晶采光電科技股份有限公司
AMPIRE CO., LTD.

SPECIFICATIONS FOR LCD MODULE

CUSTOMER	
CUSTOMER PART NO.	
AMPIRE PART NO.	AM-1280800WNTZQW-T12H
APPROVED BY	
DATE	

☐ Preliminary Specification
☑ Formal Specification

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*This specification is subject to change without notice.

RECORD OF REVISION

Revision Date	Page	Contents	Editor
2021/04/23	--	New Release	Tank

1.0 General Descriptions

1.1 Introduction

The LCM is a color active matrix thin film transistor (TFT) liquid crystal display (LCD) that uses amorphous silicon TFT as a switching device. It is composed of a TFT LCD panel, a backlight system, column driver and row driver circuit. This TFT LCD has a 10.1-inch diagonally measured active display area with WXGA resolution (1280 horizontal by 800 vertical pixels array).

1.2 Features

- 10.1" TFT LCD Panel
- LED Backlight System
- Supported WXGA 1280x800 pixels resolution
- Compatible with RoHS Standard
- Projective Capacitive Touch
  - Interface : I2C
  - Touch Controller :EXC3146
  - Cover Lens :
    - Tempered Soda Lime Glass : T=1.1mm
    - Printing : Black border (Pantone: Black)
    - Rear Side with double side tape 3M VHB-5915

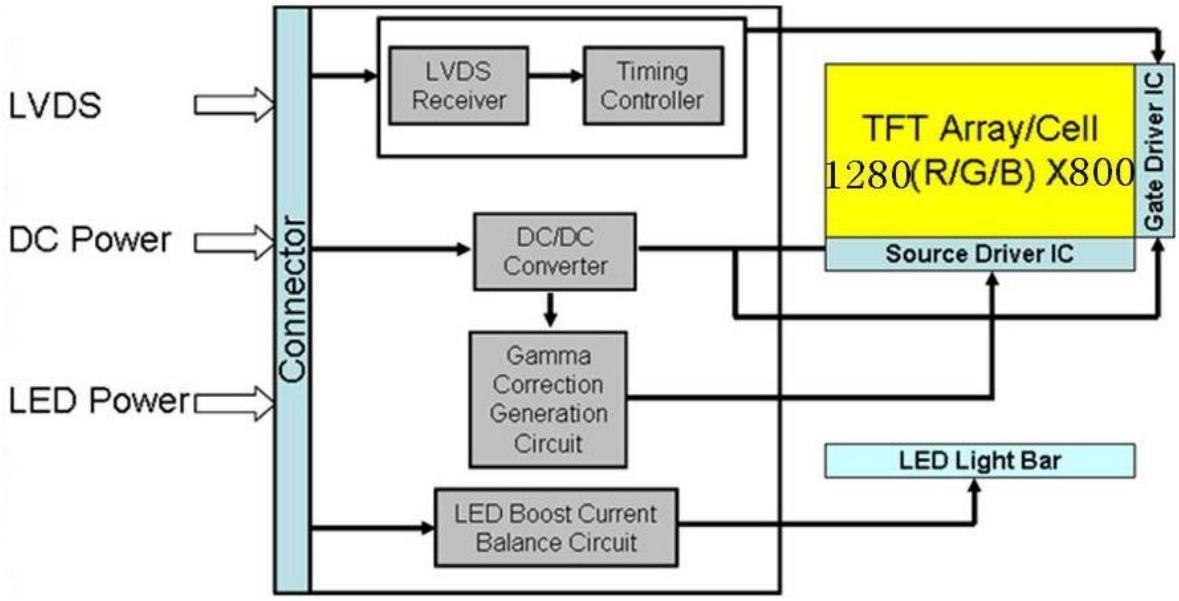
1.3 Product Summary

Items	Specifications	Unit
Screen Diagonal	10.1	Inch
Active Area	216.96(H) x 135.6(V)	mm
Pixel Format	1280 (RGB) x 800	-
Pixel Pitch	0.1695(H) x 0.1695 (V)	mm
Pixel Arrangement	R.G.B. Vertical Stripe	-
Display Mode	Normally Black	-
White Luminance	300 (Typ.)	cd /m2
Contrast Ratio	800 : 1 (Typ.)	-
Response Time	25	msec
Input Voltage	3.3	V
Outline Dimensions	248.76(H) x 168.73(V) x 10.035(D)	mm
Electrical Interface (Logic)	LVDS	-
Support Color	16.7M	-

1.4 Functional Block Diagram

Shows the functional block diagram of the LCD module.

Figure 1 Block Diagram



2.0 Absolute Maximum Ratings

Table 1 Electrical Absolute Rating

Item	Symbol	Min	Max	Unit	Conditions
Logic Supply Voltage	VDD	-0.3	4.0	V	TA=25℃
Supply VLED Voltage	VLED	-0.3	24	V	TA=25℃

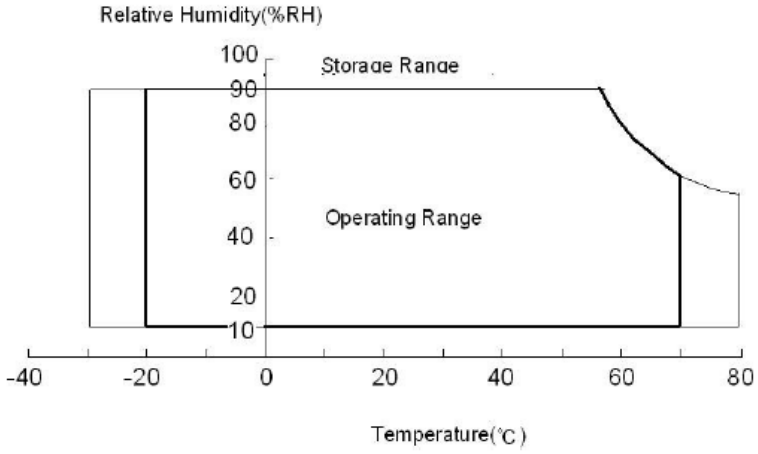
Table 2 Reliability Absolute Rating

Item	Symbol	Min	Max	Unit	Conditions
Operating Temperature	TOP	-20	70	℃	Note
Operating Humidity	HOP	--	90	%RH	Note
Storage Temperature	TST	-30	80	℃	Note
Storage Humidity	HST	--	90	%RH	Note

Note: (1) Maximum Wet-Bulb temperature should be 39 degree C and no condensation.

Note: (2) When you apply the LCD module for OA system. Please make sure to keep the temperature of LCD module is less than 70℃

