PRODUCT SPECIFICATION

3.4" TFT LCD MODULE
MODEL: YDP LCD I 340

ROHS

< ◇> Preliminary Specification

< ◆> Finally Specification

CUSTOMER'S APPROVAL	
CUSTOMER :	
SIGNATURE:	DATE:

APPROVED BY	PM REVIEWED	PD REVIEWED	PREPARED BY
-	TFT S. G. H 20240912	TFT 周福云 20240912	TFT L. L 20240912

knitter-switch

Revision History

Revision	Date	Originator	Detail	Remarks
1.0	2024.09.12	LL	Initial Release	

Table of Contents

No. Item Page

1. General Description

The specification is a transmissive type color active matrix liquid crystal display (LCD) which uses amorphous thin film transistor (TFT) as switching devices. This product is composed of a TFT-LCD panel, driver ICs and a backlight unit.

2. Module Parameter

Features	Details	Unit
Display Size(Diagonal)	3.4”	
LCD type	IPS TFT	
Display Mode	Transmissive /Normally Black	
Resolution	180RGB x 640	Pixels
View Direction	FULL VIEW	Best Image
Module Outline	25.72(H) x 88.83(V) x 1.60(T) (Note1)	mm
Active Area	23.22 (H) x 82.56 (V)	mm
Pixel Size	129 x129	um
Pixel Arrangement	RGB Vertical Stripe	
Display Colors	16.7M	
Interface	4SPI/QSPI/MIPI	
With or without touch panel	Without	
Driver IC	AXS15231	-
Operating Temperature	**-20～70**	ºC
Storage Temperature	**-30～80**	ºC
Weight	TBD	g

Note 1: Exclusive hooks, posts, FFC/FPC tail etc.

3. Absolute Maximum Ratings

GND=0V, Ta=25ºC

Item	Symbol	Min.	Max.	Unit
Supply Voltage	VCC	-0.3	4.6	V
	IOVCC	-0.3	4.6	V
Storage temperature	T_{STG}	-30	+80	ºC
Operating temperature	T_{OP}	-20	+70	ºC

Note 1: If Ta below 50ºC, the maximal humidity is 90%RH, if Ta over 50ºC, absolute humidity should be less than 60%RH.

Note 2: The response time will be extremely slow when the operating temperature is around -10℃, and the back ground will become darker at high temperature operating.

4. DC Characteristics

Item	Symbol	Min.	Typ.	Max.	Unit
Supply Voltage	VDD	2.4	2.8	3.3	V
	IOVCC	1.65	1.8/2.8	3..3	V
Logic Low input voltage	V_{IL}	-0.3IOVCC	-	0.3IOVCC	V
Logic High input voltage	V_{IH}	0.7IOVCC	-	IOVCC	V
Logic Low output voltage	V_{OL}	-	-	0.2*IOVCC	V
Logic High output voltage	V_{OH}	0.8*IOVCC	-	-	V
Current Consumption All White	$I_{CC+OVCC}$	-	TBD	-	mA

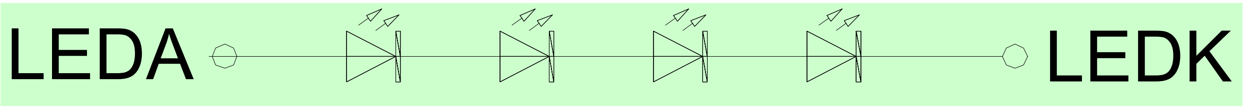
5. Backlight Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Forward Voltage	V_F	Ta=25 ºC, I_F=20mA/LED	10.8	**12**	12.8	V
Forward Current	I_F	Ta=25 ºC, V_F=3.0V/LED	-	**20**	-	mA
Power dissipation	P_D		-	**240**	-	mW
Uniformity	Avg		-	80	-	%
LED working life(25℃)	-		-	30,000	-	Hrs
Drive method	Constant current					
LED Configuration	4 White LEDs in string					

Note1：LED life time defined as follows: The final brightness is at 50% of original brightness.

The environmental conducted under ambient air flow, at Ta=25±2 ºC,60%RH±5%, I_F=20mA/LED.

5.1. Backlighting circuit



6. Optical Characteristics

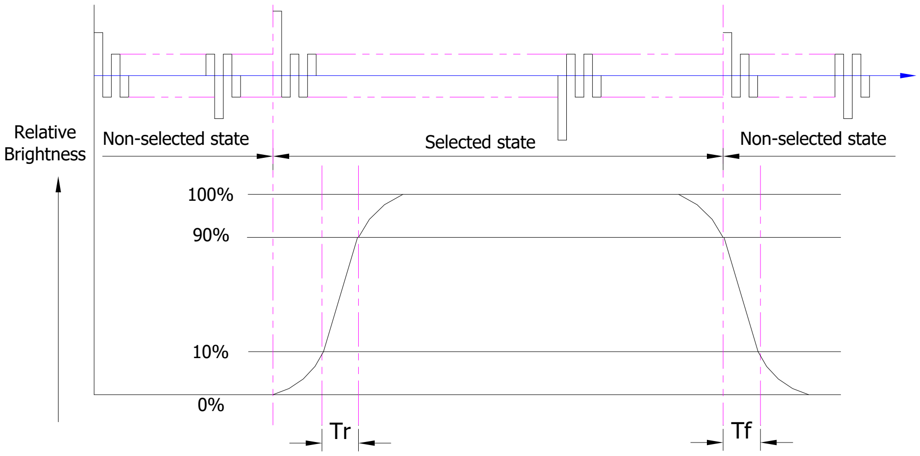
6.1. Optical Characteristics

Ta=25ºC, VDD=2.8V

	Item		Symbol	Condition	Specification			Unit
					Min.	Typ.	Max.	
Backlight On (Transmissive Mode)	Luminance on TFT(I_f =20mA/LED)		Lv	Normally viewing angle $\theta_X = \varphi_Y = 0^\circ$	**320**	**400**	**-**	cd/m²
	Contrast ratio(See 7.3)		CR		(800)	(1000)	-	
	Response time (See 6.2)		T_R+T_F		-	30	35	ms
	Chromaticity Transmissive (See 6.5)	Red	X_R		-	**TBD**	-	
			Y_R		-	**TBD**	-	
		Green	X_G		-	**TBD**	-	
			Y_G		-	**TBD**	-	
		Blue	X_B		-	**TBD**	-	
			Y_B		-	**TBD**	-	
		White	X_W		-	**TBD**	-	
			Y_W		-	**TBD**	-	
	Viewing Angle (See 6.4)	Horizontal	θ_{X+}	Center CR≥10	**80**	**85**	**-**	Deg.
			θ_{X-}		**80**	**85**	**-**	
		Vertical	φ_{Y+}		**80**	**85**	**-**	
			φ_{Y-}		**80**	**85**	**-**	
	NTSC Ratio(Gamut)				55	60	-	%

