Tailorpixels

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Manufacturer Certificated

9001 CERT. No.: 282Q19070712006

14001 CERT. No.: 282E19070712007

Product Specification

Model: TTC116XVT-01C

11.6 ″ TFT Display Module (140*1920)

This module uses RoHS material

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1.Record of Revision

Rev.	Issued Date	Description	Editor
1.0	2026-07-14	First release	HOU

2.General Specifications

Note 1: Viewing direction for best image quality is different from TFT definition. There is a 180°shift.

Note 2: ROHS compliant.

Item	Specification	Unit
LCD size	11.65	inch
Display Mode	Normally Black	--
Resolution	140RGB(H) x 1920(V)	Pixel
Pixel pitch	0.1470 x 0.1470	um
Pixel Arrangement	RGB Stripe	
Viewing direction	ALL	-
Module outline dimension	28(H) x 311(V) x6.32(D)	mm
LCD AA	20.58 x 282.24	mm
CTP VA	21.18x282.84	mm
Colors	16.7M	-
Driver IC	TBD	-
Interface	MIPI	--
Backlight	White LED	--
Touch IC	TW3118	--
Surface hardness	6H	--
Touch structure	G+G	--
Cover lens	GLASS	--
Color	Black	--
Operating Temperature	-20℃~ +70℃	--
Storage Temperature	-30℃~ +80℃	--

3.Pin Assignment

PIN	Symbol	Description	Remark
1	CTP_VSS	Ground	
2	CTP_VDD	CTP_Power Supply	
3	CTP_RST	Touch Reset Signal	
4	CTP_SCL	IIC Clock signal	
5	CTP_SDA	IIC Data signal	
6	CTP_INT	Touch Interrupt	
7	VDD	Power Supply	
8	VDD	Power Supply	
9	GND	Ground	
10	GND	Ground	
11	CLKN	MIPI_DSI clock input pin	
12	CLKP	MIPI_DSI clock input pin	
13	GND	Ground	
14	D1N	MIPI-DSI data input pin1	
15	D1P	MIPI-DSI data input pin1	
16	GND	Ground	
17	D0N	MIPI-DSI data input pin0	
18	D0P	MIPI-DSI data input pin0	
19	GND	Ground	
20	RESET	This sign allow will reset the device and must be applied to properly initialize the chip. Signal is low active	
21	GND	Ground	
22	NC	NC	
23	LEDK	LED CATHODE	
24	LEDK	LED CATHODE	
25	LEDA	LED ANODE	
26	LEDA	LED ANODE	

4.Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit	Remark
Power Voltage	VDD	-0.30	+3.6	V	
	TP_VCI	/	/	V	
	TP_IOVCC	/	/	V	
Operating Temperature	Top	-20.0	70.0	℃	
Storage Temperature	T_{st}	-30.0	80.0	℃	
Operating and Storage Humidity	H_{stg}	10%	90%	%(RH)	

5.Electrical Characteristics

5.1Recommended Operating Condition

VCI=3.3V， GND=0V， Ta = 25℃

Item		Symbol	Min.	TYP.	Max.	Unit	Remark
Analog supply Voltage		VDD	2.8	3.3	3.5	V	
TP Power		TP_VCI	/	/	/	V	
TP Power		TP_IOVCC	/	/	/	V	NOTES
Input Signal Voltage	Low Level	V_{IL}	GND	-	0.2x VDD	V	
	High Level	V_{IH}	0.8 x VDD	-	VDD	V	
Current of digital supply voltage		I_{IOVCC}	-	/	/	Ma	
Current of analog supply voltage		I_{VCI}	-	/	/	Ma	

5.2 Backlight Unit Driving Condition

Item	Symbol	Min.	TYP.	Max.	Unit	Remark
Forward Current	I_F	-	80	-	Ma	
Forward Current Voltage	V_F	12	12.8	13.2	V	
Operating Life Time	--	30000	--	--	hrs	Note 2, Note 3

Note1: The LED driving condition is defined for each module.

