



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-1024600LETMQW-T71H
APPROVED BY	
DATE	

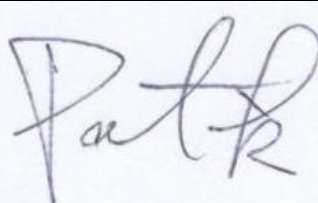
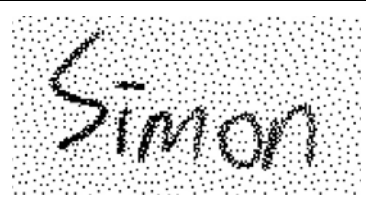

- Approved For Specifications
- Approved For Specifications & Sample

AMPIRE CO., LTD.

4F., No.116, Sec. 1, Xintai 5th Rd., Xizhi Dist., New Taipei City221, Taiwan (R.O.C.)

新北市汐止區新台五路一段 116 號 4 樓(東方科學園區 A 棟)

TEL:886-2-26967269 , FAX:886-2-26967196 or 26967270

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RECORD OF REVISION

Revision Date	Page	Contents	Editor
2017/1/20	-	New Release	Emil
2017/8/3	10	Corrected the interface of touch panel.	Emil

1. FEATURES

The TFT is a color active matrix TFT LCD module using amorphous silicon TFT's (Thin Film Transistors) as an active switching devices. This module is composed of a TFT LCD panel, a driving circuit and a back light system. This TFT LCD has a 10.1 (17:10) inch diagonally measured active display area with WSVGA(1024 x 600 pixel) resolution.

- (1) 10.1 (17:10 diagonal) inch configuration
- (2) One channel LVDS interface
- (3) 262K color by 6 bit R.G.B signal input
- (4) RoHS Compliance
- (5) Projective Capacitive Touch
 - a. Interface : IIC
 - b. Touch Controller: ILI2511
 - c. Cover Lens :
 - i. Tempered Soda Lime Glass : T=1.0mm
 - ii. Black border (Pantone :Black)

2. PHYSICAL SPECIFICATIONS

Item	Specifications	Unit	Note
LCD size	10.1" (Diagonal)	inch	
Active area	222.72 (H) × 125.28 (V)	mm	
Number of pixels	1024(H) × 600(V)	pixels	
Pixel pitch	0.2715(H) × 0.2088(V)	mm	
Pixel arrangement	RGB Vertical stripe		
Display colors	262,144	colors	
Display mode	Normally white		
Dimensional outline	255.0 (Typ) × 165.8 (Typ) × 12.245(D)	mm	
Back-light	Single LED (Side-Light type)		
Weight	TBD	g	
Surface treatment	Anti-glare		

3. ABSOLUTE MAX. RATINGS

The followings are maximum values which, if exceed, may cause faulty operation or damage to the unit.

Item	Symbol	Values		UNIT	Note
		Min.	Max.		
LED Power Supply Voltage	V _{LED}	-0.3	15.0	V	GND=0
Logic Supply Voltage	V _{DD}	-0.3	5.0	V	
Operating Temperature	T _{OPA}	-20	70	°C	
Storage Temperature	T _{STG}	-30	80	°C	

4. ELECTRICAL CHARACTERISTICS

4.1 TFT LCD Module

Item	Symbol	Values			UNIT	Note
		Min.	Typ.	Max.		
Power voltage	VDD	3.0	3.3	3.6	V	Note1
Current of power supply	IDD	-	0.3	-	A	VDD=3.3V Black pattern
Power voltage for LED driver	VLED	9	12.0	15.0	V	
LED driver current of power supply	ILED	-	0.7		mA	VLED=5V ADJ=100%

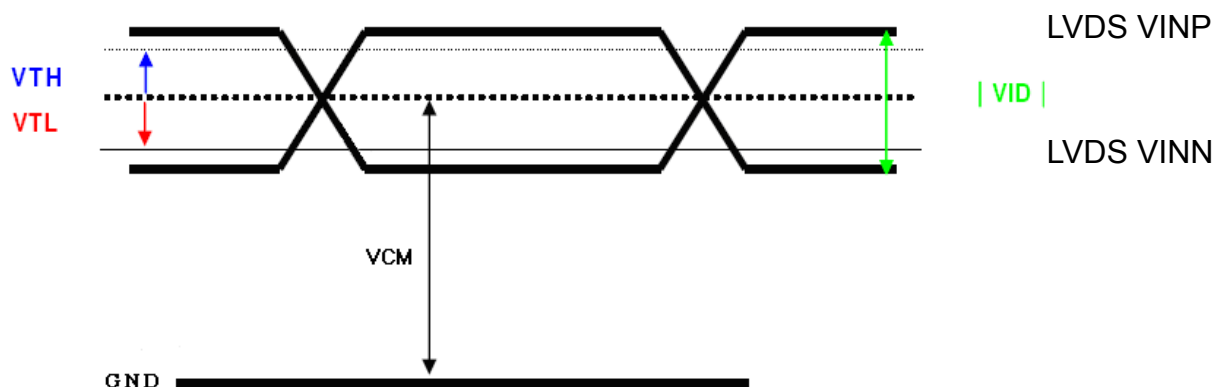
Note 1: VDD-dip condition :

when $2.7V \leq VDD < 3.0V$, $t_d \leq 10ms$.

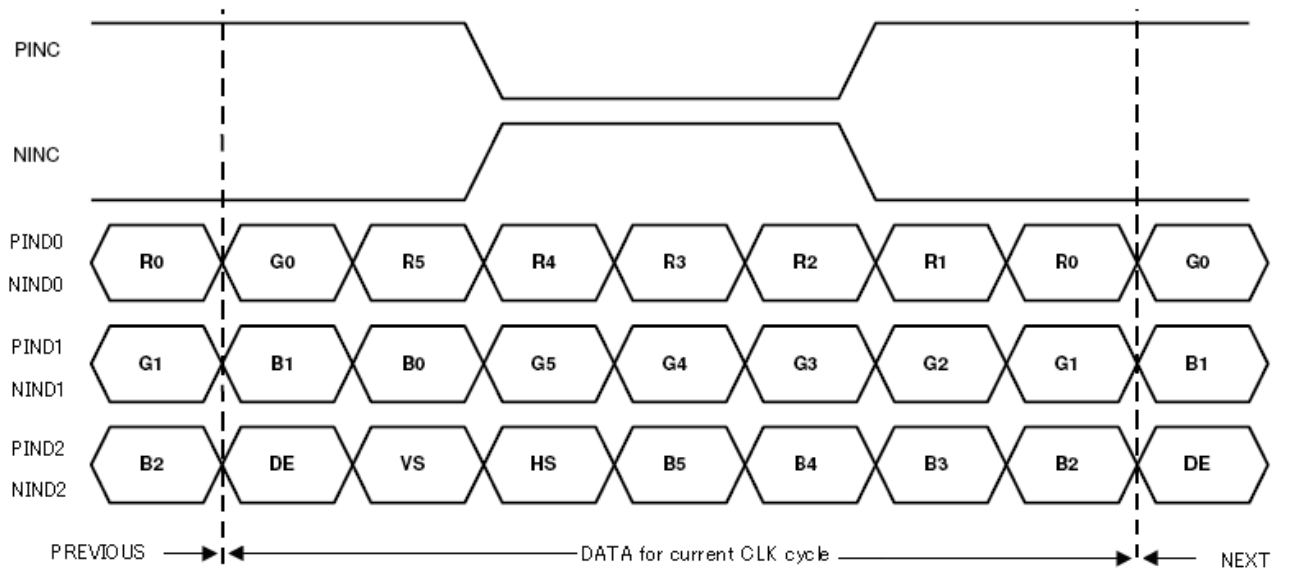
$VDD > 3.0V$, VDD-dip condition should be same as VDD-turn-con condition.