6.2. Definition of Response Time

6.2.1. Normally Black Type (Negative)

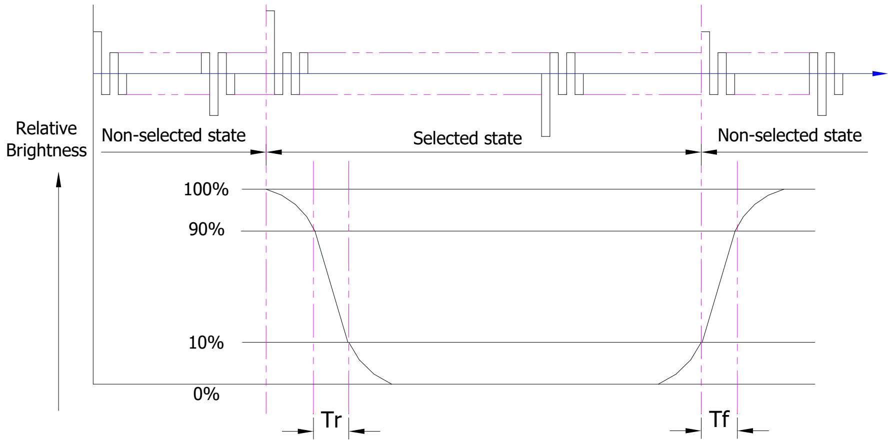


Tr is the time it takes to change form non-selected stage with relative luminance 10% to selected state with relative luminance 90%;
Tf is the time it takes to change from selected state with relative luminance 90% to

non-selected state with relative luminance 10%.

Note: Measuring machine: LCD-5100

6.2.2. Normally White Type (Positive)



Tr is the time it takes to change form non-selected stage with relative luminance 90% to selected state with relative luminance 10%;

Tf is the time it takes to change from selected state with relative luminance 10% to non-selected state with relative luminance 90%;

Note: Measuring machine: LCD-5100 or EQUI

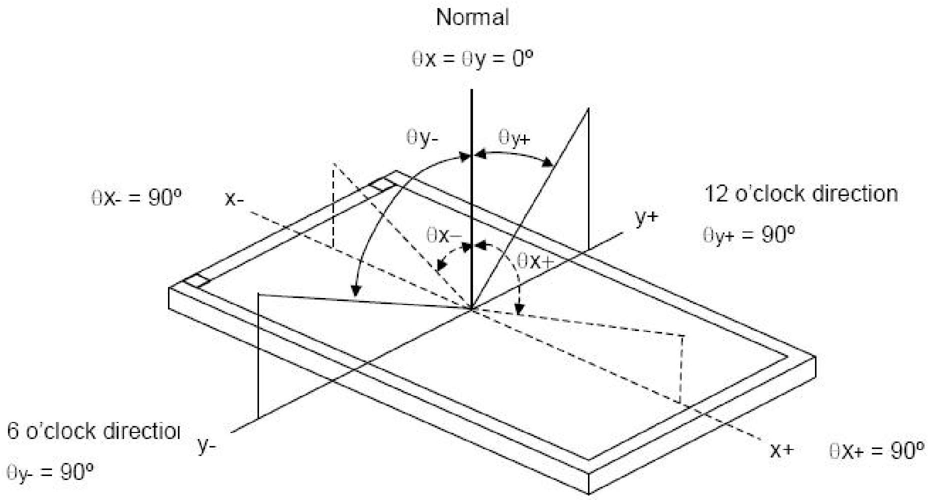
6.3. Definition of Contrast Ratio

Contrast is measured perpendicular to display surface in reflective and transmissive mode. The measurement condition is:

Measuring Equipment	Eldim or Equivalent
Measuring Point Diameter	3mm//1mm
Measuring Point Location	Active Area centre point
Test pattern	A: All Pixels white
	B: All Pixel black
Contrast setting	Maximum

Definitions: CR (Contrast) = Luminance of White Pixel / Luminance of Black Pixel

6.4. Definition of Viewing Angles



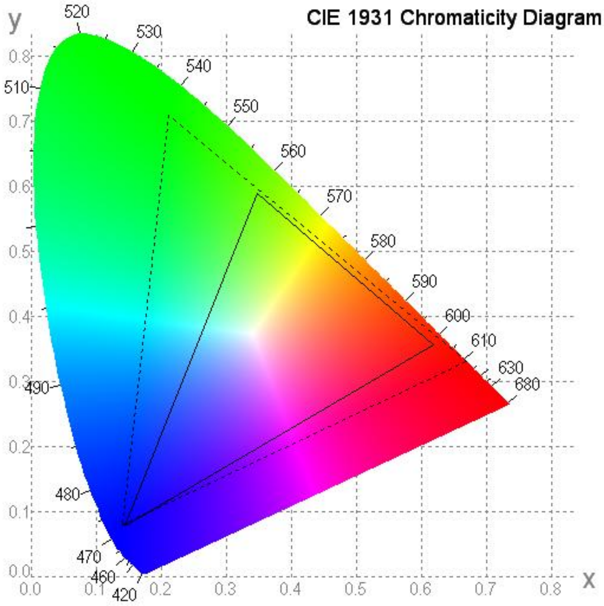
Measuring machine: LCD-5100 or EQUI

6.5. Definition of Color Appearance

R, G, B and W are defined by (x, y) on the IE chromaticity diagram

NTSC=area of RGB triangle/area of NTSC triangleX100%

Measuring picture: Red, Green, Blue and White (Measuring machine: BM-7)



6.6. Definition of Surface Luminance, Uniformity and Transmittance

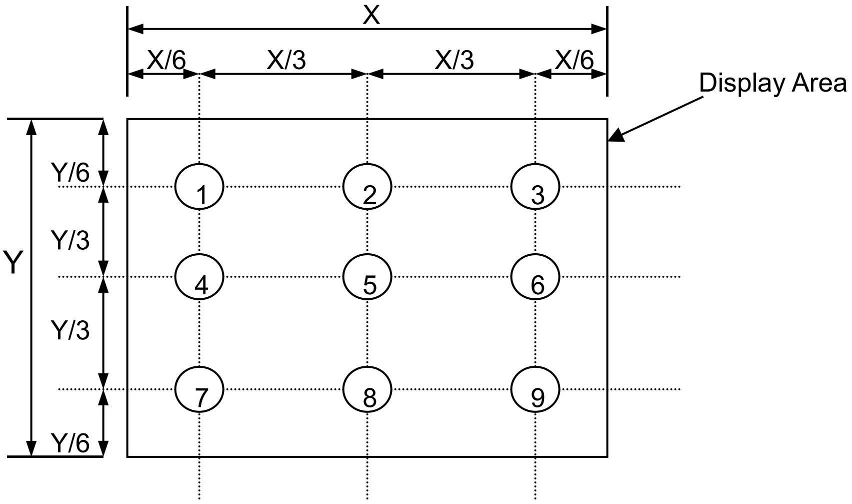
Using the transmissive mode measurement approach, measure the white screen luminance of the display panel and backlight.