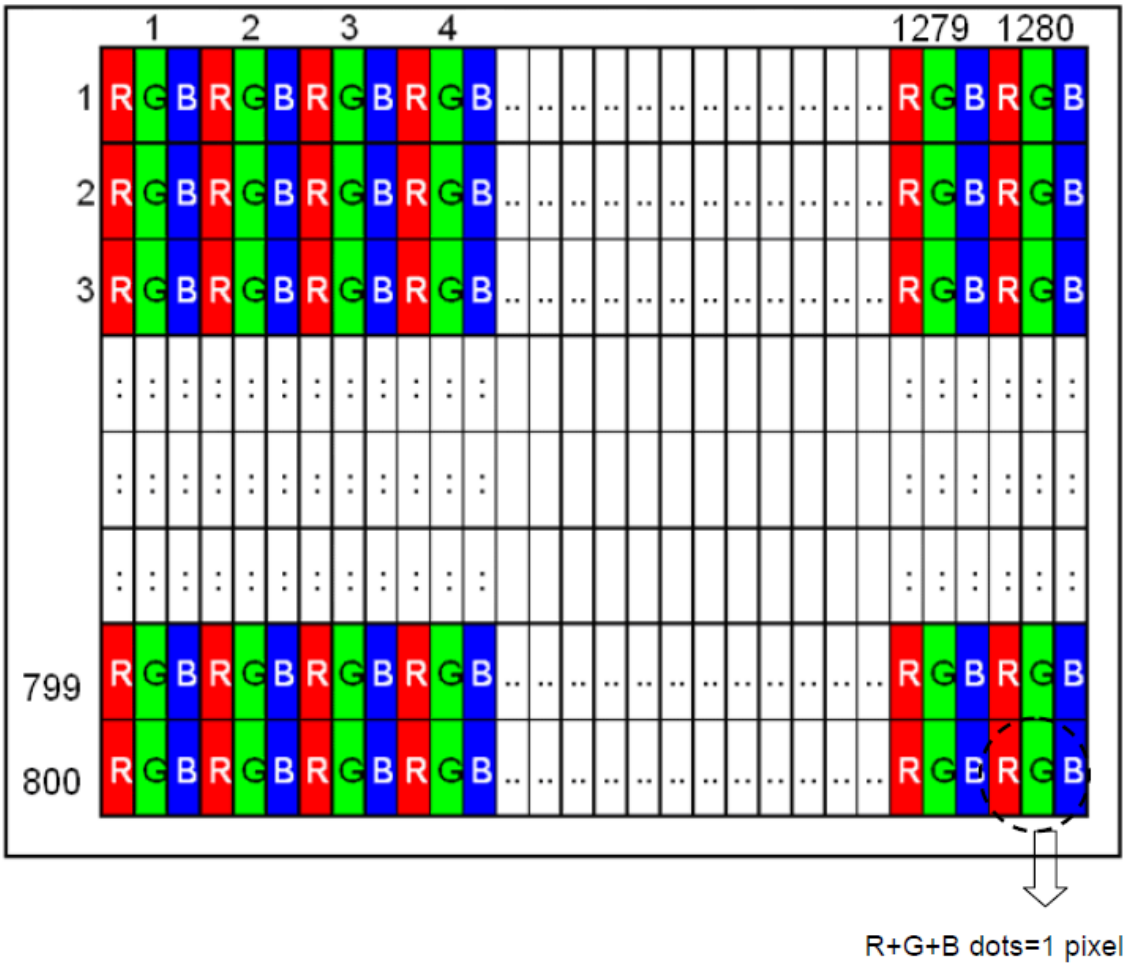
Note: (3) Storage /Operating temperature



3.0 Pixel Format Image

Figure 2 shows the relationship of the input signals and LCD pixel format image.

Figure 2 Pixel Format



4.0 Optical Characteristics

The optical characteristics are measured under stable conditions as following notes

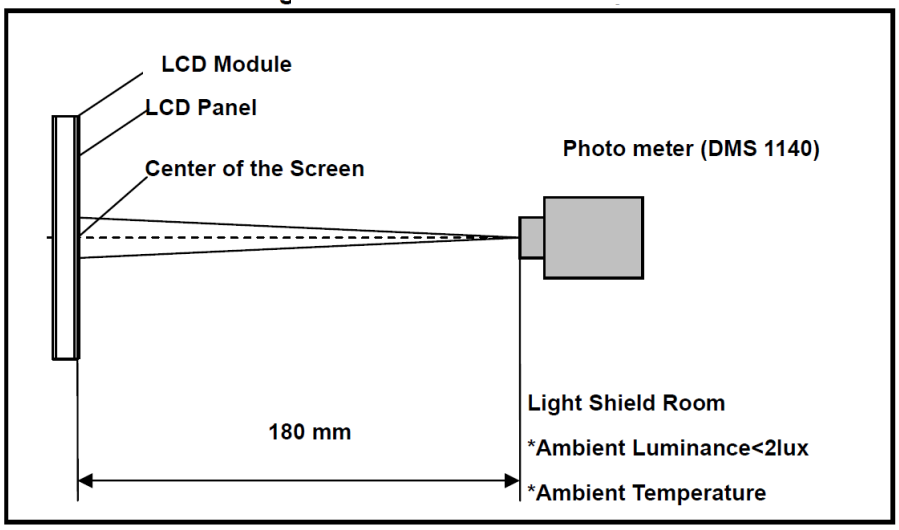
Table 2 Optical Characteristics

Item	Conditions		Min.	Typ.	Max.	Unit	Note
Viewing Angle （CR>10）	Horizontal	θ L	(75)	(85)	-	degree	(1),(2),(3)
		θ R	(75)	(85)	-		
	Vertical	θT	(75)	(85)	-		
		θ B	(75)	(85)	-		
Contrast Ratio	Center		(600)	(800)	-	-	(1),(2),(4)
Response Time	Rising		-	-	-	ms	(1),(2),(5)
	Falling		-	-	-	ms	
	Rising + Falling		-	25	-	ms	
Color Chromaticity (CIE1931)	NTSC		-	45	-	%	(1),(2)
	Red	x	Typ. -0.05	0.561	Typ. +0.05	-	(1),(2)
	Red	y		0.334		-	
	Green	x		0.341		-	
	Green	y		0.568		-	
	Blue	x		0.161		-	
	Blue	y		0.129		-	
	White	x		0.313		-	
	White	y		0.329		-	
White Luminance	Center		240	300	-	cd/m^2	(1),(2),(6)
Luminance Uniformity	9Points		70	75	-	%	(1),(2),(6)

Note(1) Measurement Setup:

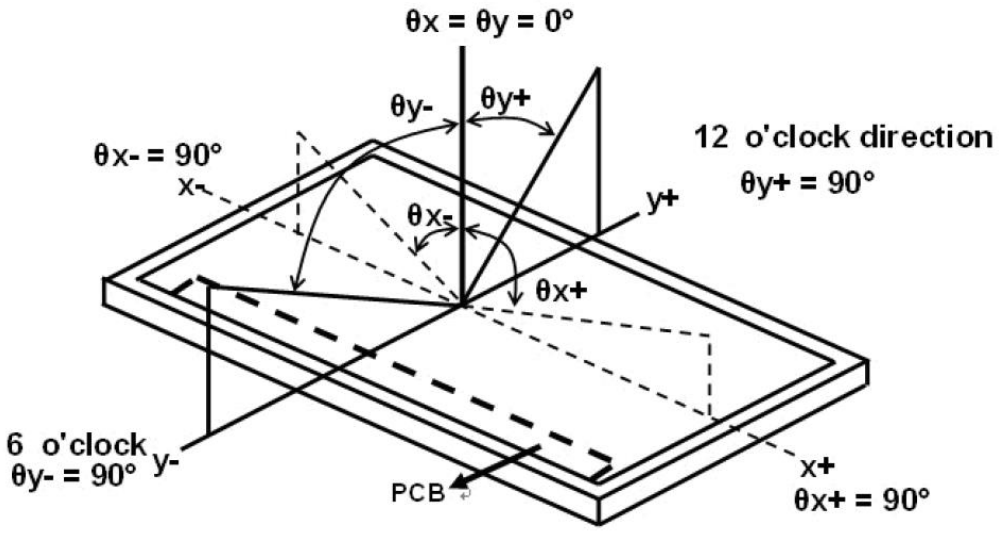
The LCD module should be stabilized at given temperature(25℃) for 15 minutes to Avoid abrupt temperature change during measuring. In order to stabilize the luminance, the measurement should be executed after lighting backlight for 15 minutes in a windless room.

Fig



Note(2) The LED input parameter setting as: PWM=duty 100 %

Note(3) Definition of viewing angle:



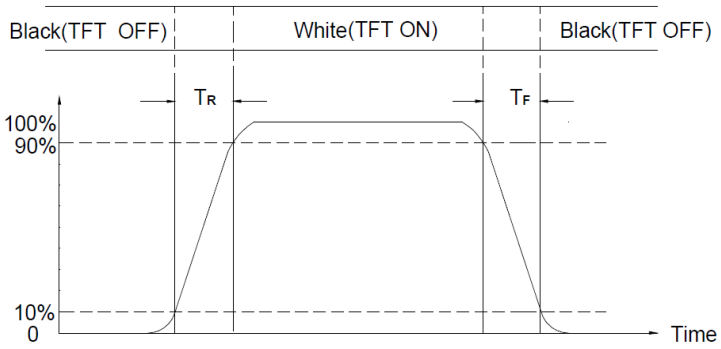
Note(4) Definition of Contrast Ratio (CR)

The contrast ratio can be calculated by the following expression

Contrast Ratio (CR) = L255 / L0

L63: Luminance of gray level 255, L0: Luminance of gray level 0

Note(5) Definition of Response Time (TR, TF)



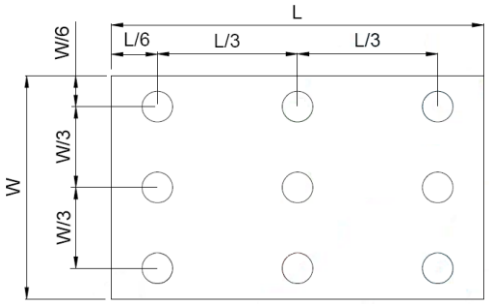
Note(6) Definition of brightness luminance

Active area is divided into 9 measuring areas (Refer to bellow figure).