4.2 Switching Characteristics of LVDS Receiver

Item	Symbol	Min.	Typ.	Max.	Unit	Condition
Differential Input High Threshold	VTH	--	--	100	mV	VCM=1.2V
Differential Input Low Threshold	VTL	-100	--	--	mV	
Input current	IIN	-10	--	+10	uA	
Differential input Voltage	VID	0.2	--	0.6	V	
Common Mode Voltage Offset	VCM	$\frac{ VID }{2}$	1.25	$2.4 \cdot \frac{ VID }{2}$	V	



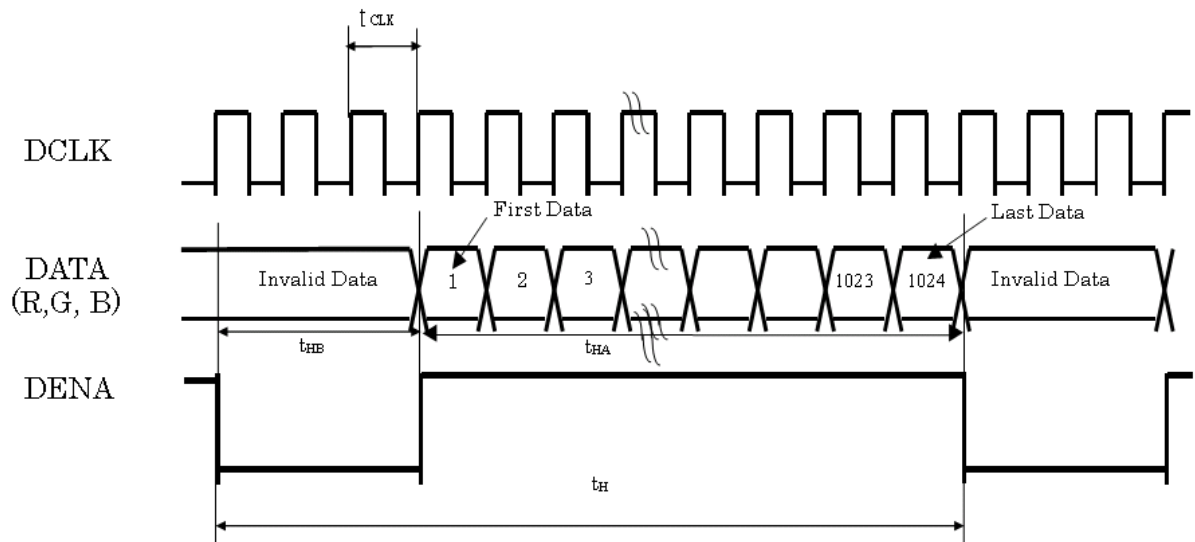
4.3 6-bit LVDS Input Data Mapping



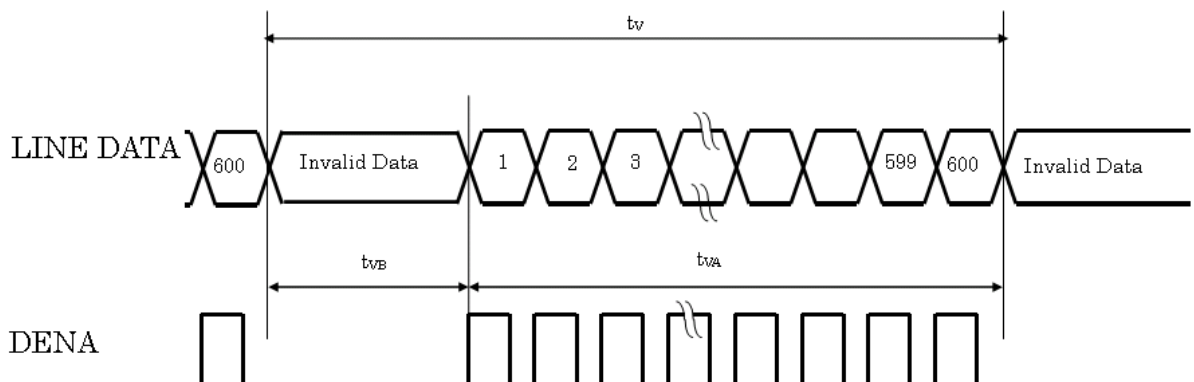
4.4 Timing characteristics of input signals

Item		Symbol	Min.	Typ.	Max.	Unit	
LVDS input signal sequence	Frame Rate	tclk	41	51.2	57	MHz	
LCD input signal sequence (input LVDS Transmitter)	Horizontal	Horizontal total Timing	t_H	1214	1344	1364	tCLK
		Horizontal effective Timing	t_{HA}	1024			tCLK
		Horizontal Blank Time	t_{HB}	190	320	340	tCLK
	Vertical	Vertical total Time	t_V	615	365	645	t_H
		Vertical effective Time	t_{VA}	600			t_H
		Vertical Blank Time	t_{VB}	15	35	45	t_H

Horizontal timing sequence



Vertical timing sequence

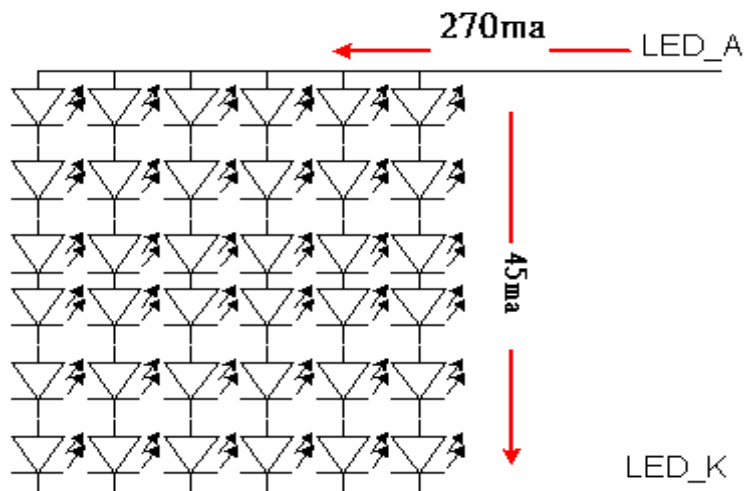


4.5 Backlight Driving Conditions

Item	Symbol	Values			Unit	Note
		Min.	Typ.	Max.		
LED Driver voltage	VLED	9	12	15	V	
Power Supply Current For LED Driver	ILED	-	700	-	mA	VLED=12V VADJ=3.3V (duty 100%)
ADJ Input Voltage	V _{ADJ}	-	3.3	VLED	V	duty=100%
LED voltage	V _{AK}	--	19.2	22	V	I _L =270mA Ta=25°C
LED current	I _L	--	270	--	mA	Note (1)
LED Life Time	-	--	50K	--	Hour	Note (2)

Note (1) : The constant current source is needed for white LED back-light driving.

There are 6 Groups LED shown as below , V_{LEDA-LEDK}=19.2V , Ta=25°C



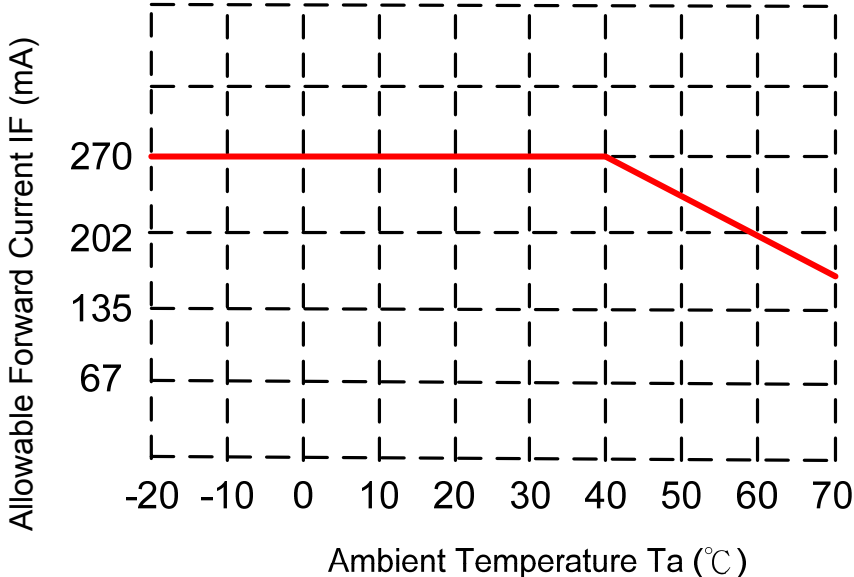
Note(2) : Condition: $T_a=25^{\circ}\text{C}$, continuous lighting

Life time is estimated data.