6.6.1. Surface Luminance: L_V = average (L_{P1}:L_{P9})

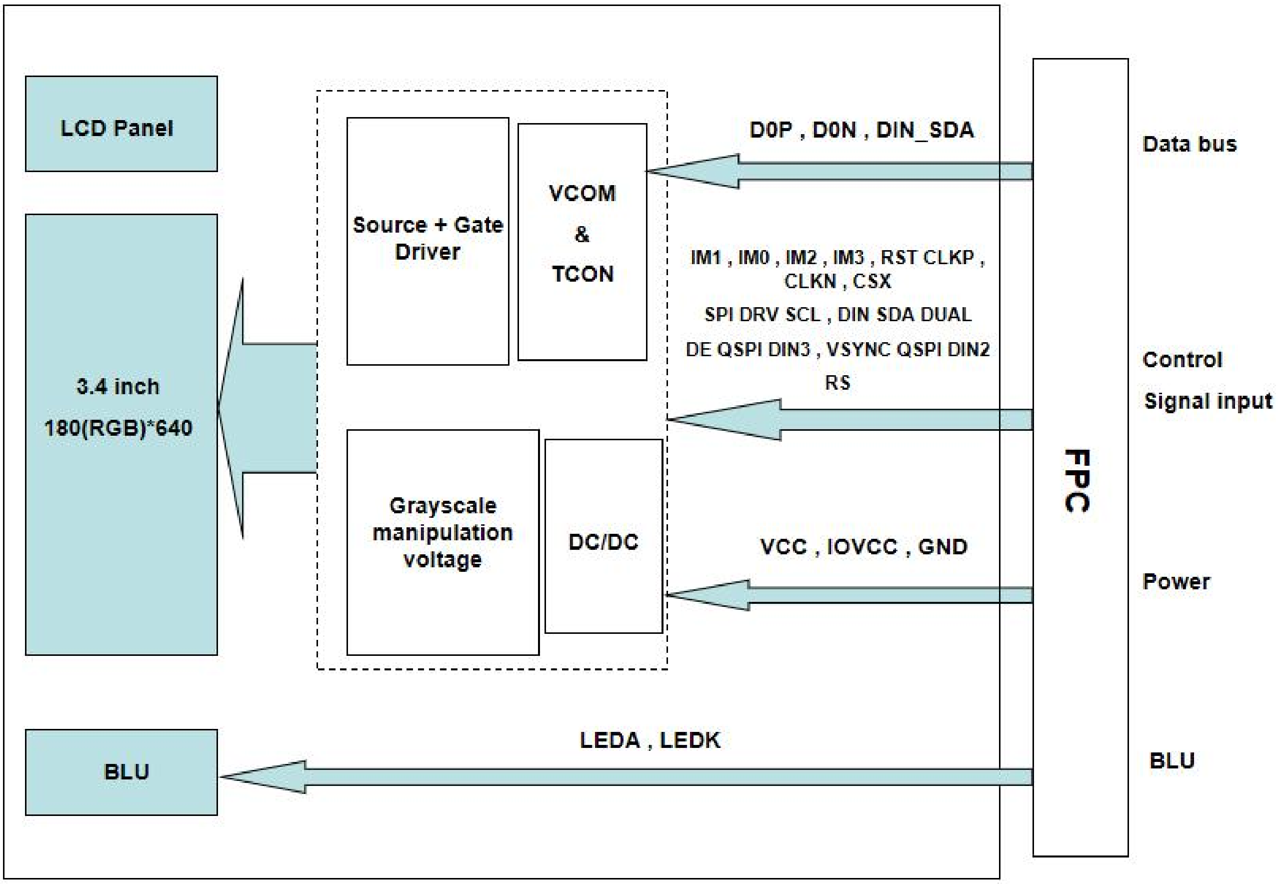
6.6.2. Uniformity = Minimal (L_{P1}:L_{P9}) / Maximal (L_{P1}:L_{P9}) * 100%

6.6.3. Transmittance = L_V on LCD / L_V on Backlight * 100%

Note: Measuring machine: BM-7



7. Block Diagram and Power Supply

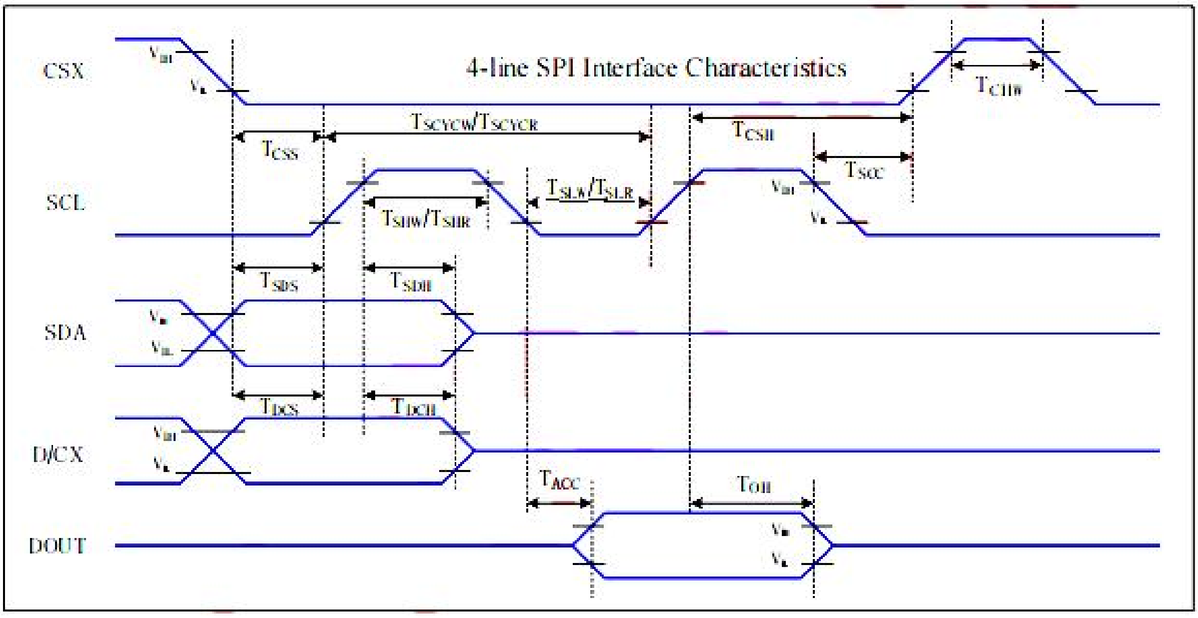


8. Interface Pins Definition

No.	Symbol	Function
1	GND	Ground
2	IM1	
3	VCC	Power supply
4	TP-SDA	No connection
5	TP-SCL	No connection
6	RST	Touch panel reset
7	TP-INT	No connection
8	GND	Ground
9	IM0	select the input interface
10	IOVCC	Low voltage power supply for interface logic circuits(1.65~3.6V)
11	TE	output tearing effect signal from IC to phone
12	GND	Ground
13	CLKP	MIPI DSI differential clock pair
14	CLKN	MIPI DSI differential clock pair
15	GND	Ground
16	D0P	High speed interface data differential signal input/output pins
17	D0N	High speed interface data differential signal input/output pins
18	GND	Ground
19	CSX	Chip select input pin("Low"enable)in SPI slave ,pull up to avoid floating.This pin is not used for MIPI I/F,please connect to VDD
20	SPI DRV SCL	QSPI clock pin
21	DIN SDA DUAL	the second data input pin in spi dual data lane of spi slave.Default input.pull down to avoid floating.Output load 50pf.This pin is not used for MIPI I/F,please connect to VSSI
22	DIN SDA	The bidirectional data pin of spi slave.Default input.pull down to avoid floating.Output load 50pf.This pin is not used for MIPI I/F,please connect to VSSI
23	DE QSPI DIN3	Data enable signal of rgb interface
24	VSYNC QSPI DIN2	Data enable signal of rgb interface
25	IM2	select the input interface
26	IM3	select the input interface
27	RS	command or parameter selection in spi 4wire8bits
28	NC(VPP)	No connection
29	LEDK	LED Cathode
30	LEDA	LED Anode
31	GND	Ground