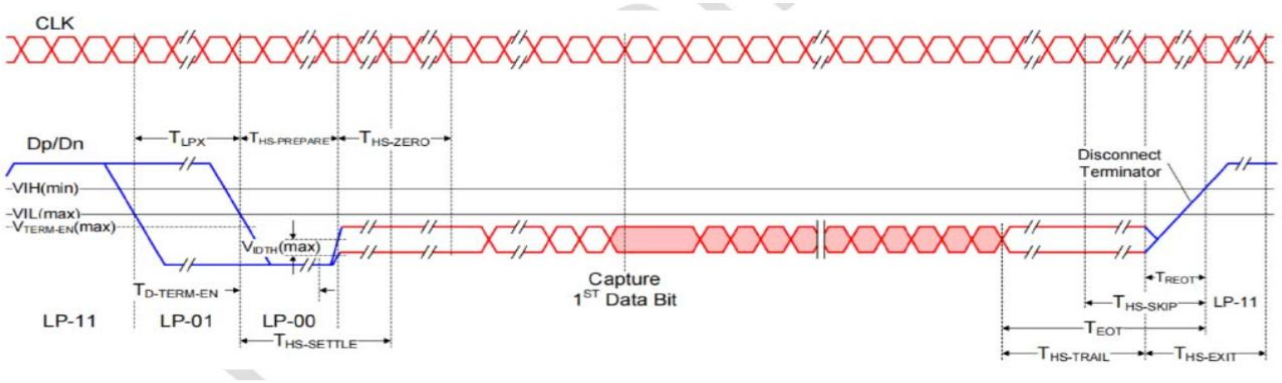
Note2: When LCM is operated, the stable forward current should be inputted. And forward voltage is for reference only.

Note3: Optical performance should be evaluated at Ta=25℃ When LED is driven at high current, high ambient temperature & humidity condition. The life time of LED will be reduced. Operating life means brightness goes down to 50% initial brightness. Typical operating life time is estimated data.

Note4: The LED driving condition is defined for each LED module.