Definitions of failure:

- 1. LCM brightness becomes half of the minimum value.
- 2. LED doesn't light normally.

When LCM is operated over 40°C ambient temperature, the ILED should be follow :



4.6 Touch Panel Unit

4.6.1 Basic Characteristic

ITEM	SPECIFICATION
Interface Type	Projective Capacitive Multi-Touch Panel
Activation	Two-fingers or Single-finger

4.6.2 Optical Characteristic

ITEM	SPECIFICATION
Transmittance	80% (min)

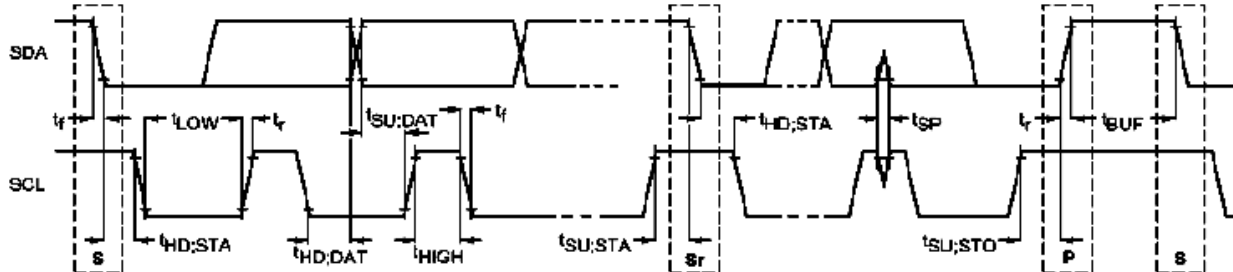
4.6.3 Electrical Characteristic

ITEM	SPECIFICATION
I2C Interface	Power & signal Input 3.3V

4.6.4 Interface Pin Assign

Pin	Name	Description
1	PWR	Power 3.3V
2	SCL	I2C Clock
3	SDA	I2C Data
4	/INT	Interrupt, Active "Low"
5	GND	Power GND
6	GND	Power GND

4.6.5 I2C Timing



Symbol	Parameter	Min	Max	Unit
fSCL	SCL clock frequency	0	100	kHz
tHD;STA	Hold time (repeated) START condition. After this period, the first clock pulse is generated	4.0		μs
tLOW	LOW period of the SCL clock	4.7		μs
tHIGH	HIGH period of the SCL clock	4.0		μs
tSU;STA	Set-up time for a repeated START condition	4.7		μs
tHD;DAT	Data hold time	5.0		μs
tSU;DAT	Data set-up time	250		ns
tr	Rise time of both SDA and SCL signals		1000	ns
tf	Fall time of both SDA and SCL signal		300	ns
tSU;STO	Set-up time for STOP condition	4.0		μs
tBUF	Bus free time between a STOP and START condition	4.7		μs

4.6.6 Device Address

MSB							LSB	
1	0	0	0	0	0	1	0/1	
Device Address							R/W	

7-bit Device Address: 0x41

8-bit Device Read Address: 0x83

8-bit Device Write Address: 0x82

4.6.7 Protocol Data Format

CMD Code	Name	Read Write	Read Byte Number	B7	B6	B5	B4	B3	B2	B1	B0	
0x10	<i>Read Touch Reported Number</i>	“Multi-Byte Read”	0	The numbers of the touch information report								
0x11	<i>Read Touch Information Report</i>	“Multi-Byte Read”	0	Status	0	Reported ID						
			1	X Position High byte								
			2	X Position Low Byte								
			3	Y Position High byte								
			4	Y Position Low Byte								
0x20	<i>Read Panel information</i>	“Multi-Byte Read”	0	The maximum X coordinate (bit 7:0)								
			1	The maximum X coordinate (bit 15:8)								
			2	The maximum Y coordinate (bit 7:0)								
			3	The maximum Y coordinate (bit 15:8)								
			4	The channel numbers of X direction								
			5	The channel numbers of Y direction								
			6	The maximum report points								
0x40	<i>Read Panel firmware version</i>	“Multi-Byte Read”	0	FW_Ver_0			FW_Ver_0.FW_Ver_1.FW_Ver_2					
			1	FW_Ver_1								
			2	FW_Ver_2								

4.6.8 Sample Code

```
/******
```

Function Name: ILI_CmdRead(u8 Slave_Addr,u8 Cmd, u8 read_Nbyte , u8 *pbuffer)
Touch controller command Read function.

Input : Slave_Addr : I2C slave 7 bit address
Cmd : Touch controller command code
read_Nbyte : The number of byte to be readed
pbuffer : Pointer for readout data

Output : NONE

```
*****/
```

```
void ILI_CmdRead(u8 Slave_Addr,u8 Cmd, u8 read_Nbyte , u8 *pbuffer)
{
    u8 WrByte[1];
    WrByte[0]=Cmd;
    I2C_Read_After_Write ( Slave_Addr , WrByte , pbuffer , 1 , read_Nbyte );
}
```

```
/******
```

Function Name: u8 ILI2301S_CoordRead(u8 Slave_Addr, u8 *pReadbuffer)

The function will get the number of the touch and all the touch position to pReadbuffer.

Input : Slave_Addr : I2C slave 7 bit address
pReadbuffer : Pointer for readout data
pReadbuffer[0+i*5] = (bit7) status + (bit5:0) report_ID
pReadbuffer[1+i*5] = X_high
pReadbuffer[2+i*5] = X_Low
pReadbuffer[3+i*5] = y_high
pReadbuffer[4+i*5] = Y_Low

Output : Number of touch

```
*****/
```

```
u8 ILI2301S_CoordRead(u8 Slave_Addr, u8 *pReadbuffer)
```

```
{
    u8 RdByte[96];
    u8 i,j;
    u8 Touch_number;

    //Read Touch Reported Number (0x10)
    ILI_CmdRead(Slave_Addr,0x10, 1 , &Touch_number) ;

    for (i=0;i<Touch_number;i++)
    {
        //Read Touch Information Report (0x11)
        ILI_CmdRead(Slave_Addr,0x11, 5 , RdByte) ;

        for ( j=0;j<5;j++)
        {
            pReadbuffer[i*5+j]=RdByte[j];
        }
    }

    return Touch_number;
}
```

```

/*****
u8 ILI2301S_CoordRemap( u8 Touch_number,u8 *pInbuffer , u16 *pOutbuffer)
The function will remapping the RAW touch postion to LCD position.

```

```

Input : Touch_number : Number of the touch
        pInbuffer : Pointer for RAW input data
            pInbuffer[0+i*5] = (bit7) status + (bit5:0) report_ID
            pInbuffer[1+i*5] = X_high
            pInbuffer[2+i*5] = X_Low
            pInbuffer[3+i*5] = y_high
            pInbuffer[4+i*5] = Y_Low

        pOutbuffer : Pointer for Touch LCD position
            pOutbuffer[0+i*3] = (bit7) status + (bit5:0) report_ID
            pOutbuffer[1+i*3] = X position in LCD resolution
            pOutbuffer[2+i*3] = Y position in LCD resolution