9. AC Characteristics

9.1. Serial Interface Characteristics (4-line serial):



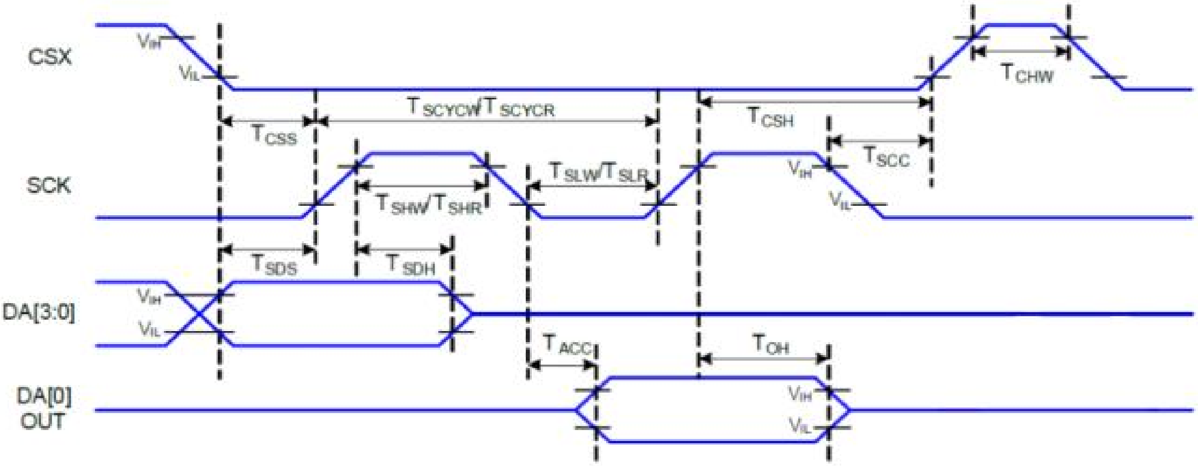
Signal	Symbol	Parameter	MIN	MAX	Unit	Description
CSX	T_{CSS}	Chip select setup time (write)	15	-	ns	
	T_{CSH}	Chip select hold time (write)	15	-	ns	
	T_{CSS}	Chip select setup time (read)	60	-	ns	
	T_{SCC}	Chip select hold time (read)	65	-	ns	
	T_{CHW}	Chip select "H" pulse width	40	-	ns	
SCL	T_{SCYCW}	Serial clock cycle (Write)	20	-	ns	-write command & data ram
	T_{SHW}	SCL "H" pulse width (Write)	10	-	ns	
	T_{SLW}	SCL "L" pulse width (Write)	10	-	ns	
	T_{SCYCR}	Serial clock cycle (Read)	150	-	ns	
	T_{SHR}	SCL "H" pulse width (Read)	60	-	ns	-read command & data ram
	T_{SLR}	SCL "L" pulse width (Read)	60	-	ns	
D/CX	T_{DCS}	D/CX setup time	10	-	ns	
	T_{DCH}	D/CX hold time	10	-	ns	
SDA (DIN)	T_{SDS}	Data setup time	10	-	ns	
	T_{SDH}	Data hold time	10	-	ns	
DOUT	T_{ACC}	Access time	10	50	ns	For maximum CL=30pF
	T_{OH}	Output disable time	15	50	ns	For minimum CL=8pF

Note 1: IOVCC= 3.3V, VCI=3.0 to 3.6V, VSSA=VSS=0V, Ta=-30 to 70°C

Note 2: The input signal rise time and fall time (tr, tf) is specified at 15 ns or less.

Logic high and low levels are specified as 30% and 70% of IOVCC for Input signals.

9.2. Quad Serial interface characteristics



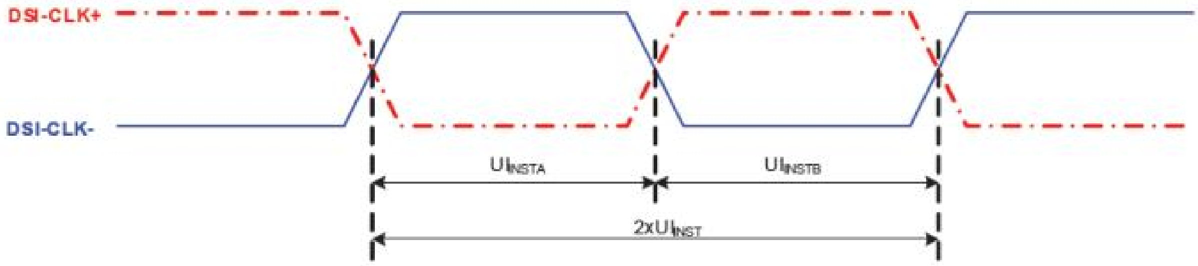
Signal	Symbol	Parameter	MIN	MAX	Unit	Description
CSX	T_{CSS}	Chip select setup time (write)	15		ns	
	T_{CSH}	Chip select hold time (write)	15		ns	
	T_{CSS}	Chip select setup time (read)	60		ns	
	T_{SCC}	Chip select hold time (read)	65		ns	
	T_{CHW}	Chip select "H" pulse width	40		ns	
	T_{SCYCW}	Serial clock cycle (Write)	11		ns	
	T_{SHW}	SCL "H" pulse width (Write)	5		ns	
SCL	T_{SLW}	SCL "L" pulse width (Write)	5		ns	
	T_{SCYCR}	Serial clock cycle (Read)	150		ns	
	T_{SHR}	SCL "H" pulse width (Read)	60		ns	
	T_{SLR}	SCL "L" pulse width (Read)	60		ns	
SDA (DIN)	T_{SDS}	Data setup time	5		ns	
	T_{SDH}	Data hold time	5		ns	
DOUT	T_{ACC}	Access time	5	50	ns	For maximum CL=30pF
	T_{OH}	Output disable time	5	50	ns	For minimum CL=8pF

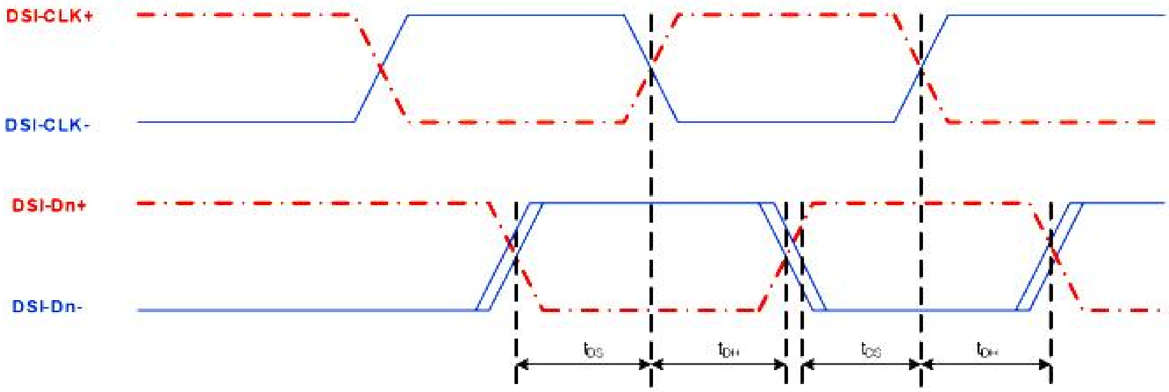
Note 1: IOVCC=3.3V, VCI=3.0 to 3.6V, VSSA=VSS=0V, Ta=-30 to 70°C