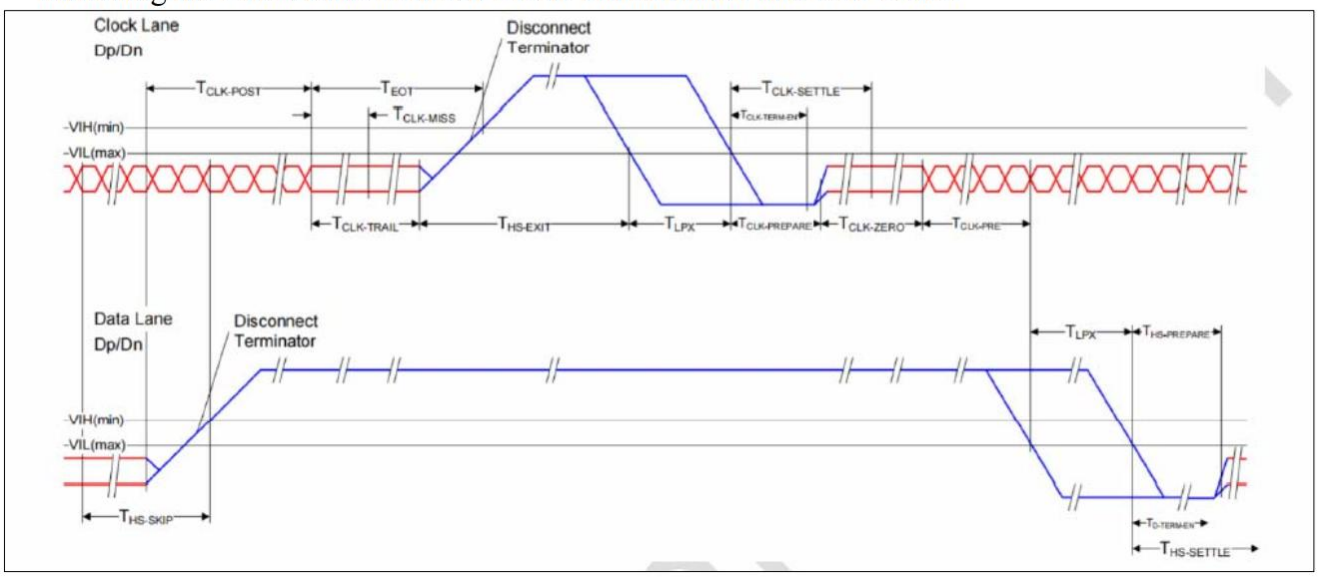
6.Timing Characteristics

6.1 MIPI Interface Characteristics :



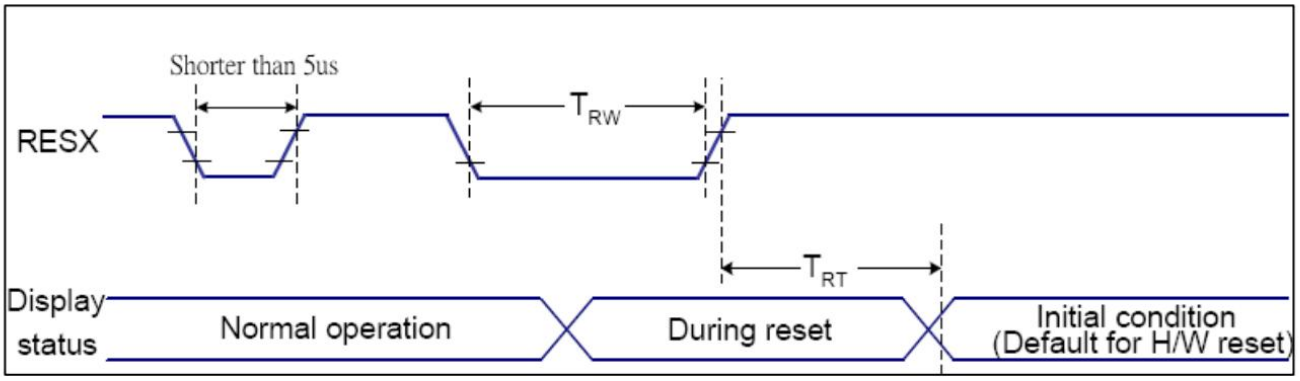
Parameter	Description	Min	Typ	Max	UNIT
T_{LPX}	Transmitted length of any Low-Power state period	50	-	-	ns
$T_{HS-PREPARE}$	Time that the transmitter drives the Data Lane LP-00 Line state immediately before the HS-0 Line state starting the HS transmission	40 + 4*UI	-	85 + 6*UI	ns
$T_{HS-PREPARE}$ + $T_{HS-ZERO}$	$T_{HS-PREPARE}$ + time that the transmitter drives the HS-0 state prior to transmitting the Sync sequence.	145 + 10*UI	-	-	ns
$T_{D-TERM-EN}$	Time for the Data Lane receiver to enable the HS line termination.	-	-	35 + 4*UI	ns
$T_{HS-SETTLE}$	Time interval during which the HS receiver shall ignore any Data Lane HS transitions.	85 + 6*UI	-	145 + 10*UI	ns
$T_{HS-TRAIL}$	Time that the transmitter drives the flipped differential state after last payload data bit of a HS transmission burst	Max(n*8*UI, 60+n*4*UI)	-	-	ns
$T_{HS-EXIT}$	Time that the transmitter drives LP-11 following a HS burst.	100	-	-	ns