```

Output : Number of touch

```

*****/
u8 ILI2301S_CoordRemap( u8 Touch_number,u8 *pInbuffer , u16 *pOutbuffer)
{
    u8 i;
    u32 TPX1,TPY1;

    for (i=0;i<Touch_number;i++)
    {
        // if(pInbuffer[0+5*(i)]==(0x80+(i+1)))
        {
            pOutbuffer[0+3*(i)]=pInbuffer[0+5*(i)]; //pOutbuffer[0]=status

            TPX1=(u32)((u16)(pInbuffer[5*i+1]<<8)+pInbuffer[5*i+2] );
            TPY1=(u32)((u16)(pInbuffer[5*i+3]<<8)+pInbuffer[5*i+4] );
            TPX1*=Current_LCM_ID.LCD_X_Max;
            TPY1*=Current_LCM_ID.LCD_Y_Max;
            TPX1/=RAW_Max_X;
            TPY1/=RAW_Max_Y;

            if (strcmp( Current_LCM_ID.Name, "800600LA1")==0)
            {
                TPX1=800-TPX1;
            }

            pOutbuffer[1+3*(i)]=TPX1; //pOutbuffer[1]=Touch Xi
            pOutbuffer[2+3*(i)]=TPY1; //pOutbuffer[1]=Touch Yi
        }
    }
    return Touch_number;
}

```

```

void ILI_Get_Max_XY(void)
{
    u8 DataBuffer[6];
    if (RAW_flag ==0 )
    {
        ILI_CmdRead(0x41,0x20,6,DataBuffer);
        RAW_Max_X=(u32) ((u16)(DataBuffer[1]<<8)+DataBuffer[0] ); //RAW Touch X Resolution
        RAW_Max_Y=(u32) ((u16)(DataBuffer[3]<<8)+DataBuffer[2] ); //RAW Touch Y Resolution
        RAW_flag=1;
    }
}

```

Example INT function :

```

void ILI2301S_I2C_EXT_INT (void)

```

```

{
    u16 i,j;
    u8 DataBuffer[50];
    u32 TPX1,TPY1,TPX2,TPY2;
    u16 temp;
    u8 Touch_size=4;
    u8 Touch_number;
    u16 count=0;

    /* Read the RAW Touch_Resolution */
    //ILI_CmdRead(0x41,0x20,6,DataBuffer);
    ILI_Get_Max_XY();

    while((ReadINT1())==0 | count <1000)
    {

        Touch_number=ILI2301S_CoordRead(0x41, DataBuffer);
        count++;

        switch (Touch_number)
        {
            case (0):
                menu[currentFocusTest].onOkFun();
                for (i=0;i<10;i++)
                {
                    TPbuffer[i].Previous_X=0xFFFF;
                }
                count=1000;
                break;

            case (1):

                ILI2301S_nTouch_Task(Touch_number,DataBuffer);
                break;

            case (2):
                ILI2301S_nTouch_Task(Touch_number,DataBuffer);
                break;

            case (3):
                ILI2301S_nTouch_Task(Touch_number,DataBuffer);
                break;

            case (4):
                ILI2301S_nTouch_Task(Touch_number,DataBuffer);
                break;

            case (5):

```

```
        ILI2301S_nTouch_Task(Touch_number,DataBuffer);
        break;
    case (6):
        ILI2301S_nTouch_Task(Touch_number,DataBuffer);
        break;
    case (7):
        ILI2301S_nTouch_Task(Touch_number,DataBuffer);
        break;
    case (8):
        ILI2301S_nTouch_Task(Touch_number,DataBuffer);
        break;
    case (9):
        ILI2301S_nTouch_Task(Touch_number,DataBuffer);
        break;
    case (10):
        ILI2301S_nTouch_Task(Touch_number,DataBuffer);
        //menu[currentFocusTest].onOkFun();
        break;

    default:

        break;
}
}
}
```

5. OPTICAL SPECIFICATION

5.1 Optical specification

Item	Symbol	Condition	Values			Unit	Note
			Min.	Typ.	Max.		
Viewing angle	θL	$(CR \geq 10)$	60	70	--	degree	Note1 Note2
	θR		60	70	--		
	θU		60	70	--		
	θD		40	50	--		
Response time	TR	Normal $\theta = \Phi = 0^\circ$	--	5	7	msec	Note3
	TF		--	20	28	msec	
Contrast ratio	CR		400	500	--	--	Note2
Color chromaticity	WX		0.26	0.31	0.36	--	Note1 Note4
	WY		0.28	0.33	0.38	--	
	RX		0.54	0.59	0.64	--	
	RY		0.28	0.33	0.38	--	
	GX		0.29	0.34	0.39	--	
	GY		0.54	0.59	0.64	--	
	BX		0.11	0.16	0.21	--	
	BY	0.05	0.1	0.15	--		
Luminance	L	640	800	--	cd/m ²	Note4	
Luminance uniformity	YU	70	--	--	%	Note5	

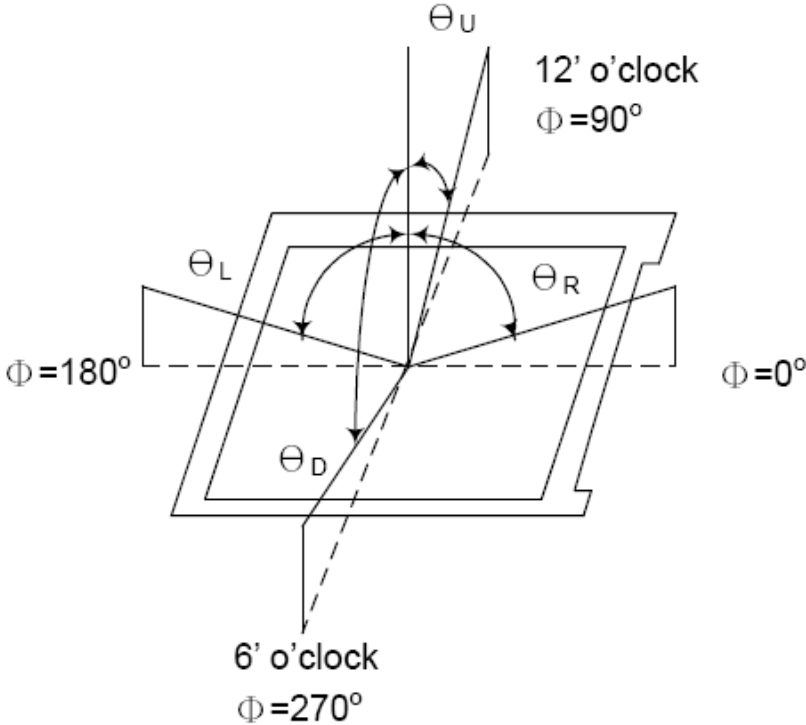
5.2 Measuring Condition

- Measuring surrounding : dark room
- Ambient temperature : 25±2°C
- 15min. warm-up time

Measuring Equipment

The optical characteristics should be measured in dark room. After 30 minutes operation, the optical properties are measured at the center point of the LCD screen. (Response time is measured by Photo detector TOPCON BM-7 of view : 1° / Height : 120mm.)

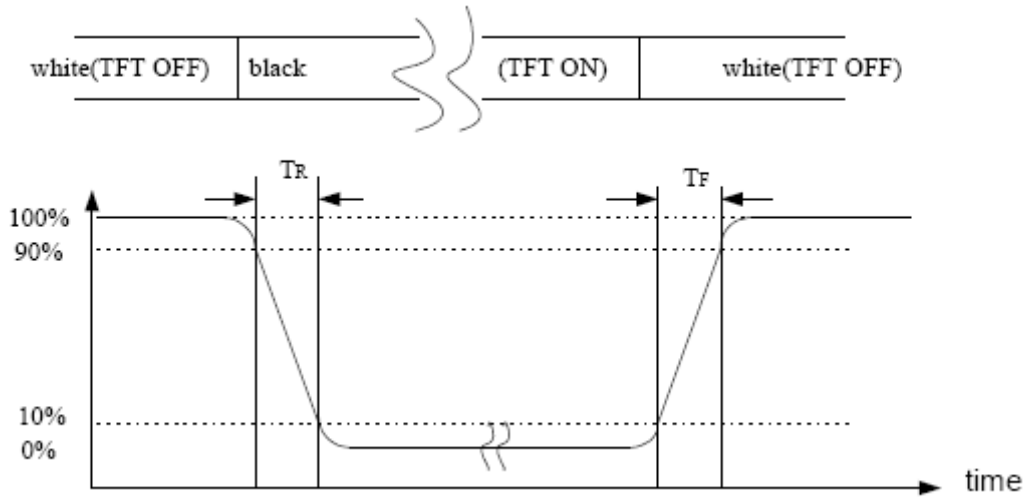
Note 1 : Definition of viewing angle range