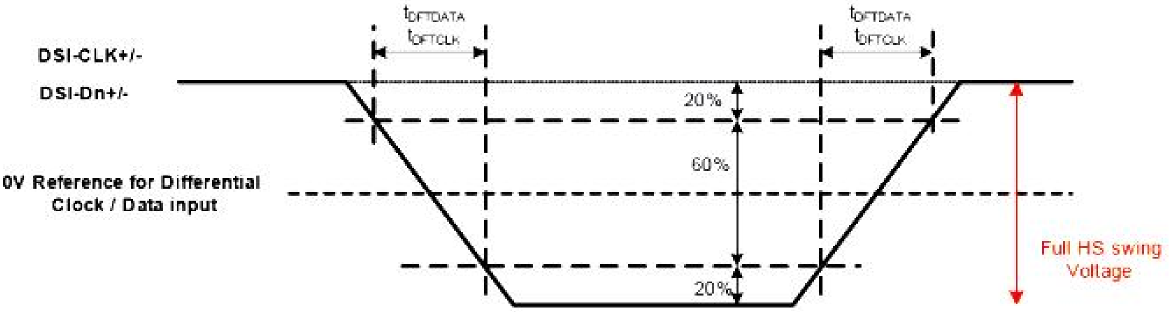
Note 2: The input signal rise time and fall time (tr, tf) is specified at 15 ns or less.

Logic high and low levels are specified as 30% and 70% of IOVCC for Input signals.

9.3. MIPI-DSI characteristics







Parameter	Symbol	Parameter	Specification			Unit	Description
			MIN	TYP	MAX		
DSI-CLK+/-	$2xUI_{INSTA}$	Double UI instantaneous	4		25	ns	
DSI-CLK+/-	UI_{INSTA} UI_{INSTB}	UI instantaneous halfs	2		12.5	ns	$UI=UI_{INSTA}-UI_{INSTB}$
DSI-D0+/-	T_{DS}	Data to clock setup time	0.15	-		UI	
DSI-D0+/-	T_{DH}	Data to clock hold time	0.15	-		UI	

9.4. Reset Timing

The part of touch

POR（Power on Reset）Detect VCI, Vth=2.2V

External Reset: 0~VDDI

Soft reset

Host can issue reset instructions to reset the system

10. Quality Assurance

10.1.Purpose

This standard for Quality Assurance assures the quality of LCD module products supplied to customer.

10.2.Standard for Quality Test

10.2.1. Sampling Plan:

GB2828.1-2012

Single sampling, general inspection level II

10.2.2. Sampling Criteria:

Visual inspection: AQL 1.5

Electrical functional: AQL 0.65.

10.2.3. Reliability Test:

Detailed requirement refer to Reliability Test Specification.

10.3.Nonconforming Analysis & Disposition

10.3.1. Nonconforming analysis:

10.3.2. Customer should provide overall information of non-conforming sample for their complaints.

10.3.3. After receipt of detailed information from customer, the analysis of nonconforming parts usually should be finished in one week.

10.3.4. If cannot finish the analysis on time, customer will be notified with the progress status.

10.3.5. Disposition of nonconforming:

10.3.6. Non-conforming product over PPM level will be replaced.

10.3.7. The cause of non-conformance will be analyzed. Corrective action will be discussed and implemented.

10.4.Agreement Items

Shall negotiate with customer if the following situation occurs:

10.4.1. There is any discrepancy in standard of quality assurance.

10.4.2. Additional requirement to be added in product specification.

10.4.3. Any other special problem.

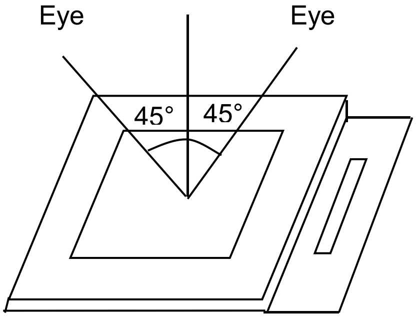
10.5.Standard of the Product Visual Inspection

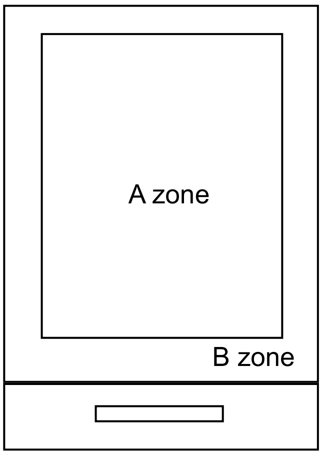
10.5.1. Appearance inspection:

10.5.2. The inspection must be under illumination about 1000 – 1500 lx, and the distance of view must be at 30cm ± 2cm.

10.5.3. The viewing angle should be 45° from the vertical line without reflection light or follows customer's viewing angle specifications.

10.5.4. Definition of area: A Zone: Active Area, B Zone: Viewing Area,



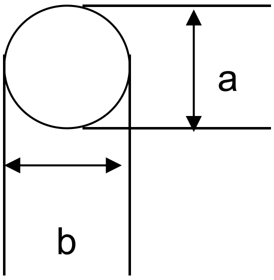


10.5.5. Basic principle:

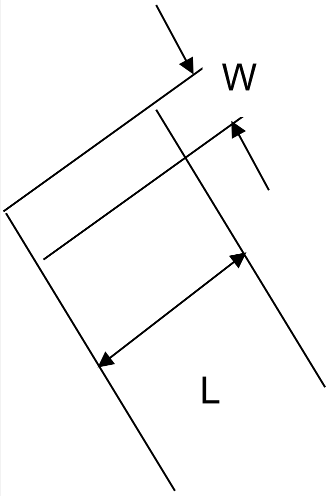
10.5.6. A set of sample to indicate the limit of acceptable quality level must be discussed by both us and customer when there is any dispute happened.

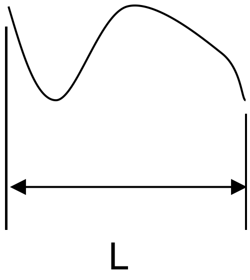
10.5.7. New item must be added on time when it is necessary.