* Switching the Clock Lane between Clock Transmission and Low-Power



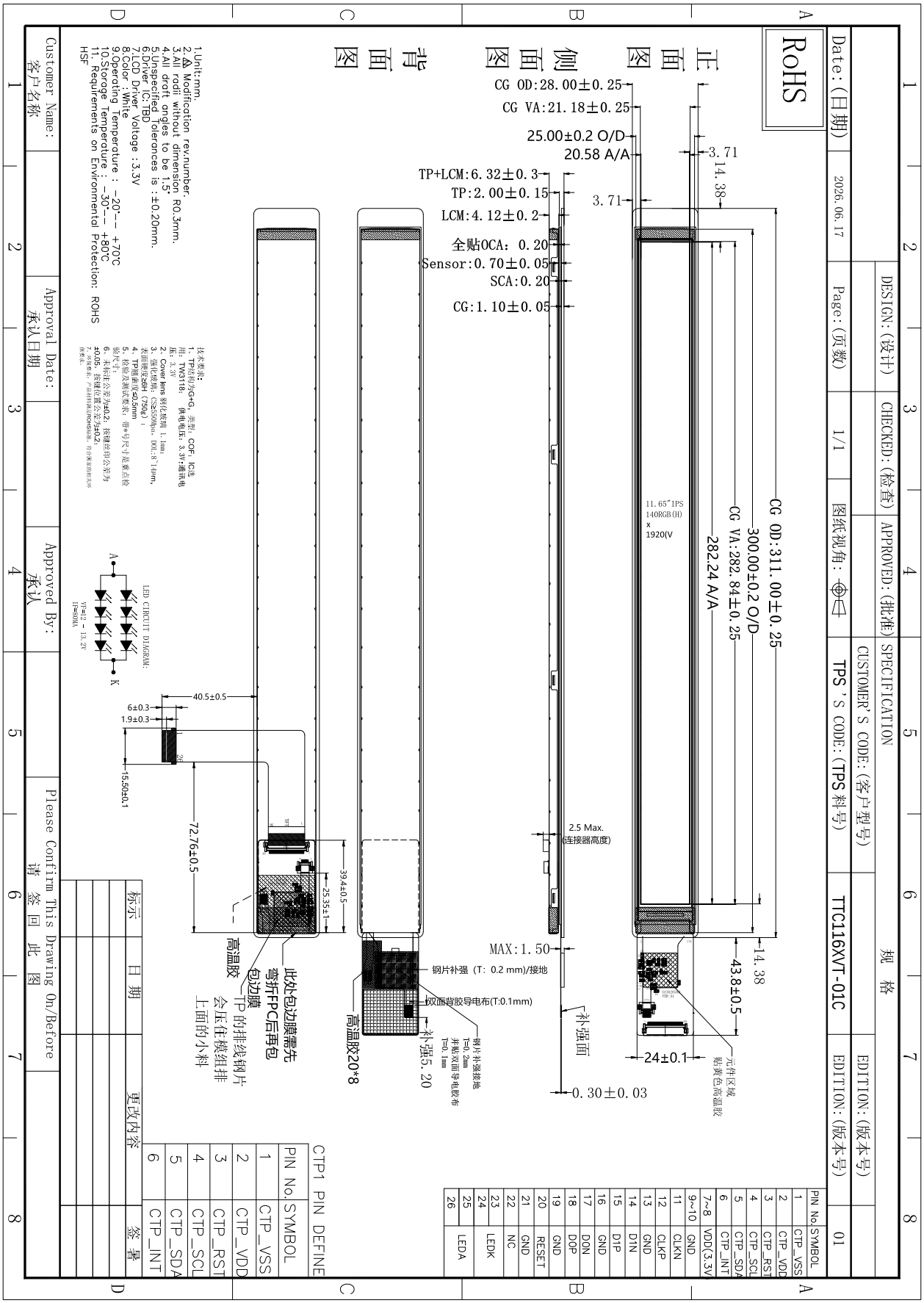
Parameter	Description	Min	Typ	Max	UNIT
$T_{CLK-POST}$	Time that the transmitter continues to send HS clock after the last associated Data Lane has transitioned to LP Mode.	60 + 52*UI	-	-	ns
$T_{CLK-PRE}$	Time that the HS clock shall be driven by the transmitter prior to any associated Data Lane beginning the transition from LP to HS mode.	8*UI	-	-	ns
$T_{CLK-PREPARE}$	Time that the transmitter drives the Clock Lane LP-00 Line state immediately before the HS-0 Line state starting the HS transmission.	38	-	95	ns
$T_{CLK-PREPARE}$ + $T_{CLK-ZERO}$	$T_{CLK-PREPARE}$ + time that the transmitter drives the HS-0 state prior to starting the Clock.	300	-	-	ns
$T_{CLK-TERM-EN}$	Time for the Clock Lane receiver to enable the HS line termination.	-	-	38	ns
$T_{CLK-TRAIL}$	Time that the transmitter drives the HS-0 state after the last payload clock bit of a HS transmission burst.	60	-	-	ns
$T_{HS-EXIT}$	Time that the transmitter drives LP-11 following a HS burst.	100	-	-	ns