Every measuring point is placed at the center of each measuring area.

$$\text{Luminance Uniformity (Yu)} = \frac{\text{Bmin}}{\text{Bmax}}$$

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



Bmax: The measured maximum luminance of all measurement position.

Bmin: The measured minimum luminance of all measurement position.

5.0 Backlight Characteristics

5.1 Parameter Guideline of LED Backlight

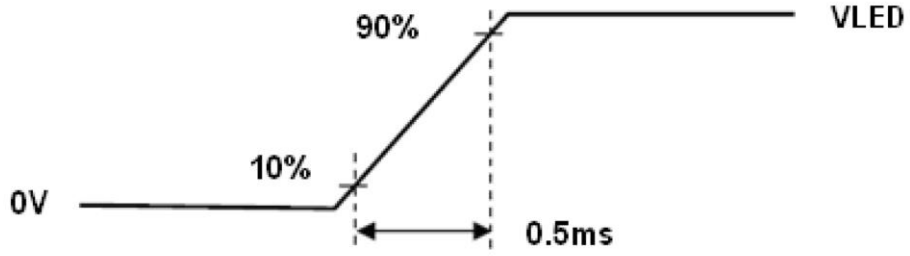
Table 3 Parameter Guideline for LED Backlight

Symbol	Parameter		Min.	Typ.	Max.	Units	Condition
VLED	LED Input		(6)	(12)	(21)	[V]	Ta=25℃ Note B
PLED	LED Power Consumption		-	-	(2.5)	W	Ta=25℃ Note B
VLED_PWM	PWM Signal Voltage	High	3.0	--	3.6	V	Ta=25℃
		Low	0	--	0.4	V	
F_{PWM}	PWM dimming Frequency		100	-	200	Hz	D_{DIM}≥0.1%
			200	-	500		D_{DIM}≥0.25%
			500	-	1000		D_{DIM}≥0.5%
			1000	-	2000		D_{DIM}≥1%
			2000	-	5000		D_{DIM}≥2.5%
			5000	-	10000		D_{DIM}≥5%
			10000	-	20000		D_{DIM}≥10%
			20000	-	30000		D_{DIM}≥15%
VLED_EN	LED Enable Voltage	High	3.0	--	3.6	V	-
		Low	0	--	0.4	V	
LT	LED Life Time		20,000	25,000	-	Hours	Ta=25℃ Note A

Note A: The LED life time define as the estimated time to 50% degradation of initial luminous.

Note B: A higher LED power supply voltage will result in better power efficiency. Keep the VLED between 12V and 12.6V is strongly recommended.

Figure 7 LED Rush Current Measure Condition



VLED rising time

6.0 Electrical Characteristics

6.1 TFT LCD Module Interface Connector

Table 4 Connector Name / Designation

Item	Description
Manufacturer / Part Number	Starconn / 300E40-0010RA-G3
Mating Model Number	TBD or compatible

Table 5 Signal Pin Assignment

Pin #	Signal Name	Description	Remarks
1	NC	Not Connect	-
2	VDD	Power Supply, 3.3V (typical)	-
3	VDD	Power Supply, 3.3V (typical)	
4	VDD_EDID	Power Supply for EDID I2C Flash IC	
5	SCL_EDID	I2C Serial Clock for EDID I2C Flash IC	
6	SDA_EDID	I2C Serial Data for EDID I2C Flash IC	
7	NC	Not Connect	
8	LV0N	-LVDS differential data input	
9	LV0P	+LVDS differential data input	
10	GND	Ground	
11	LV1N	-LVDS differential data input	
12	LV1P	+LVDS differential data input	
13	GND	Ground	
14	LV2N	-LVDS differential data input	
15	LV2P	+LVDS differential data input	
16	GND	Ground	
17	LVCLKN	-LVDS differential data input	
18	LVCLKP	+LVDS differential data input	
19	GND	Ground	
20	LV3N	-LVDS differential data input	
21	LV3P	+LVDS differential data input	
22	GND	Ground	
23	LED_GND	Ground for LED Driving	
24	LED_GND	Ground for LED Driving	
25	LED_GND	Ground for LED Driving	
26	NC	Not Connect	
27	LED_PWM	PWM Input signal for LED driver :3.3V	
28	LED_EN	LED Enable Pin :3.3V	
29	NC	Not Connect	
30	NC	Not Connect	
31	LED_VCC	Power Supply for LED Driver :12V	
32	LED_VCC	Power Supply for LED Driver :12V	
33	LED_VCC	Power Supply for LED Driver :12V	
34	NC	Not Connect	
35	BIST	BIST pin. (Keep NC or GND if not use.)	
36	NC	Not Connect	
37	NC	Not Connect	
38	NC	Not Connect	
39	NC	Not Connect	
40	NC	Not Connect	

Note: All input signals shall be low or Hi-resistance state when VDD is off.

6.2 LVDS Receiver

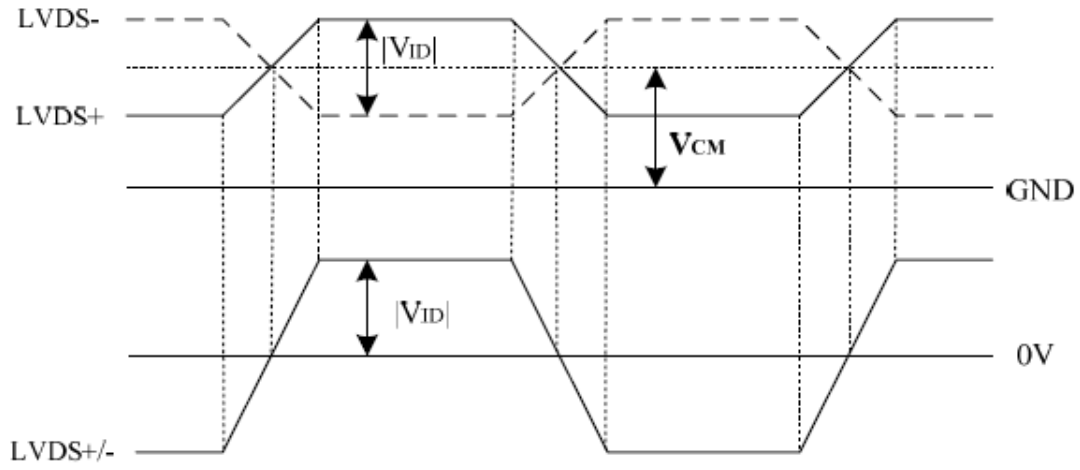
6.2.1 Signal Electrical Characteristics For LVDS Receiver