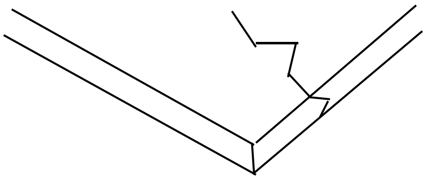
10.6.Inspection Specification

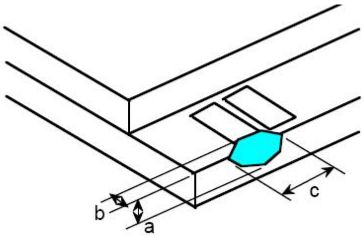
<table>
<tr><th>No.</th><th>Item</th><th>Criteria (Unit: mm)</th></tr>
<tr><td>01</td><td>Black / White spot
Foreign material (Round type)
Pinholes
Stain
Particles inside cell. (Minor defect)</td><td>

φ= (a + b) /2
<table>
<tr><th>Area / Size</th><th>Acc. Qty</th></tr>
<tr><td>φ≤0.10</td><td>Ignore</td></tr>
<tr><td>0.10<φ≤0.15</td><td>2</td></tr>
<tr><td>0.15<φ≤0.25</td><td>1</td></tr>
<tr><td>0.25<φ</td><td>0</td></tr>
<tr><td>Total</td><td>2 no include φ≤ 0.10</td></tr>
</table>
Distance between 2 defects should more than 3mm apart.</td></tr>
<tr><td>02</td><td>Electrical Defect
(Minor defect)</td><td>
<table>
<tr><th></th><th>Display Area</th><th>Total</th><th rowspan="4">Note1</th></tr>
<tr><td>Bright dot</td><td>0</td><td>0</td></tr>
<tr><td>Dark dot</td><td>N≤2</td><td>N≤2</td></tr>
<tr><td>Total dot</td><td>N≤2</td><td>N≤2</td></tr>
<tr><td>Mura</td><td colspan="2">Not visible through 5% ND filters.</td><td>Note 2</td></tr>
</table>
Remark:
1. Bright dot caused by scratch and foreign object accords to item 1.</td></tr>
</table>

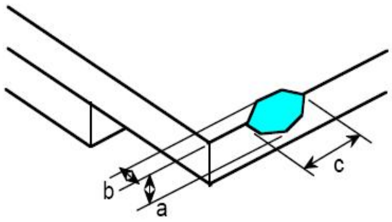
<table>
<tr>
<td>03</td>
<td>Black and White
line
Scratch
Foreign material
(Line type)
(Minor defect)</td>
<td>




<table>
<tr><th>Length</th><th>Width</th><th>Acc. Qty</th></tr>
<tr><td>/</td><td>W ≦ 0.03</td><td>Ignore</td></tr>
<tr><td>L ≦ .5</td><td>0.03 ＜ W ≦ 0.5</td><td>3</td></tr>
<tr><td>L ≦ 2.5</td><td>0.05 ＜ W ≦ 0.10</td><td>2</td></tr>
<tr><td>/</td><td>0.1 ＜ W</td><td>0</td></tr>
<tr><td colspan="2">Total</td><td>3</td></tr>
</table>
Distance between 2 defects should more than 3mm apart. Scratches not viewable through the back of the display are acceptable.
</td>
</tr>
<tr>
<td>04</td>
<td>Glass Crack
(Minor defect)</td>
<td>

Crack is potential to enlarge, any type is not allowed.
</td>
</tr>
</table>

<table>
<tr>
<td>05</td>
<td>Glass Chipping Pad Area:
(Minor defect)


</td>
<td>
<table>
<tr><th>Length and Width</th><th>Acc. Qty</th></tr>
<tr><td>c > 3.0, b< 1.0</td><td>1</td></tr>
<tr><td>c< 3.0, b< 1.0</td><td>3</td></tr>
<tr><td colspan="2">a<Glass Thickness</td></tr>
</table>
</td>
</tr>
</table>

<table>
<tr>
<td>06</td>
<td>Glass Chipping Rear of Pad Area:
(Minor defect)
 </td>
<td><table>
<tr><td>Length and Width</td><td>Acc. Qty</td></tr>
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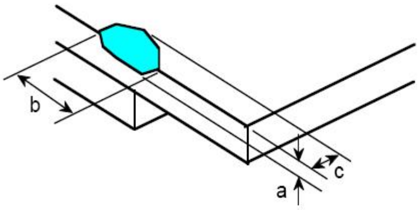
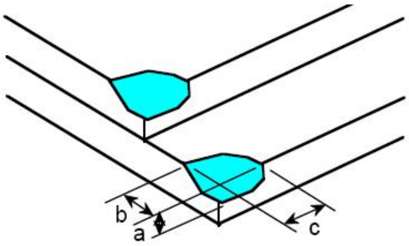
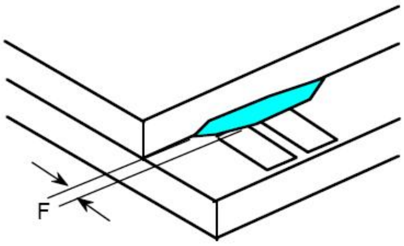
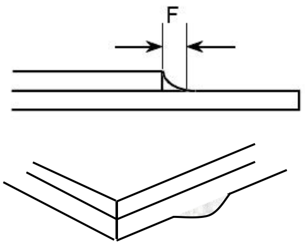
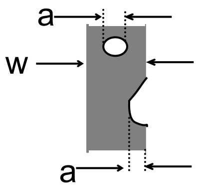
<tr><td>c< 3.0, b< 1.0</td><td>2</td></tr>
<tr><td>c< 3.0, b< 0.5</td><td>4</td></tr>
<tr><td colspan="2">a<Glass Thickness</td></tr>
</table></td>
</tr>
<tr>
<td>07</td>
<td>Glass Chipping Except Pad Area:
(Minor defect)
 </td>
<td><table>
<tr><td>Length and Width</td><td>Acc. Qty</td></tr>
<tr><td>c > 3.0, b< 1.0</td><td>1</td></tr>
<tr><td>c< 3.0, b< 1.0</td><td>2</td></tr>
<tr><td>c< 3.0, b< 0.5</td><td>4</td></tr>
<tr><td colspan="2">a<Glass Thickness</td></tr>
</table></td>
</tr>
<tr>
<td>08</td>
<td>Glass Corner Chipping:
(Minor defect)
 </td>
<td><table>
<tr><td>Length and Width</td><td>Acc. Qty</td></tr>
<tr><td>c < 3.0, b< 3.0</td><td>Ignore</td></tr>
<tr><td colspan="2">a<Glass Thickness</td></tr>
</table></td>
</tr>
<tr>
<td>09</td>
<td>Glass Burr:
(Minor defect)

 </td>
<td><table>
<tr><td>Length</td><td>Acc. Qty</td></tr>
<tr><td>F < 1.0</td><td>Ignore</td></tr>
</table>
Glass burr don’t affect assemble and module dimension.</td>
</tr>
</table>

<table>
<tr><td>10</td><td>FPC Defect:
(Minor defect)