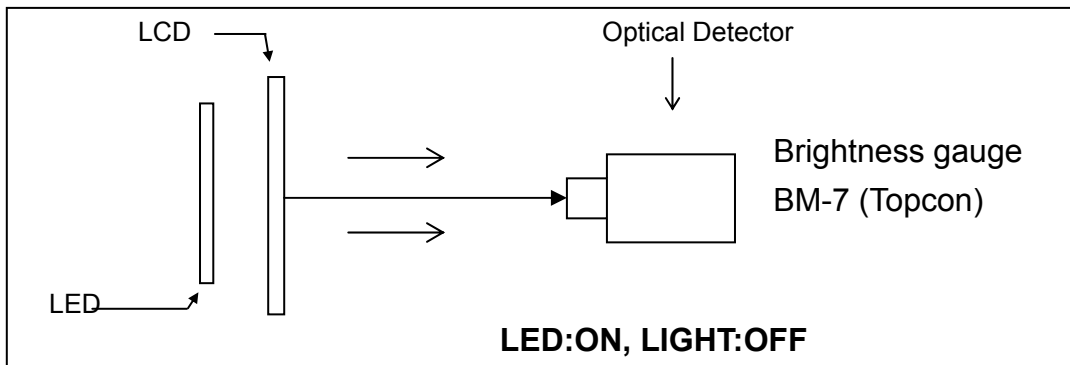
Note 2 : Definition of Contrast Ratio (CR) :
measured at the center point of panel

$$CR = \frac{\text{Luminance with all pixels white}}{\text{Luminance with all pixels black}}$$

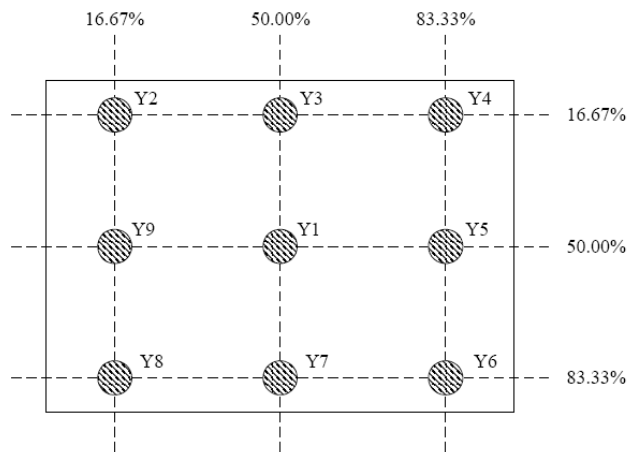
Note 3 : Definition of Response time : Sum of Tr and T



Note 4 : Definition of optical measurement setup



Note 5 : Definition of brightness uniformity



(Min Luminance of 9 points)

$$\text{Luminance uniformity} = \frac{\text{Min Luminance of 9 points}}{\text{Max Luminance of 9 points}} \times 100\%$$

Note 6 : Rubbing Direction (The different Rubbing Direction will cause the different optima view direction)

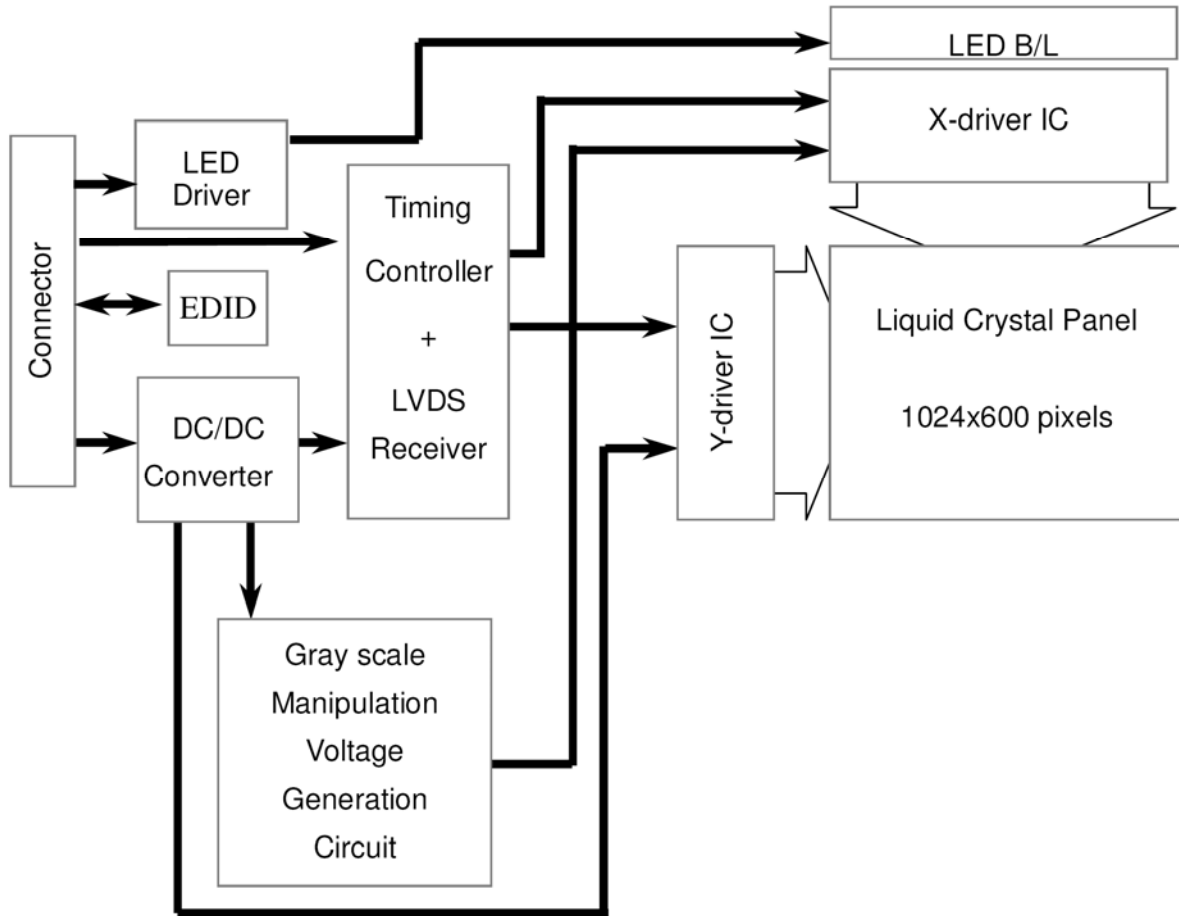
Note 7 : Condition: $T_a=25^{\circ}\text{C}$, Life time is estimated data.

Definitions of failure:

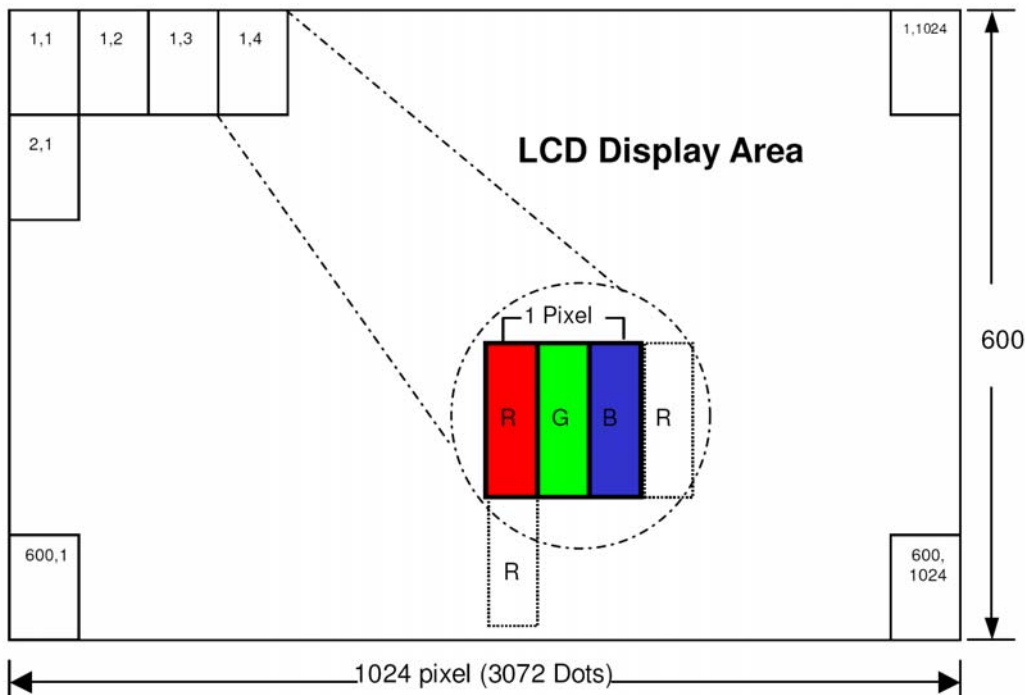
- iii. LCM brightness becomes half of the minimum value.
- iv. LED doesn't light normally.