6.2 Reset Timing



Related Pins	Symbol	Parameter	MIN	MAX	Unit
RESX	TRW	Reset pulse duration	10	-	us
	TRT	Reset cancel	-	5 (Note 1, 5)	ms
				120(Note 1, 6, 7)	ms

7.Mechanical Drawing



8.Optical Characteristics

Item		Symbol	Condition	Min.	TYP.	Max.	Unit	Remark
View Angles		θT	CR≧10	80	85	-	Degree	Note 2
		θB		80	85	-		
		θL		80	85	-		
		θR		80	85	-		
Contrast Ratio		CR	θ=0°	1000	1200	-		Note1 Note3
Response Time		T_{ON}	25℃		-	35	ms	Note1 Note4
		T_{OFF}						
Chromaticity	White	x	Backlight is on	0.230	0.280	-		Note1 Note5
		y		0.220	0.270	-		
Uniformity		U		80	85	-	%	Note1 Note6
NTSC				-	-	-	%	Note 5
Luminance		L		420	480	-	CD/m^2	Note1 Note7

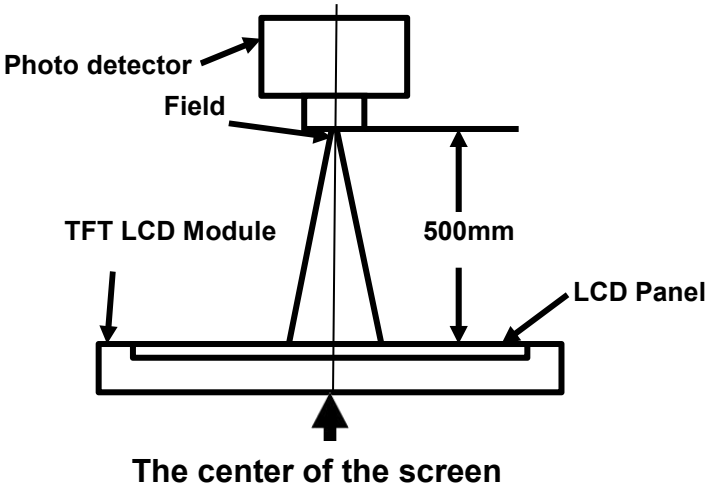
Test Conditions:

1.IF= 80 Ma, VF=12 - 13.2 V and the ambient temperature is 25±2℃.humidity is 65±7%

2.The test systems refer to Note 1 and Note 2.