 </td><td>10.1 Dent, pinhole width a<w/3.
(w: circuitry width.)
10.2 Open circuit is unacceptable.
10.3 No oxidation, contamination and distortion.</td></tr>
<tr><td>11</td><td>Bubble on Polarizer
(Minor defect)</td><td><table>
<tr><td>Diameter</td><td>Acc. Qty</td></tr>
<tr><td>φ≤0.20</td><td>Ignore</td></tr>
<tr><td>0.20 <φ≤0.30</td><td>4</td></tr>
<tr><td>0.30 <φ≤0.50</td><td>1</td></tr>
<tr><td>0.50 < φ</td><td>None</td></tr>
</table></td></tr>
<tr><td>12</td><td>Dent on Polarizer
(Minor defect)</td><td><table>
<tr><td>Diameter</td><td>Acc. Qty</td></tr>
<tr><td>φ≤0.20</td><td>Ignore</td></tr>
<tr><td>0.20 <φ≤0.30</td><td>4</td></tr>
<tr><td>0.30 <φ≤0.50</td><td>1</td></tr>
<tr><td>0.50 < φ</td><td>None</td></tr>
</table></td></tr>
<tr><td>13</td><td>Bezel</td><td>13.1 No rust, distortion on the Bezel.
13.2 No visible fingerprints, stains or other contamination.</td></tr>
<tr><td>14</td><td>PCB</td><td>14.1 No distortion or contamination on PCB terminals.
14.2 All components on PCB must same as documented on the BOM/component layout.
14.3 Follow IPC-A-600F.</td></tr>
<tr><td>15</td><td>Soldering</td><td>Follow IPC-A-610C standard</td></tr>
<tr><td>16</td><td>Electrical Defect
(Major defect)</td><td>The below defects must be rejected.
16.1 Missing vertical / horizontal segment,
16.2 Abnormal Display.
16.3 No function or no display.
16.4 Current exceeds product specifications.
16.5 LCD viewing angle defect.
16.6 No Backlight.
16.7 Dark Backlight.
16.8 Touch Panel no function.</td></tr>
</table>

Remark: LCD Panel Broken shall be rejected. Defect out of LCD viewing area is acceptable.

10.7.Classification of Defects

10.7.1. Visual defects (Except no / wrong label) are treated as minor defect and electrical defect is major.

10.7.2. Two minor defects are equal to one major in lot sampling inspection.

10.8.Identification/marking criteria

Any unit with illegible / wrong /double or no marking/ label shall be rejected.

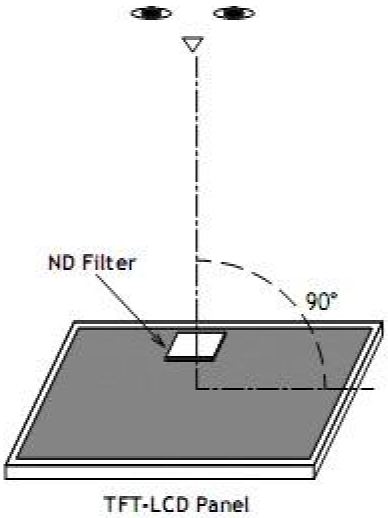
10.9.Packing

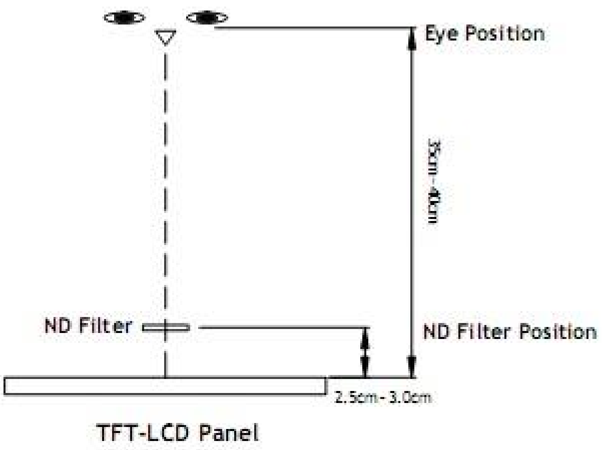
10.9.1. There should be no damage of the outside carton box, each packaging box should have one identical label.

10.9.2. Modules inside package box should have compliant mark.

10.9.3. All direct package materials shall offer ESD protection.

Note1: Bright dot is defined as the defective area of the dot is larger than 50% of one sub-pixel area.





Bright dot: The bright dot size defect at black display pattern. It can be recognized by 2% transparency of filter when the distance between eyes and panel is 350mm±50mm.

Dark dot: Cyan, Magenta or Yellow dot size defect at white display pattern. It can be recognized by 5% transparency of filter when the distance between eyes and panel is 350mm±50mm.

Note2: Mura on display which appears darker / brighter against background brightness on parts of display area.

11. Reliability Specification

No	Item	Condition	Quantity	Criteria
1	High Temperature Operating	**70℃, 96Hrs**	2	GB/T2423.2 -2008
2	Low Temperature Operating	**-20℃, 96Hrs**	2	GB/T2423.1 -2008
3	High Humidity Storage	**50℃, 90%RH, 96Hrs**	2	GB/T2423.3 -2016
4	High Temperature Storage	**80℃, 96Hrs**	2	GB/T2423.2 -2008
5	Low Temperature Storage	**-30℃, 96Hrs**	2	GB/T2423.1 -2008
6	Thermal Cycling Test Storage	**-20℃, 60min~70℃, 60min, 20 cycles.**	2	GB/T2423.22 -2012
7	Packing vibration	Frequency range:10Hz~50Hz Acceleration of gravity:5G X, Y, Z 30 min for each direction.	-	GB/T5170.14 -2009
8	Electrical Static Discharge	Air:±4KV 150pF/330Ω 5 times Contact:±2KV 150pF/330Ω 5 times	2	GB/T17626.2 -2018
9	Drop Test (Packaged)	Height:80 cm,1 corner, 3 edges, 6 surfaces.	-	GB/T2423.7 -2018

Note1. No defection cosmetic and operational function allowable.

Note2. Total current Consumption should be below double of initial value.

12. Precautions and Warranty

12.1. Safety

12.1.1. The liquid crystal in the LCD is poisonous. Do not put it in your mouth. If the liquid crystal touches your skin or clothes, wash it off immediately using soap and water.

12.1.2. Since the liquid crystal cells are made of glass, do not apply strong impact on them. Handle with care.

12.2. Handling

12.2.1. Reverse and use within ratings in order to keep performance and prevent damage.

12.2.2. Do not wipe the polarizer with dry cloth, as it might cause scratch. If the surface of the LCD needs to be cleaned, wipe it swiftly with cotton or other soft cloth soaked with petroleum IPA, do not use other chemicals.

12.3. Storage

12.3.1. Do not store the LCD module beyond the specified temperature ranges.

12.3.2. Strong light exposure causes degradation of polarizer and color filter.

12.4. Metal Pin (Apply to Products with Metal Pins)

12.4.1. Pins of LCD and Backlight

12.4.1.1. Solder tip can touch and press on the tip of Pin LEAD during the soldering

12.4.1.2. Recommended Soldering Conditions

Solder Type: Sn96.3~94-Ag3.3~4.3-Cu0.4~1.1

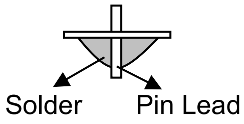
Maximum Solder Temperature: 370℃

Maximum Solder Time: 3s at the maximum temperature

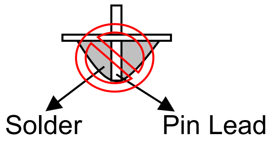
Recommended Soldering Temp: 350±20℃

Typical Soldering Time: ≤3s

12.4.1.3. Solder Wetting



Recommended



Not Recommended

12.4.2. Pins of EL

12.4.2.1. Solder tip can touch and press on the tip of EL leads during soldering.

12.4.2.2. No Solder Paste on the soldering pad on the motherboard is recommended.

12.4.2.3. Recommended Soldering Conditions

Solder type: Nippon Alimit Leadfree SR-34, size 0.5mm

Recommended Solder Temperature: 270～290℃

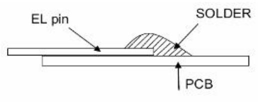
Typical Soldering Time: ≤2s

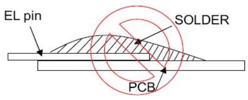
Minimum solder distance from EL lamp (body):2.0mm

12.4.2.4. No horizontal press on the EL leads during soldering.

12.4.2.5. 180° bend EL leads three times is not allowed.

