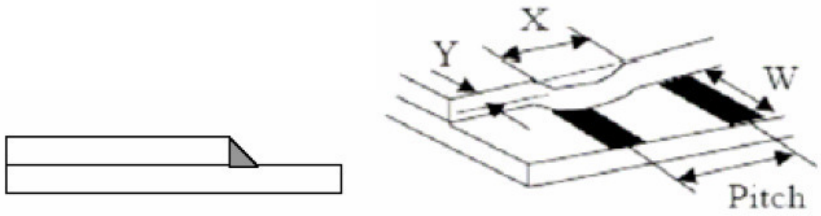
◆Specification For TFT-LCD Module 3.5″ ~10″ : (Ver.B01)

<table>
<tr><th>NO</th><th>Item</th><th>Criterion</th><th>Level</th></tr>
<tr><td>08</td><td>The crack of glass</td><td>
Symbols :

X : The length of crack Y : The width of crack.
Z : The thickness of crack W : terminal length
t : The thickness of glass a : LCD side length

8.2.2 Non-conductive portion :


<table>
<tr><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>≦ 1/3 a</td><td>≦ W</td><td>≦t</td></tr>
</table>
⊙ If the chipped area touches the ITO terminal, over 2/3 of the ITO must remain and be inspected according to electrode terminal specifications.

8.2.3 Glass remain :


<table>
<tr><th>X</th><th>Y</th><th>Z</th></tr>
<tr><td>≦ a</td><td>≦ 1/3 W</td><td>≦t</td></tr>
</table>
</td><td>Minor</td></tr>
</table>

◆Specification For TFT-LCD Module 3.5″ ~10″ : (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℃ ±5℃ 240 hrs
2	Low Temperature Storage Test	Keep in -30℃ ±5℃ 240 hrs
3	High Temperature / High Humidity Storage Test	Keep in 60 ℃ / 90% R.H duration for 240 hrs (Excluding the polarizer)
4	Temperature Cycling Storage Test	-30℃ → +25℃ → 80℃ → +25℃ (30mins) (5mins) (30mins) (5mins) 20 Cycle
5	ESD Test	Air Discharge: Apply 2 KV with 5 times Discharge for each polarity +/- Contact Discharge: Apply 250 V with 5 times discharge for each polarity +/- 1. Temperature ambiance : 15℃～35℃ 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 sec) (Tolerance if the output voltage indication : ±5%)
6	Vibration Test (Packaged)	1. Sine wave 10～55 Hz frequency (1 min/sweep) 2. The amplitude of vibration :1.5 mm 3. Each direction (X、Y、Z) duration for 2 Hrs
7	Drop Test (Packaged)	Packing Weight (Kg) / Drop Height (cm): 0 ~ 45.4 : 122 45.4 ~ 90.8 : 76 90.8 ~ 454 : 61 Over 454 : 46 Drop Direction :※1 corner / 3 edges / 6 sides each 1time

◎Result Evaluation Criteria :

Under the display quality test conditions with normal operations with normal operation state. Do not change these conditions as such changes may affect practical display function.

(Normal operation state)

Temperature：+20~30℃

Humidity：50~70%

Atmospheric pressure：86~106Kpa

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±10℃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℃ ±5℃ 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.