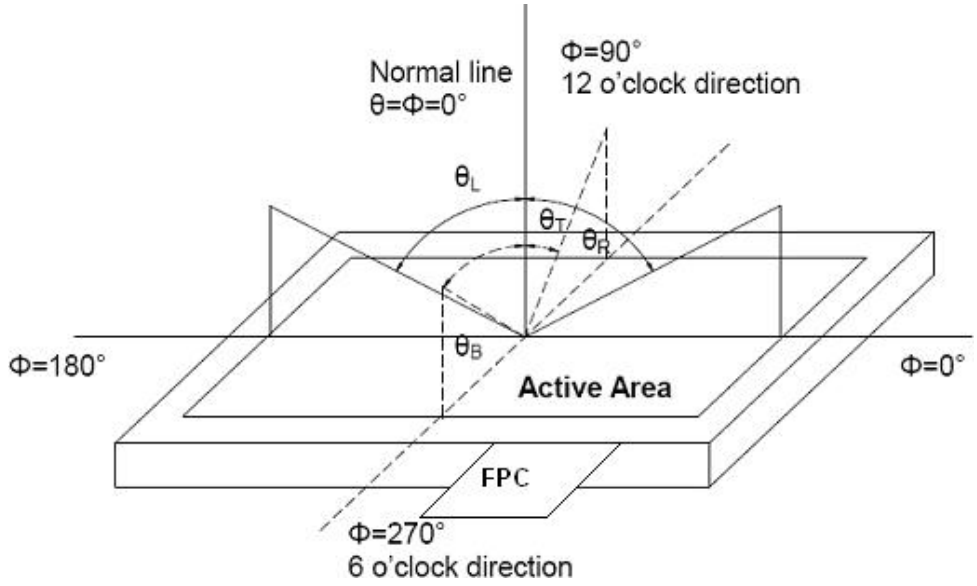
Note 1: Definition of optical measurement system.

Properties are measured at the center point of the LCD screen. All input terminals LCD panel must be ground when measuring the center area of the panel.



Note 2: Definition of viewing angle range and measurement system.

Viewing angle is measured at the center point of the LCD by CONOSCOPE(ergo-80)。

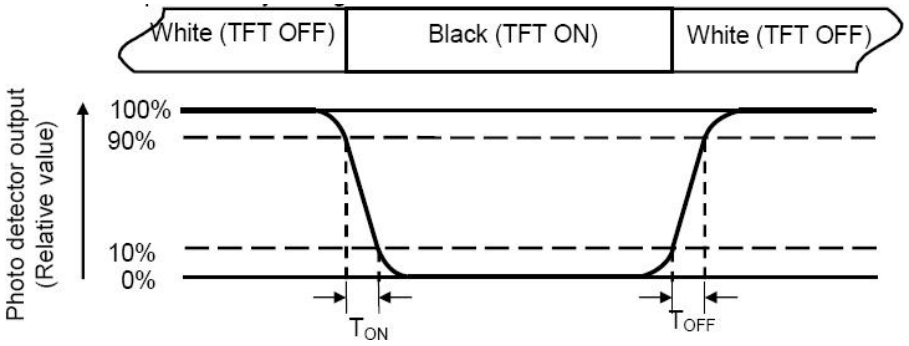


Note 3: Definition of contrast ratio

$$\text{Contrast ratio (CR)} = \frac{\text{Luminance measured when LCD is on the "White" state}}{\text{Luminance measured when LCD is on the "Black" state}}$$

Note 4: Definition of response time

The response time is defined as the LCD optical switching time interval between "White" state and "Black" state. Rise time (T_{ON}) is the time between photo detector output intensity changed from 90%



to 10%. And fall time (T_{OFF}) is the time between photo detector output intensity changed from 10% to 90%.

Note 5: Definition of color chromaticity (CIE1931)

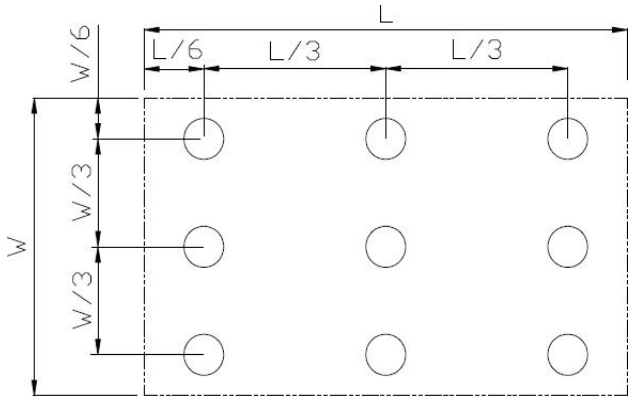
Color coordinates measured at center point of LCD.