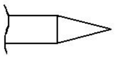
12.4.2.6. Solder Wetting

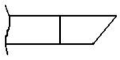




Recommended Not Recommended

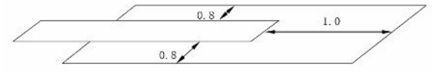
12.4.2.7. The type of the solder iron:





Recommended Not Recommended

12.4.2.8. Solder Pad



12.5.Operation

12.5.1. Do not drive LCD with DC voltage

12.5.2. Response time will increase below lower temperature

12.5.3. Display may change color with different temperature

12.5.4. Mechanical disturbance during operation, such as pressing on the display area, may cause the segments to appear “fractured”.

12.5.5. Do not connect or disconnect the LCM to or from the system when power is on.

12.5.6. Never use the LCM under abnormal condition of high temperature and high humidity.

12.5.7. Module has high frequency circuits. Sufficient suppression to the electromagnetic interface shall be done by system manufacturers. Grounding and shielding methods may be important to minimize the interference.

12.5.8. Do not display the fixed pattern for long time（we suggest the time not longer than one hour）because it will develop image sticking due to the TFT structure.

12.6.Static Electricity

12.6.1. CMOS LSIs are equipped in this unit, so care must be taken to avoid the electro-static charge, by ground human body, etc.

12.6.2. The normal static prevention measures should be observed for work clothes and benches.

12.6.3. The module should be kept into anti-static bags or other containers resistant to static for storage.

12.7.Limited Warranty

12.7.1. Our warranty liability is limited to repair and/or replacement. We will not be responsible for any consequential loss.

12.7.2. If possible, we suggest customer to use up all modules in six months. If the module storage time over twelve months, we suggest that recheck it before the module be used

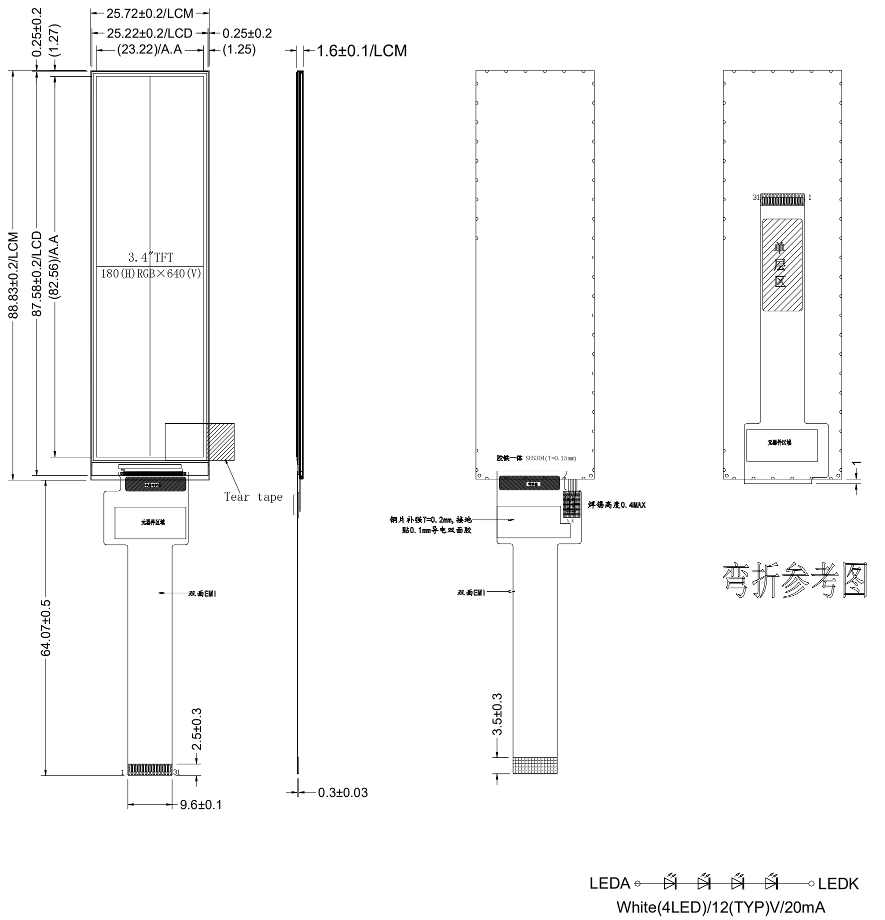
12.7.3. . After the product shipped, any product quality issues must be feedback within three months, otherwise, we will not be responsible for the subsequent or consequential events.

13. Packaging

TBD

14. Outline Drawing

REV.	DESCRIPTION	DATE	NAME
A	First Issue	2024.9.12	GXZ



NOTES:
1.Display size: 3.4"TFT IPS
2.Viewing direction: full view
3.Display mode:Transmissive/Normal Black
4.Operation temperature: -20°C~+70°C
5.Storage temperature: -30°C~+80°C
6.Driver IC: AXS15231
7.Power supply voltage: 2.8-3.3 V
8.Backlight : White(4LED)/12(TYP)V/20mA
9. LCM Luminance:400(TYP)cd/m²
10.Interface type: 4SPI/QSPI/MIPI
11.RoHS must be complied
* The dimension with mark brackets "()" just for reference

DIM \ Level	General Tolerance± 1	2	3	4
0-5	0.05	0.1	0.1	0.2
5-10	0.05	0.1	0.1	0.2
10-50	0.05	0.1	0.2	0.3
50-100	0.1	0.2	0.3	0.5
100-150	0.1	0.2	0.5	0.8
Level Seclect				◎

	VERSION A	DATE 2024.9.12	MODEL NAME: YDP LCD I 340
SCALE 1:1	NO. 1/1	UNIT mm	TITLE: Outline
APPROVED	CHECKED	DRAWN	FILE NAME: YDP LCD I 340

Pin	DESCRIPTION
1	GND
2	IM1
3	VCC
4	TP-SDA
5	TP-SCL
6	RST
7	TP-INT
8	GND
9	IM0
10	IOVCC
11	TE
12	GND
13	CLK P
14	CLK N
15	GND
16	D0 P
17	D0 N
18	GND
19	CSX
20	SPI DRV SCL
21	DIN SDA DUAL
22	DIN SDA
23	DE QSPI DIN3
24	VSYNC QSPI DIN
25	IM2
26	IM3
27	RS
28	NC(VPP)
29	LEDK
30	LEDA
31	GND