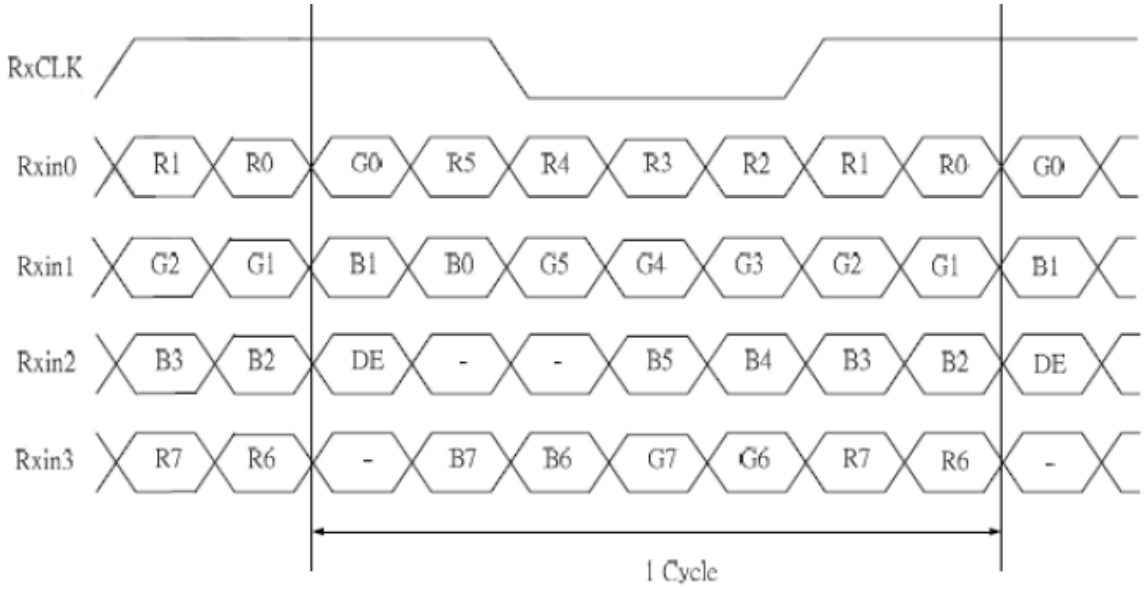
Table 7 LVDS Receiver Electrical Characteristics

Parameter	Symbol	Min.	Typ.	Max.	Unit	Conditions
Differential Input High	Vth	-	-	+100	mV	V_{CM}=+1.2V
Differential Input Low	Vtl	-100	-	-	mV	V_{CM}=+1.2V
Magnitude Differential Input	$\|V_{ID}\|$	200	-	400	mV	-
Common Mode Voltage	V_{CM}	0.3+(VID/2)	-	VDD-1.2-(VID/2)	V	-
Common Mode Voltage	ΔV_{CM}	-	-	50	mV	V_{CM}=+1.2V

Note (1) Input signals shall be low or Hi-Z state when VDD is off.

(2) All electrical characteristics for LVDS signal are defined and shall be measured at the interface connector of LCD.





7.0 Interface Timings

7.1 Timing Characteristics

Interface Timings

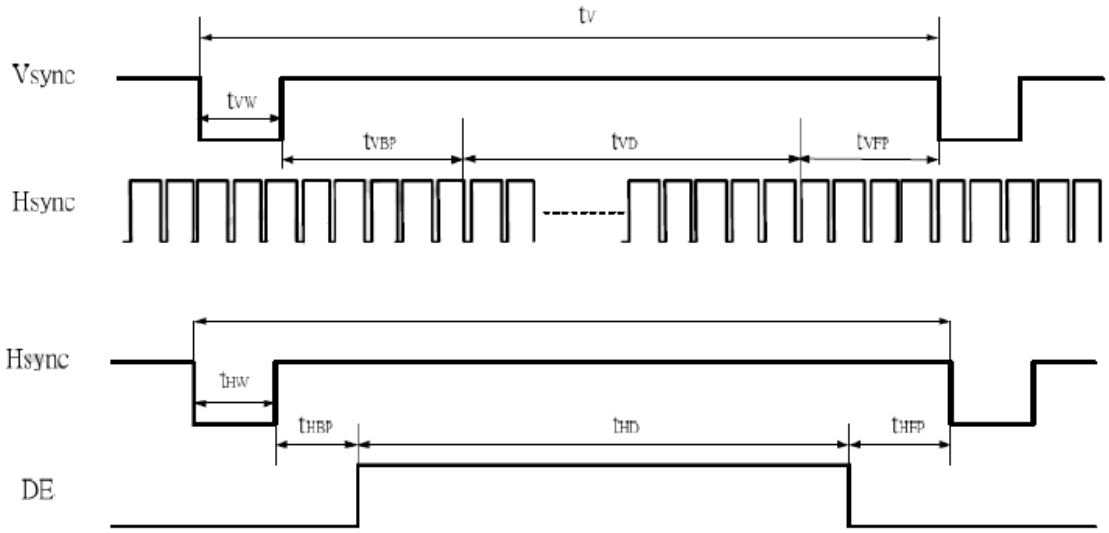
Parameter	Symbol	Min.	Typ.	Max.	Unit
LVDS Clock Frequency	Fclk	(70.0)	(72.4)	(76.6)	MHz
H Total Time	HT	(1,410)	(1,440)	(1,470)	Clocks
H Active Time	HA		1,280		Clocks
V Total Time	VT	(828)	(838)	(868)	Lines
V Active Time	VA		800		Lines
Frame Rate	FV	-	(60)	-	Hz

Note1： HT * VT *Frame Frequency≤(76.6) MHz

Note2: All reliabilities are specified for timing specification based on refresh rate of 60Hz.

7.2 Timing Diagram of Interface Signal (DE mode)

Figure 8 Timing Characteristics



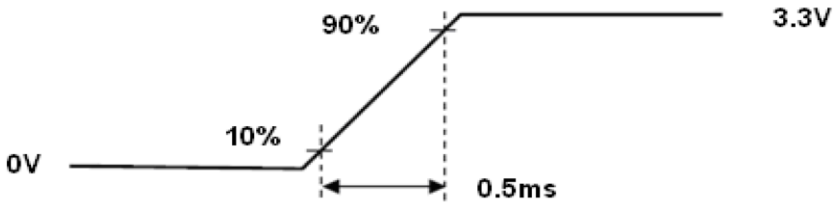
8.0 Power Consumption

Table 8 Power Consumption

Item		Symbol	Min	Typ.	Max	Unit	Note
LCD Drive Voltage		VDD	3.0	3.3	3.6	V	(3)
VDD Current	White Pattern	IDD	--	0.295	--	A	(2),(3)
VDD Power Consumption	White Pattern	PDD	--	--	1.2	W	(2),(3)
LED Power Consumption		PLED			2.5	W	(2),(3)
Rush Current		Irush			1.5	A	(1),(3),(4)
Allowable Logic/LCD Drive Ripple Voltage		VDDrp			300	mV	(3)

Note (1).Measure Condition

Figure 9 VDD rising time

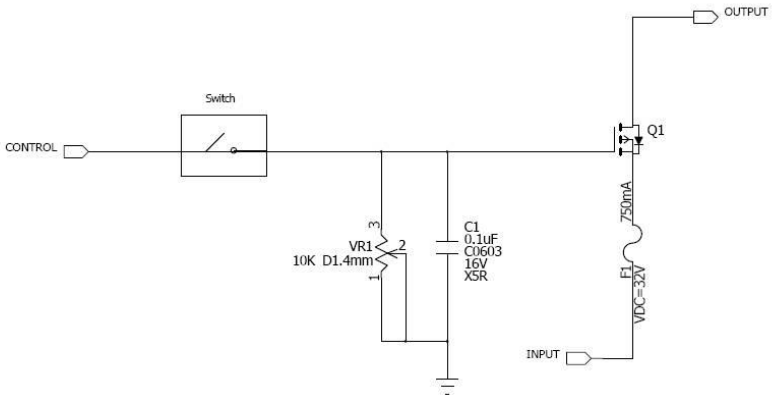


VDD rising time

Note (2) Frame Rate=60Hz, VDD=3.3V,DC Current.

Note (3) Operating temperature 25℃ , humidity 55%RH.

Note (4) The reference measurement circuit of rush current.



9.0 Power ON/OFF Sequence

Power on/off sequence is as follows. Interface signals are also shown in the chart.

Signals from any system shall be Hi-Z state or low level when VDD is off.