Note 6: Definition of luminance uniformity

Active area is divided into 9 measuring areas (Refer Fig. 2). Every measuring point is placed at the center of each measuring area.

Luminance Uniformity (U) = Luminance min / Luminance max

L-------Active area length W----- Active area width



Luminance max: The measured Maximum luminance of all measurement position. Luminance min: The measured Minimum luminance of all measurement position.

Note 7: Definition of luminance:

Measure the luminance of white state at center point

9.Environmental / Reliability Test

No.	Items	Condition	Inspection after test
1	High Temperature Storage	T = 80℃ for 96 hr	Inspection after 4 hours storage at room temperature, the sample shall be free from defects: 1.Air bubble in the LCD 2.Seal leak; 3.Non-display; 4.missing segments; 5.Glass crack; 6.Current IDD is twice higher than initial value.
2	Low Temperature Storage	T = -30℃ for 96 hr	
3	High Temperature Operating	T = 70℃ for 96 hr	
4	Low Temperature Operating	T = -20℃ for 96 hr (But no condensation of dew)	
5	High Temp. and High Humidity Operating	T = 60℃/90% for 96 hr (But no condensation dew)	
6	Thermal Shock	-20~25~70℃×10cycles (30min.) (5min.) (30min.)	
7	ESD	Voltage:±8KV R: 330Ω C: 150pF Air discharge, 10time	

Note1: Ts is the temperature of panel's surface.

Note2: Ta is the ambient temperature of samples

10.Precautions for Use of LCD Modules Handling Precautions

10.1Handling Precautions

10.1.1 The display panel is made of glass. Do not subject it to a mechanical shock by dropping it from a high place, etc.

10.1.2 If the display panel is damaged and the liquid crystal substance inside it leaks out, be sure not to get any in your mouth, if the substance comes into contact with your skin or clothes, promptly wash it off using soap and water.

10.1.3 Do not apply excessive force to the display surface or the adjoining areas since this may cause the color tone to vary.

10.1.4 The Polarizer covering the display surface of the LCD module is soft and easily scratched. Handle this Polarizer carefully.

10.1.5 If the display surface is contaminated, breathe on the surface and gently wipe it with a soft dry cloth. If still not completely clear, moisten cloth with one of the following solvents:

- isopropyl alcohol
- Ethyl alcohol

Solvents other than those mentioned above may damage the Polarizer. Especially, do not use the following:

- Water
- Ketone
- Aromatic solvents

10.1.6 Do not attempt to disassemble the LCD Module.

10.1.7 If the logic circuit power is off, do not apply the input signals.

10.1.8 To prevent destruction of the elements by static electricity, be careful to maintain an optimum work environment.

10.1.8.1 Be sure to ground the body when handling the LCD Modules.
Tools required for assembly, such as soldering irons, must be properly ground.

10.1.8.2 To reduce the amount of static electricity generated, do not conduct assembly and other work under dry conditions.

10.1.8.3 The LCD Module is coated with a film to protect the display surface. Be care when peeling off this protective film since static electricity may be generated.

10.2 Storage Precautions

10.2.1When storing the LCD modules, avoid exposure to direct sunlight or to the light of fluorescent lamps.

10.2.2The LCD modules should be stored under the storage temperature range. If the LCD modules will be stored for a long time, the recommend condition is: Temperature : 0℃ ～ 40℃ Relatively humidity: ≤80%

10.2.3The LCD modules should be stored in the room without acid, alkali and harmful gas.

10.3Transportation Precautions

The LCD modules should be no falling and violent shocking during transportation, and also should avoid excessive press, water, damp and sunshine.