6. BLOCK DIAGRAM

6.1 TFTLCD Module



6.2 Pixel format



7.INTERFACE

7.1 Electrical Interface Connection

CN1(Input signal): CSTAR DS100-430-H23 (equivalent JAE FI-XB30SSRL-HF16)

Pin No.	Symbol	Description	Note
1	GND	Ground	
2	VDD	3.3V Power	
3	VDD	3.3V Power	
4	V_EDID	3.3V Power for EDID	
5	ADJ	Adjust for LED brightness	Note*
6	CLK_EDID	EDID Clock Input	
7	DATA_EDID	EDID Data Input	
8	RXIN0-	LVDS Signal - channel0-	
9	RXIN0+	LVDS Signal+ channel0+	
10	GND	Ground	
11	RXIN1-	Data Input channel1-	
12	RXIN1+	Data Input channel1+	
13	GND	Ground	
14	RXIN2-	Data Input channel2-	
15	RXIN2+	Data Input channel2+	
16	GND	Ground	
17	RXCLKIN-	Data Input CLK-	
18	RXCLKIN+	Data Input CLK+	
19	GND	Ground	
20	NC	No connection	
21	NC	No connection	
22	GND	Ground	
23	GND	Ground	
24	VLED	VLED Power +5V	

25	VLED	VLED Power +5V	
26	VLED	VLED Power +5V	
27	NC	No connection	
28	NC	No connection	
29	NC	No connection	
30	NC	No connection	

CN2(LED backlight): BHSR-02VS-1 (JST or equivalent)

Pin No.	Symbol	Description	Note
1	A	Anode for LED backlight (+21V, 480mA)	
2	K	Cathode for LED backlight	

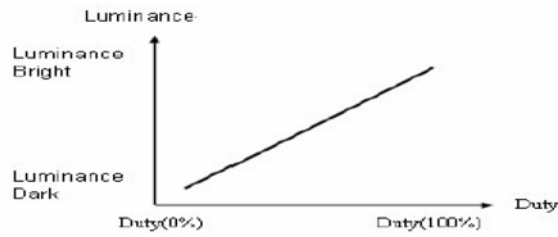
CN2(LED Driver Board): FPHTI-104TTW000(Kingfont or equivalent)

Pin No.	Symbol	Description	Note
1	+12V	Voltage for LED circuit (+12V)	
2	LED_EN	LED BLU ON/OFF	
3	GND	Power ground	
4	PWM	Adjust the LED brightness by PWM	

Note* : The brightness of LCD panel could be changed by adjusting ADJ

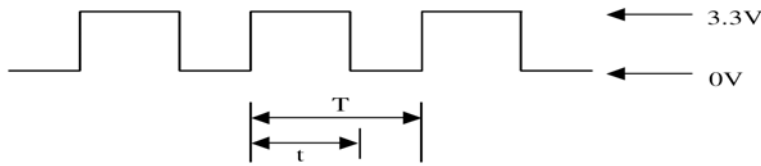
[Note]

(1) ADJ can adjust brightness to control Pin. Pulse duty the bigger the brighter.



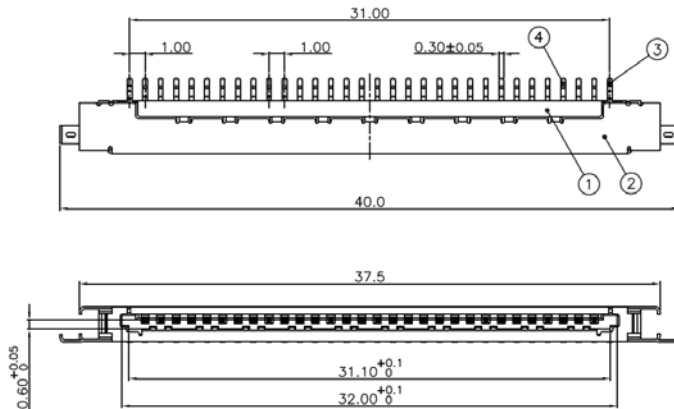
(2) ADJ Signal=0~3.3V · Operation Frequency :

Dimming Range		
PWM Frequency (F)	Duty Cycle (Min.)	Duty Cycle (Max.)
100Hz < F < 500Hz	5%	100%
500Hz < F < 20KHz	10%	100%