Figure 11 Power Sequence

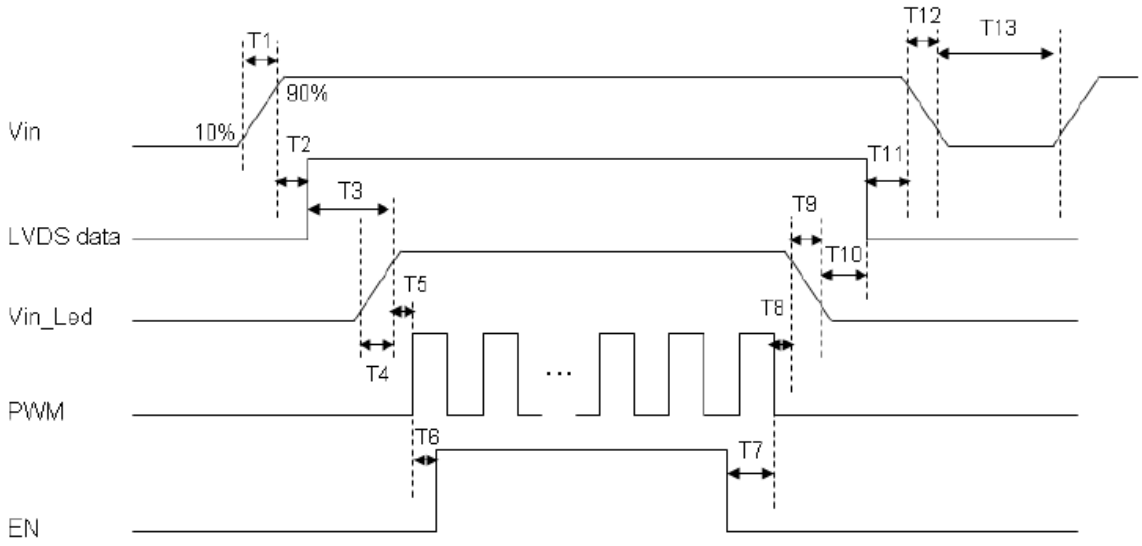


Table 9 Power Sequencing Requirements

Parameter	Symbol	Unit	Min	Typ.	Max
VIN Rise Time	T1	ms	0.5	--	10
VIN Good to Signal Valid	T2	ms	30	--	90
Signal Valid to Backlight On	T3	ms	200	--	--
Backlight Power On Time	T4	ms	0.5	--	--
Backlight VDD Good to System PWM On	T5	ms	10	--	--
System PWM ON to Backlight Enable ON	T6	ms	10	--	--
Backlight Enable Off to System PWM Off	T7	ms	0	--	--
System PWM Off to B/L Power Disable	T8	ms	10	--	--
Backlight Power Off Time	T9	ms	--	10	30
Backlight Off to Signal Disable	T10	ms	200	--	--
Signal Disable to Power Down	T11	ms	0	--	50
VIN Fall Time	T12	ms	--	10	30
Power Off	T13	ms	500	--	--

10.0 Projected capacitive-type Touch panel specification

10.1 Basic Characteristic

ITEM	SPECIFICATION
Type	Projective Capacitive Touch Panel
Activation	10-fingers or Signal-finger
X/Y Position Reporting	Absolute Position
Touch Force	No contact pressure required
Calibration	No need for calibration
Report Rate	Approx. 80 points/sec
Resolution	4096 x 4096
Interface	I2C
Control IC	EXC3146

10.2 Electrical Absolute Max Rating

Item	Symbol	Value		Unit	Note
		Min.	Max.		
Power supply voltage	PWR	-0.3	5.5	V	GND=0V

10.3 ELECTRICAL CHARACTERISTICS

Specify the normal operating condition

(DGND=0V)

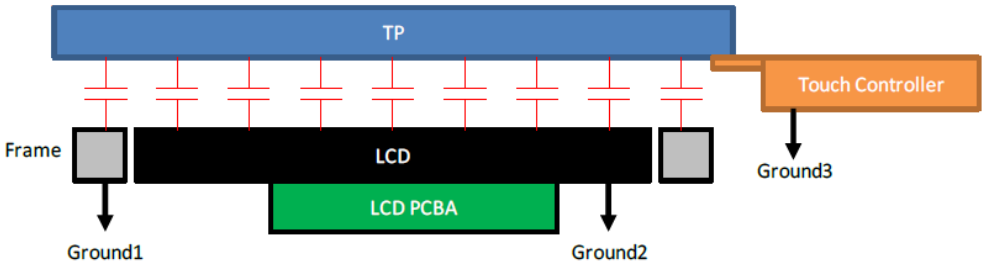
Item	Symbol	Min.	Typ.	Max.	Unit	Note
Power Supply Voltage	PWR	3.0	3.3	3.6	V	
Low Level Input Voltage	VIL	0	--	0.8	V	1
High Level Input Voltage	VIH	0.8*PWR	--	PWR	V	1
Power Consumption	I_{PWR}		T.B.D		mA	

Note 1: SDA, SCL, RST

10.4 Interface

Pin No.	Symbol	Function
1	GND	Ground
2	SDA	I2C DATA
3	SCL	I2C CLOCK
4	PVDD	Power supply
5	/INT	Interrupt Request pin. Active Low
6	/RES	Reset signal. Active Low

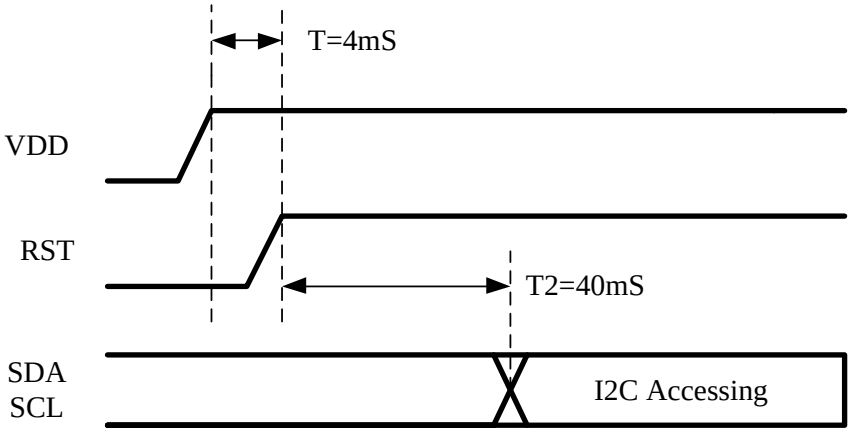
TP needs to work in environment with stable stray capacitance. In order to minimize the variation in stray capacitance, all conductive mechanical parts must not be floating. Intermittent floating any conductive part around the touch sensor may cause significant stray capacitance change and abnormal touch function. It is recommended to keep all conductive parts having same electrical potential as the GND of the touch controller module.

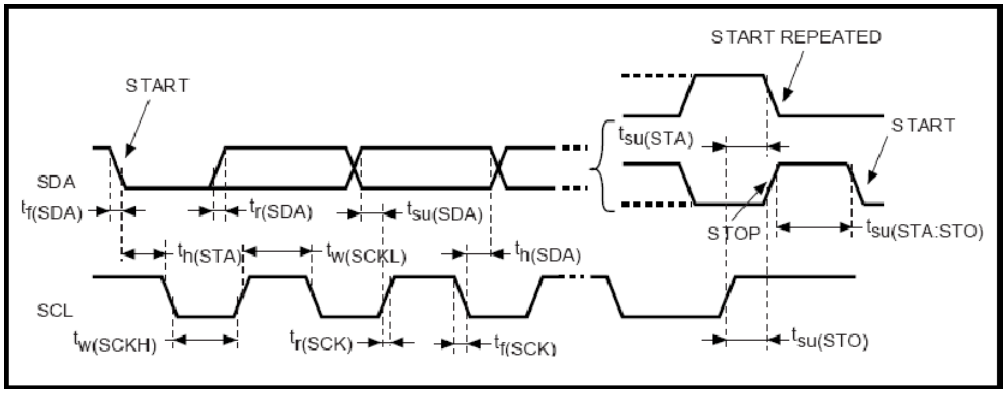


GND1, GND2 and GND3 should be connected together to have the same ground

10.5 I2C Timing

After internal RST goes to high, do not accessing the I2C bus 40mS at least. Because the controller need to do the internal initiation.