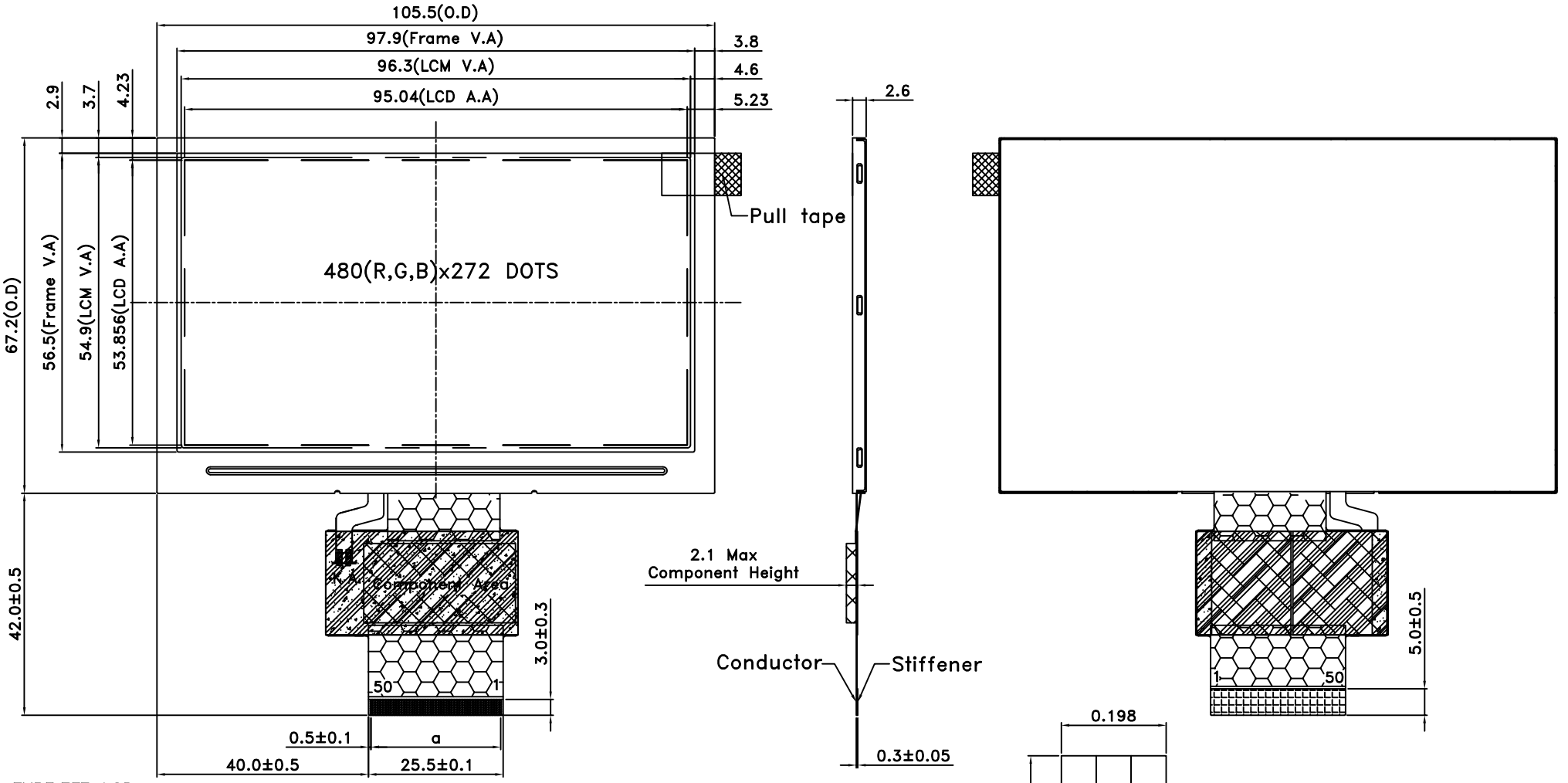
5.4 TERMS OF WARRANTY

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:TFT LCD
2. LCD DISPLAY:Normally Black/TRANSMISSIVE
3. The tolerance unless classified ±0.3mm
4. a :P0.5*49=24.5±0.05 ; W=0.35±0.05
5. :Shielding tape; :Component area; :Stiffener(SUS t=0.2mm to GND)
   :Aluminum Foil Conductive Adhesive Tape; :EMI Film;
6. FPC suggested connector : FH12-50S-0.5SH(Hirose) or compatible

REV	REV BY	REVISER	DATE
007			
006			
005			
004			
003			
002			
001	NEW DRAWING	Clare	2019/5/13

PART NO: PH480272T016-ZHA

DRAWING NAME : LMD-PH480272T016-ZHA

TITLE: LCD MODULE DRAWING

久正光電股份有限公司
POWERTIP TECHNOLOGY CORPORATION

Design	Clare Chen	(3)	Surface		
Check	Tina Chen	Unit	MM	Material	
Approve	Jimmy Chen	Scale	FIT	Thickness	
		Page	1/1	Quantity	

Length(Min) (mm) \ Tolerance \ Precision	Precision Level
1 ~ 4	-
4 ~ 16	-
16 ~ 63	-
63 ~ 250	-
250 ~ 1000	-

DATA MODUL

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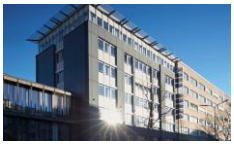

DATA MODUL AG

Landsberger Straße 322
DE-80687 Munich
Phone: +49-89-56017-0

DATA MODUL WEIKERSHEIM GMBH

Lindenstraße 8
DE-97990 Weikersheim
Phone: +49-7934-101-0

More information and worldwide locations can be found at

www.data-modul.com