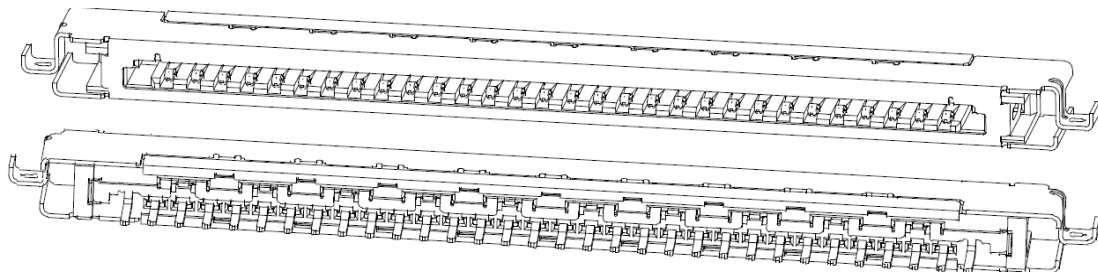


$$\text{Duty Cycle} = t / T * 100\%$$

(3) LVDS Connector : CSTAR DS100-430-H23

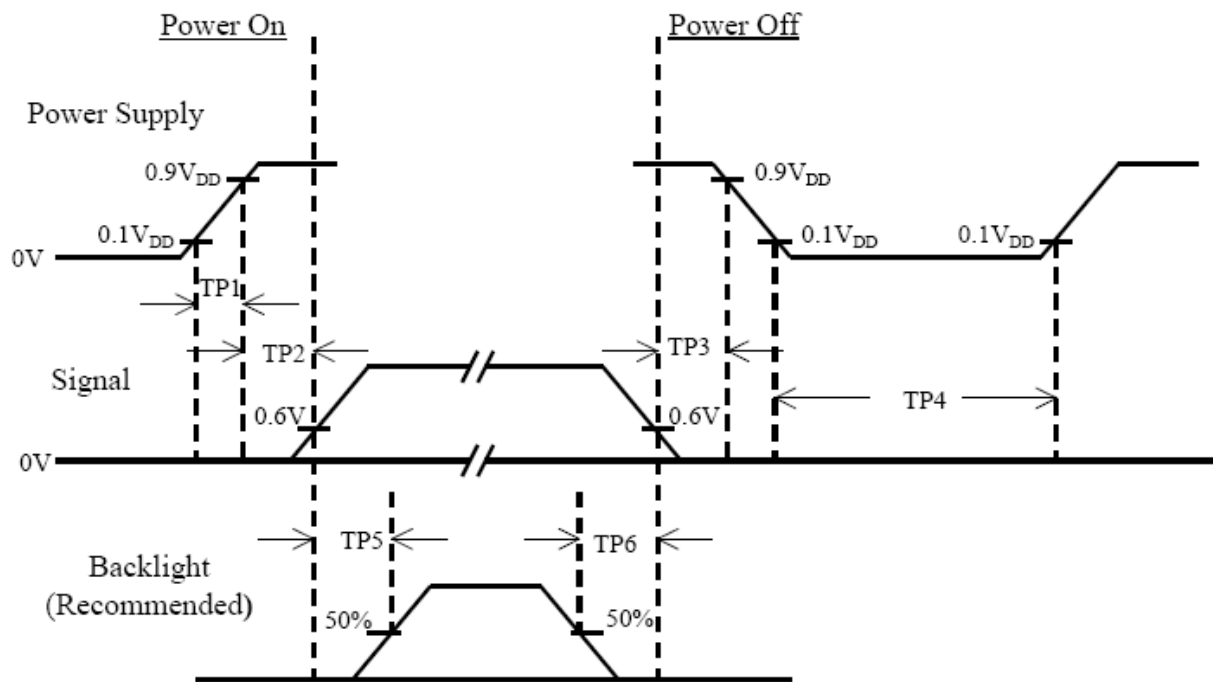


NOTES:
 1.INSULATOR:THERMOPLASTIC;COLOR:BEIGE
 2.CONTACT: COPPER ALLOY t=0.15mm
 PLATING: CONTACT AREA 5u?GOLD,
 SOLDER AREA 80~120u" TIN (LEAD FREE),
 OVERALL WITH 50u?NICKEL UNDER PLATED.
 3.SHELL: STAINLESS t=0.15mm
 PLATING: SOLDER AREA PLATED WITH GOLD FLASH
 4.GROUND: COPPER ALLOY t=0.15mm
 PLATING: TIN(LEAD FREE).
 ELECTRICAL:
 VOLTAGE RATING:200V AC(RMS)/DC
 CURRENT RATING:1A AC(RMS)/DC
 CONTACT RESISTANCE:40mΩ Max.
 INSULATION RESISTANCE:100MΩ Min.
 DIELECTRIC WITHSTANDING VOLTAGE:500V AC(RMS)
 OPERTING TEMPERATURE:-40°C~+80°C



DS100-430-H23
 BOTTOM MOUNT

8. Power On/Off Sequence



Item	Min.	Typ.	Max.	Unit	Remark
TP1	0.5	--	10	msec	
TP2	0	--	50	msec	
TP3	0	--	50	msec	
TP4	500	--	--	msec	
TP5	200	--	--	msec	
TP6	200	--	--	msec	

Note :

- (1) The supply voltage of the external system for the module input should be the same as the definition of VDD.
- (2) Apply the lamp voltage within the LCD operation range. When the back-light turns on before the LCD operation or the LCD turns off before the back-light turns off, the display may momentarily become white.
- (3) In case of VDD = off level, please keep the level of input signal on the low or keep a high impedance.
- (4) TP4 should be measured after the module has been fully discharged between power off and on period.
- (5) Interface signal shall not be kept at high impedance when the power is on.

9. 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
Storage at High Temperature and Humidity	60°C, 90% RH , 240 hrs	1,2
Thermal Shock Test	-20°C (30min) ~ 70°C (30min) 100 cycles	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).

10. HANDLING & CAUTIONS

10-1 Safety

Liquid crystal is poisonous. Do not put it your mouth. If liquid crystal touches your skin or clothes, wash it off immediately by using soap and water.

10-2 Handling

1. The LCD panel is plate glass. Do not subject the panel to mechanical shock or to excessive force on its surface.

2. The polarizer attached to the display is easily damaged. Please handle it carefully to avoid scratch or other damages.

3. To avoid contamination on the display surface, do not touch the module surface with bare hands.

4. Keep a space so that the LCD panels do not touch other components.

5. Put cover board such as acrylic board on the surface of LCD panel to protect panel from damages.

6. Transparent electrodes may be disconnected if you use the LCD panel under environmental conditions where the condensation of dew occurs.

7. Do not leave module in direct sunlight to avoid malfunction of the ICs.

10-3 Static Electricity

1. Be sure to ground module before turning on power or operation module.

2. Do not apply voltage which exceeds the absolute maximum rating value.

10-4 Storage

1. Store the module in a dark room where must keep at $+25\pm 10^{\circ}\text{C}$ and 65%RH or less.

2. Do not store the module in surroundings containing organic solvent or corrosive gas.

3. Store the module in an anti-electrostatic container or bag.

10-5 Cleaning

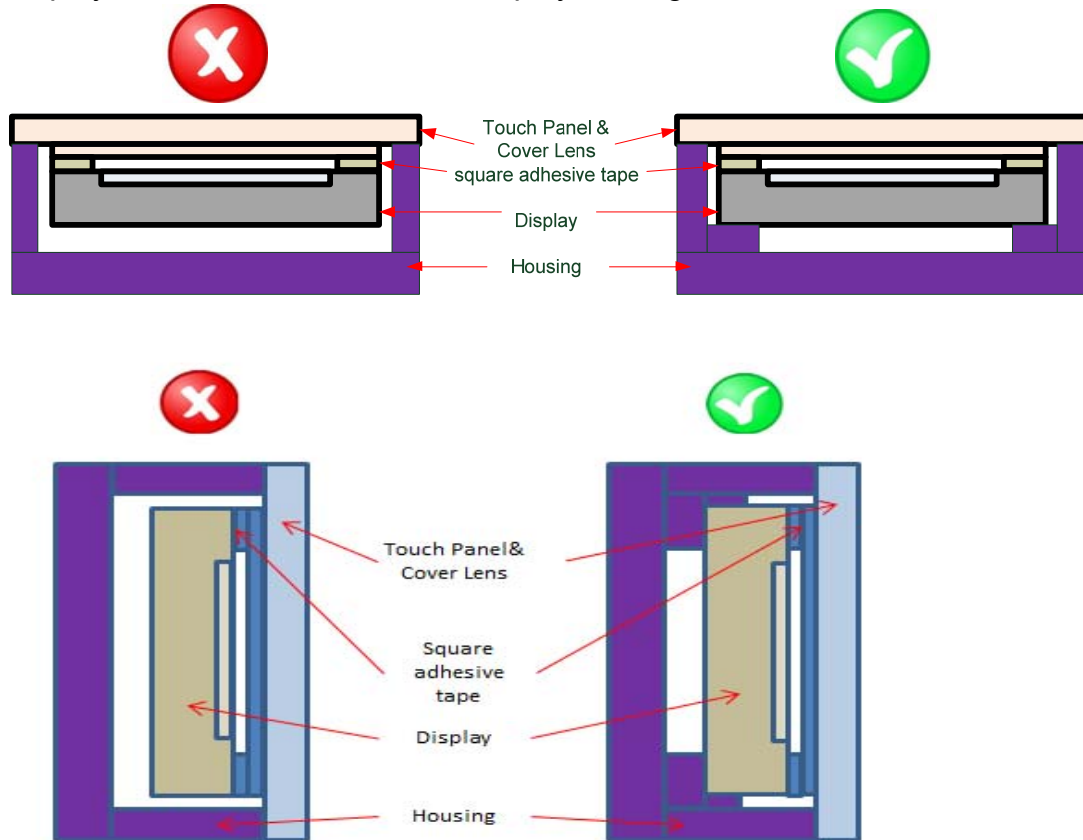
1. Do not wipe the polarizer with dry cloth. It might cause scratch.

2. Only use a soft sloth with IPA to wipe the polarizer, other chemicals might permanent damage to the polarizer.

10-6 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.