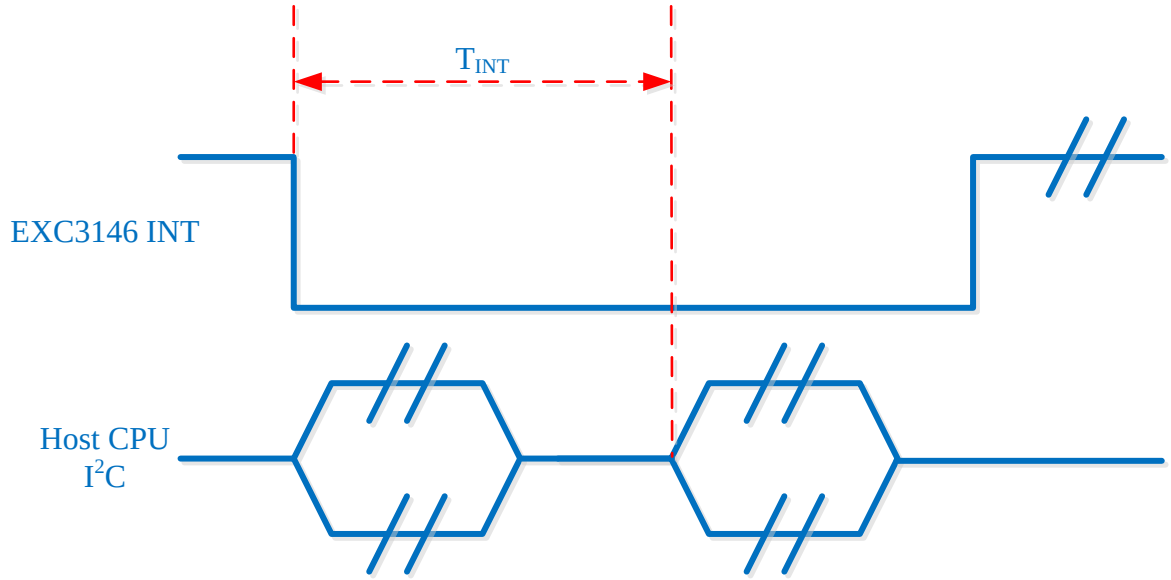
Symbol	Parameter	SCL = 100KHz		SCL = 400KHz		Unit
		Min	Max	Min	Max	
$t_{w(SCLL)}$	SCL clock low time	4.7		1.3		µs
$t_{w(SCLH)}$	SCL clock high time	4.0		0.6		
$t_{su(SDA)}$	SDA setup time	250		100		ns
$t_{h(SDA)}$	SDA data hold time	0		0	900	
$t_{r(SDA)}$ $t_{r(SCL)}$	SDA and SCL rise time		1000		300	
$t_{f(SDA)}$ $t_{f(SCL)}$	SDA and SCL fall time		300		300	
$t_{h(STA)}$	Start condition hold time	4.0		0.6		µs
$t_{su(STA)}$	Repeated Start condition setup time	4.7		0.6		
$t_{su(STO)}$	Stop condition setup time	4.0		0.6		µs
$t_{w(STO:STA)}$	Stop to Start condition time (bus free)	4.7		1.3		µs

Touch Controller software protocol

The EXC3146 7-bit slave Address=0x2A

- **INT operating mode**

  I^2C Transaction Frame: each I^2C transaction frame transfers one I^2C packet data. The INT pin is low level trigger. The controller will pulls IRQ pin low until no data in the controller buffer.



  Report rate = $1/T_{INT}$. It depends on properties of touch panel such as resistive value, I^2C clock rate , channel number , thickness and ,material of cover lens , etc.

  For better touch performance, we strongly recommend using the 400K clock rate.

- **The complete Read back data format:**

●	From Host to Device
	From Device to Host

S = START condition

Sr = Repeat START condition

P = STOP condition

R = Data direction READ (SDA HIGH)

W = Data direction WRITE (SDA LOW)

Ack = Acknowledge (SDA LOW)

Nak = Not acknowledge (SDA HIGH)

Address = 7-bit (EXC3000 = 0x2A)

DATA = 8bit

Read Mode : Host-receiver , Device-transmitter.

S	Address	R	Ack	Len-LSB	Ack	Len-MSB	Ack	DATA0	Ack

DATA	Ack		DATA65	Nack	P

Host need to read 66 Bytes for input report retrieval.

The 1st Byet0 and 2nd Byte1 (Len-LSB and Len-MSB): The value of "Len" is calculated by 2 Bytes for "Len: field and n Bytes for valid "Input Data in the payload.

The 3rd DATA0 ~ 66th DATA65 are defined as :

DATA0	DATA1 ~ DATA 65
Report ID	The definitions are differences depends on report ID

Report ID = 0x06

DATA1	Num of Fingers : Actual contact in this report

Multi Touch format

DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8	DATA9	DATA10	DATA11

Contact data 1

- Contact data format :

DATA2	DATA3	DATA4	DATA5	DATA6	DATA7	DATA8	DATA9	DATA10	DATA11
Byte0	Byte1	Byte2	Byte3	Byte4	Byte5	Byte6	Byte7	Byte8	Byte9
Status	Finger ID	X (LSB)	X (MSB)	Y (LSB)	Y (MSB)	Reserved	Reserved	Reserved	Reserved

- Status: Bit0=1 for touch Down . Bit0=0 for Lift Off.
- X/Y resolution : 4096

The following Contact data are with the same format.

DATA12	DATA13	DATA14	DATA15	DATA16	DATA17	DATA18	DATA19	DATA20	DATA21
Contact data 2									
DATA22	DATA23	DATA24	DATA25	DATA26	DATA27	DATA28	DATA29	DATA30	DATA31
Contact data 3									
DATA32	DATA33	DATA34	DATA35	DATA36	DATA37	DATA38	DATA39	DATA40	DATA41
Contact data 4									
DATA42	DATA43	DATA44	DATA45	DATA46	DATA47	DATA48	DATA49	DATA50	DATA51
Contact data 5									
DATA52	DATA53	DATA54	DATA55	DATA56	DATA57	DATA58	DATA59	DATA60	DATA61
Scan Time				Reserved	Reserved	Reserved	Reserved	Reserved	Reserved
DATA62	DATA63	DATA64	DATA65						
Reserved	Reserved	Reserved	Reserved						

The device input report contains maximum 5 contacts in one I^2C frame. If it must report 10 contacts, device will break these down into 2 I^2C frames that report 5 contacts each.

The "Num of Fingers" only show in the first frame. The "Num of Fingers" of the second frame is 0.

11.0 RELIABILITY TEST CONDITIONS

Test Item	Test Conditions	Note
High Temperature Operation	70±3°C ,Dry t=240 hrs	
Low Temperature Operation	-20±3°C, Dry t=240 hrs	
High Temperature Storage	80±3°C , Dry t=240 hrs	1,2
Low Temperature Storage	-30±3°C ,Dry t=240 hrs	1,2
Thermal Shock Test	-20°C ~ 25°C ~ 70°C 30 min. 5 min. 30 min. (1 cycle) Total 100 cycle(Dry)	1,2
Storage Humidity Test	60 °C, Humidity 90%, 240 hrs	1,2
Vibration Test (Packing)	Sweep frequency : 10 ~ 55 ~ 10 Hz/1min Amplitude : 0.75mm Test direction : X.Y.Z/3 axis Duration : 30min/each axis	2

Note 1 : Condensation of water is not permitted on the module.

Note 2 : The module should be inspected after 1 hour storage in normal conditions (15-35°C , 45-65%RH).

Note 3 : The module shouldn't be tested more than one condition, and all the test conditions are independent.

Note 4 : All the reliability tests should be done without protective film on the module.

Definitions of life end point:

- Current drain should be smaller than the specific value.
- Function of the module should be maintained.
- Appearance and display quality should not have degraded noticeably.
- Contrast ratio should be greater than 50% of the initial value.

12 USE PRECAUTIONS

12.1 Handling precautions

1) The polarizing plate may break easily so be careful when handling it. Do not touch, press or rub it with a hard-material tool like tweezers.
2) Do not touch the polarizing plate surface with bare hands so as not to make it dirty. If the surface or other related part of the polarizing plate is dirty, soak a soft cotton cloth or chamois leather in benzine and wipe off with it. Do not use chemical liquids such as acetone, toluene and isopropyl alcohol. Failure to do so may bring chemical reaction phenomena and deteriorations.
3) Remove any spit or water immediately. If it is left for hours, the suffered part may deform or decolorize.
4) If the LCD element breaks and any LC stuff leaks, do not suck or lick it. Also if LC stuff is stuck on your skin or clothing, wash thoroughly with soap and water immediately.

12.2 Installing precautions

1) The PCB has many ICs that may be damaged easily by static electricity. To prevent breaking by static electricity from the human body and clothing, earth the human body properly using the high resistance and discharge static electricity during the operation. In this case, however, the resistance value should be approx. 1MΩ and the resistance should be placed near the human body rather than the ground surface. When the indoor space is dry, static electricity may occur easily so be careful. We recommend the indoor space should be kept with humidity of 60% or more. When a soldering iron or other similar tool is used for assembly, be sure to earth it.
2) When installing the module and ICs, do not bend or twist them. Failure to do so may crack LC element and cause circuit failure.
3) To protect LC element, especially polarizing plate, use a transparent protective plate (e.g., acrylic plate, glass etc) for the product case.
4) Do not use an adhesive like a both-side adhesive tape to make LCD surface (polarizing plate) and product case stick together. Failure to do so may cause the polarizing plate to peel off.

12.3 Storage precautions

1) Avoid a high temperature and humidity area. Keep the temperature between 0°C and 35°C and also the humidity under 60%.
2) Choose the dark spaces where the product is not exposed to direct sunlight or fluorescent light.
3) Store the products as they are put in the boxes provided from us or in the same conditions as we recommend.

12.4 Operating precautions

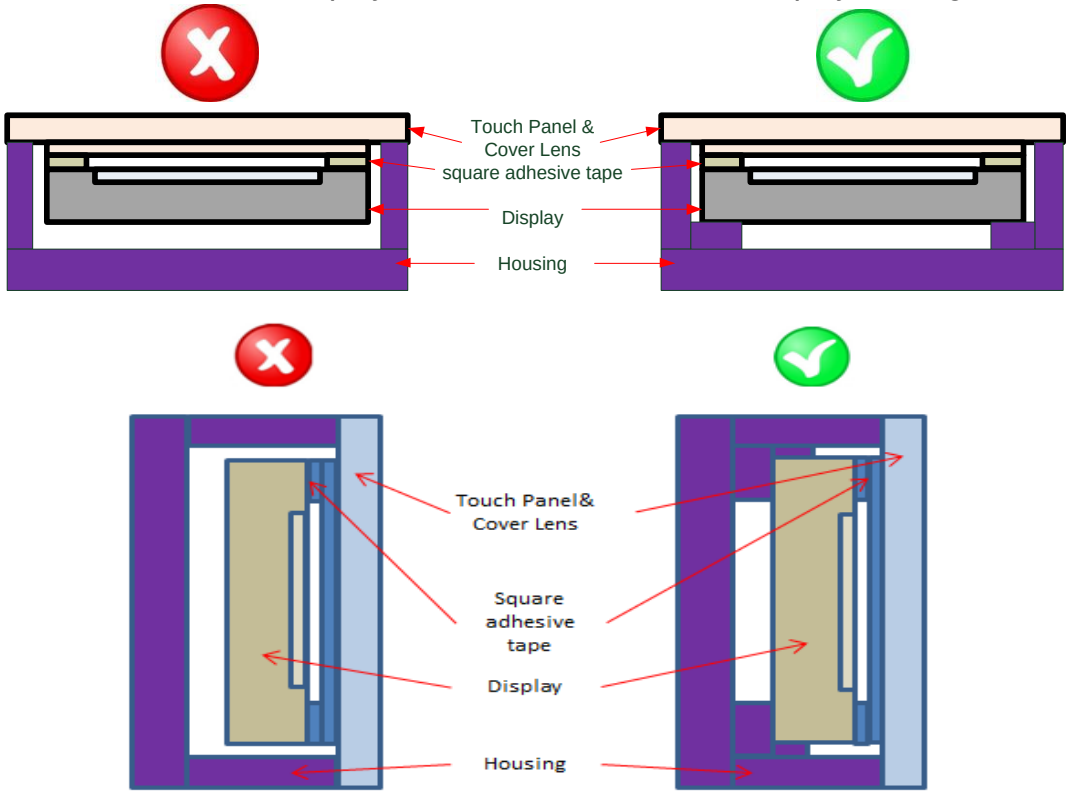
1) Do not boost the applied drive voltage abnormally. Failure to do so may break ICs. When applying power voltage, check the electrical features beforehand and be careful. Always turn off the power to the LC module controller before removing or inserting the LC module input connector. If the input connector is removed or inserted while the power is turned on, the LC module internal circuit may break.
2) The display response may be late if the operating temperature is under the normal standard, and the display may be out of order if it is above the normal standard. But this is not a failure; this will be restored if it is within the normal standard.
3) The LCD contrast varies depending on the visual angle, ambient temperature, power voltage etc. Obtain the optimum contrast by adjusting the LC dive voltage.
4) When carrying out the test, do not take the module out of the low-temperature space suddenly. Failure to do so will cause the module condensing, leading to malfunctions.
5) Make certain that each signal noise level is within the standard (L level: 0.2Vdd or less and H level: 0.8Vdd or more) even if the module has functioned properly. If it is beyond the standard, the module may often malfunction. In addition, always connect the module when making noise level measurements.
6) The CMOS ICs are incorporated in the module and the pull-up and pull-down function is not adopted for the input so avoid putting the input signal open while the power is ON.

7) The characteristic of the semiconductor element changes when it is exposed to light emissions, therefore ICs on the LCD may malfunction if they receive light emissions. To prevent these malfunctions, design and assemble ICs so that they are shielded from light emissions.

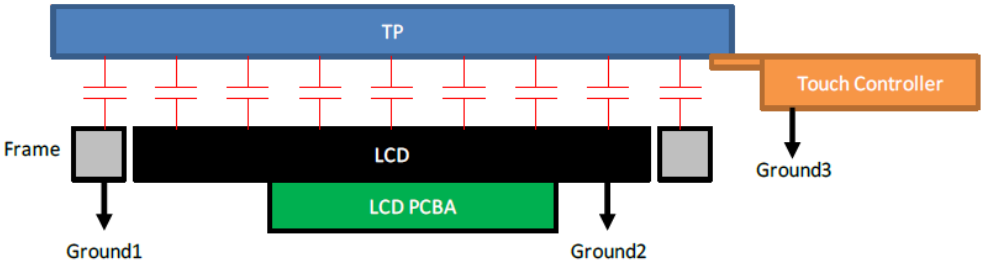
8) Crosstalk occurs because of characteristics of the LCD. In general, crosstalk occurs when the regularized display is maintained. Also, crosstalk is affected by the LC drive voltage. Design the contents of the display, considering crosstalk.

12.5 Mechanism

1) Please mount LCD module by using mounting holes arranged in four corners tightly.
2) The square adhesive tape which is between the touch panel and display can't provide well supporting in the long term and high ambient temperature condition. Whether upright or horizontal position the support holder which is in the back side of the display is needed. Do not let the display floating.



3) TP needs to work in environment with stable stray capacitance. In order to minimize the variation in stray capacitance, all conductive mechanical parts must not be floating. Intermittent floating any conductive part around the touch sensor may cause significant stray capacitance change and abnormal touch function. It is recommended to keep all conductive parts having same electrical potential as the GND of the touch controller module.

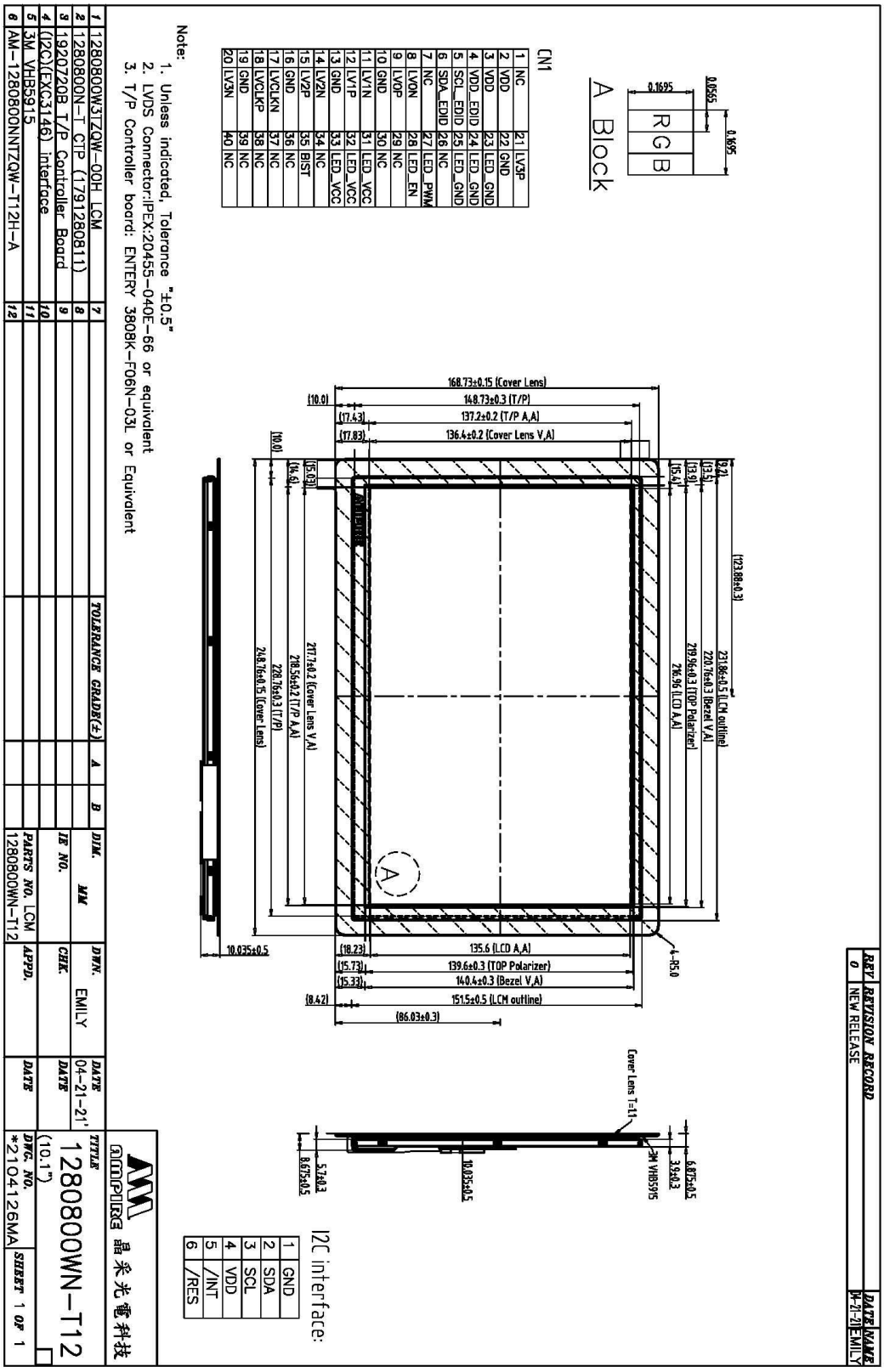


GND1, GND2 and GND3 should be connected together to have the same ground

12.6 Other

1) Do not disassemble or take the LC module into pieces. The LC modules once disassembled or taken into pieces are not the guarantee articles.
2) Do not keep the LCD at the same display pattern continually. The residual image will happen and it will damage the LCD. Please use screen saver.
3) AMIPRE will provide one year warrantee for all products and three months warrantee for all repairing products.

13.0 MECHANIC DRAWING



REV	REVISION RECORD	DATE	NAME
0	NEW RELEASE	04-21-21	EMILY

1	1280800W3TZQW-00H LCM	7							
2	1280800N-T CTP (1791280811)	8							
3	1920720B T/P Controller Board	9							
4	(I2C)EXC3146) Interface	10							
5	3M VHB5915	11							
6	AM-1280800NNTZQW-T12H-A	12							

TOLERANCE GRADE(±)	A	B

DIM.	MM
ITS NO.	
PARTS NO.	LCM 1280800WN-T12

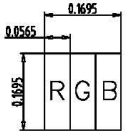
DWN.	EMILY
CHK.	
APPD.	

DATE	04-21-21'
DATE	
DATE	

AMPIRE 晶采光電科技

TITLE	1280800WN-T12 (10.1")
DWG. NO.	*2104126MA
SHEET	1 OF 1

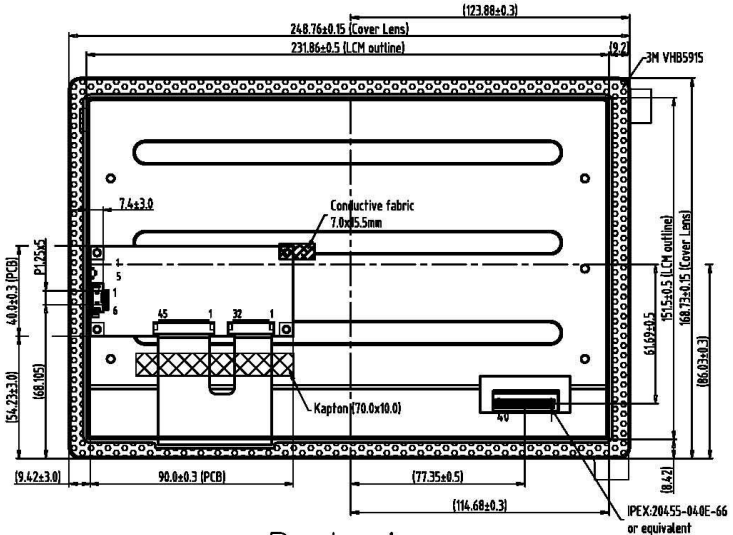
REV	REVISION RECORD	DATE	NAME
0	NEW RELEASE	04-21-21	EMILY



A Block

CN1

1	NC	21	LV3P
2	VDD	22	GND
3	VDD	23	LED_GND
4	VDD_EDID	24	LED_GND
5	SCL_EDID	25	LED_GND
6	SDA_EDID	26	NC
7	NC	27	LED_PWM
8	LVON	28	LED_EN
9	LVOP	29	NC
10	GND	30	NC
11	LV1N	31	LED_VCC
12	LV1P	32	LED_VCC
13	GND	33	LED_VCC
14	LV2N	34	NC
15	LV2P	35	BIST
16	GND	36	NC
17	LVCLKN	37	NC
18	LVCLKP	38	NC
19	GND	39	NC
20	LV3N	40	NC



Back view

I2C interface:

1	GND
2	SDA
3	SCL
4	VDD
5	/INT
6	/RES

Note:
1. Unless indicated, Tolerance "±0.5"
2. LVDS Connector:IPEX:20455-040E-66 or equivalent
3. T/P Controller board: ENTERY 3808K-F06N-03L or Equivalent

1	1280800W3TZQW-00H LCM	7		TOLERANCE GRADE(±)	A	B	DIM. MM	DWN. EMILY	DATE 04-21-21'	TITLE 1280800WN-T12 (10.1")	
2	1280800N-T CTP (1791280811)	8					IE NO.	CHK.	DATE		
3	1920720B T/P Controller Board	9									
4	(I2C)(EXC3146) interface	10									
5	3M VHB5915	11					PARTS NO. LCM-1 1280800WN-T12	APPD.	DATE	DWG. NO. *2104127MA	SHEET 1 OF 1
6	AM-1280800NNTZQW-T12H-A	12									

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Date : 2021/04/23