10-7 Others

1. AMIPRE will provide one year warranty for all products and three months warranty for all repairing products.
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

11. OUTLINE DIMENSION

REV. REVISION RECORD		DATE NAME	
0	NEW RELEASE	01-19-17	EMILY

1	GND	16	GND
2	VDD	17	RXCLKIN-
3	VDD	18	RXCLKIN+
4	V-EDID	19	GND
5	NC	20	NC
6	CLK_EDID	21	NC
7	DATA_EDID	22	GND
8	RXIN0-	23	GND
9	RXIN0+	24	NC
10	GND	25	NC
11	RXIN1-	26	NC
12	RXIN1+	27	NC
13	GND	28	NC
14	RXIN2-	29	NC
15	RXIN2+	30	NC

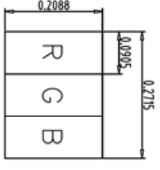
Note:

1. Unless indicated, Tolerance "±0.3"
2. UV Glue For OLB Protection.
3. CN1: P0.5 60Pin/CSF-4282-601R or Equivalent
4. CN2: P1.0 30Pin/DS100-430-H23 or Equivalent
5. CN3: BHSR-02VS-1 or Equivalent

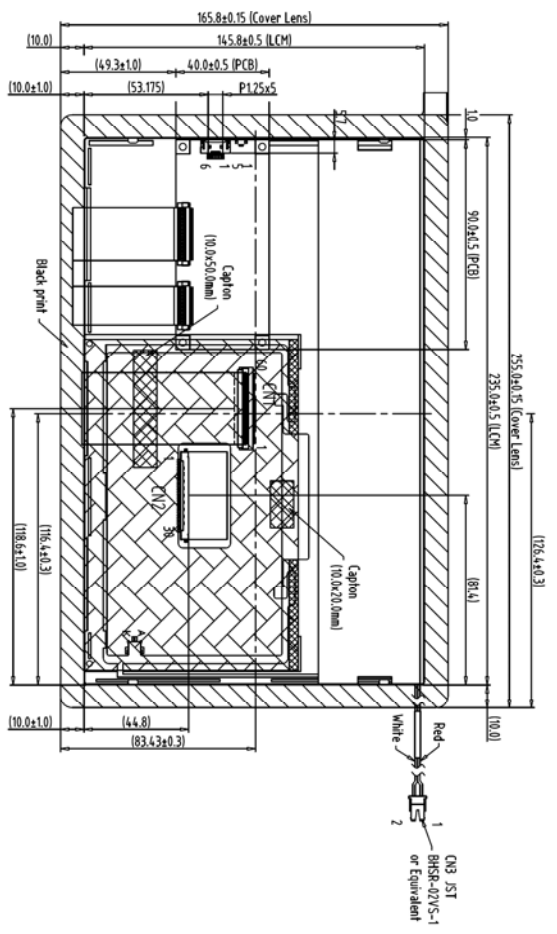
12C interface:

1	PWR
2	SCL
3	SDA
4	/INT
5	GND
6	GND

1	1024600L2TMQW-01H LCM	7			TOLERANCE GRADE(±)	A	B	DIM.		DWG.	EMILY	DATE		
2	1024600LD-T CTP (1791024620)	8						FE NO.	MM	CHK.		DATE	TITLE	
3	2810246012 (UL 2511)	9						PARTS NO. LCM		APPD.		DATE	晶采光电科技	
4	12C interface	10						1024600LE-171				DATE	1024600LE-171	
5		11										DATE	DWG. NO. *17015SMA	
6		12										DATE	SHEET 1 OF 1	



1	GND	16	GND
2	VDD	17	RXCCLKIN-
3	VDD	18	RXCCLKIN+
4	V-EDID	19	GND
5	NC	20	NC
6	CLK_EDID	21	NC
7	DATA_EDID	22	GND
8	RXIND-	23	GND
9	RXIND+	24	NC
10	GND	25	NC
11	RXIN1-	26	NC
12	RXIN1+	27	NC
13	GND	28	NC
14	RXIN2-	29	NC
15	RXIN2+	30	NC



Note:
 1. Unless indicated, Tolerance "±0.3"

2. UV Glue For OLB Protection.
3. CN1:PO.5 60Pin/CSF-4282-601R or Equivalent
4. CN2:P1.0 30Pin/DS100-430-H23 or Equivalent
5. CN3:BHSR-02VS-1 or Equivalent

I2C interface:

1	PWR
2	SCL
3	SDA
4	/INT
5	GND
6	GND

1	1024600L2TMQW-01H LCM	7		TOLERANCE GRADE(±)	A	B	DIM. MK	DWN. EMILY	DATE	01-19-17		
2	1024600LD-T CTP (1791024620)	8						CHK.	DATE			
3	2810246012 (IL 2511)	9										
4	I2C interface	10										
5		11										
6		12										
PARTS NO. LCM-1										APPD.		
1024600LE-171												
DWG. NO. *170156MA										SHEET	1	OP 1

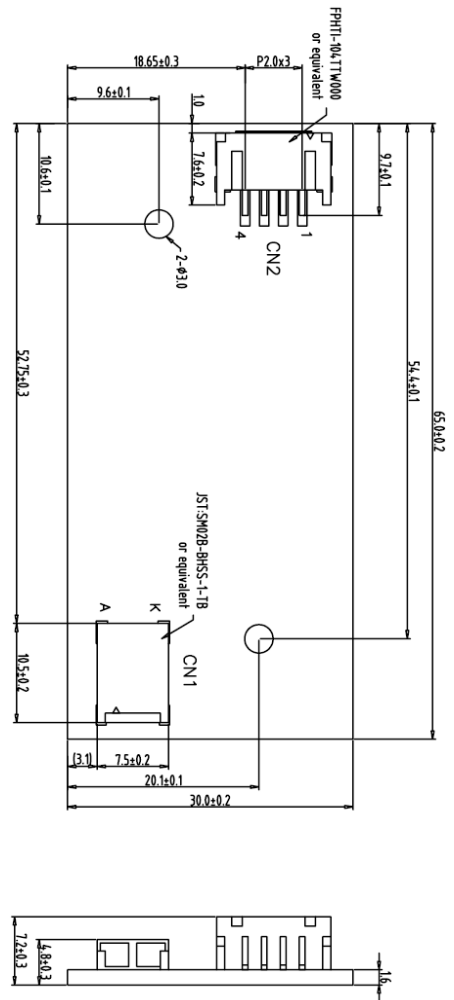


OUTLINE DIMENSION (LED driver)

LED Driver Board

1	+12V
2	LED_EN
3	GND
4	PWM

Note:
 1. Unless indicated, Tolerance Grade "B" is adopted.
 2. UV Glue For OLB Protection.



1	TFT-1024600-11-0	7								
2		8								
3		9								
4		10								
5		11								
6		12								
		TOLERANCE GRADE(F)		A	B	DIM.	DWN.	DATE		
		~6		0.05	0.1	MM	EMILY	12-23-10		
		6~18		0.08	0.18	JE NO.	CHK.	DATE		
		18~50		0.1	0.28					
		50~180		0.2	0.4	PARTS NO./LCM-2 APPD.				
		180~		0.3	0.5	1024600B2		DATE		

REV	REVISION RECORD	DATE	NAME
0	NEW RELEASE	12-23-10	EMILY
1	Added Dimensions	01-07-11	EMILY
2	TFT-1024600-11-0 Rename to 1024600B2-01	01-11-11	EMILY

AMPRE 晶采光電科技
 AMPRE
 晶采光電科技
 適用品號

2	
1	AM-1024600B2TMOW-01H

TITLE	
1024600B2	
(10.1")	
DWG. NO.	SHEET 1 OF 1
*101272MA	

12. EDID TABLE

EDID Table of 1024600L

Byte# (Decimal)	Byte# (HEX)	Field Name & Comments	Value (HEX)	Value (BIN)	Value (DEC)
0	00	Header	00	00000000	0
1	01	Header	FF	11111111	255
2	02	Header	FF	11111111	255
3	03	Header	FF	11111111	255
4	04	Header	FF	11111111	255
5	05	Header	FF	11111111	255
6	06	Header	FF	11111111	255
7	07	Header	00	00000000	0
8	08	ISA Manufacture Code LSB(3 character ID = AM#	05	00000101	5
9	09	Compressed ASCII	B0	10110000	176
10	0A	Product Code "1001"	60	01100000	96
11	0B	Hex, LSB first	12	00010010	18
12	0C	LCD module Serial No-Preferred but Optional	58	01011000	88
13	0D	LCD module Serial No-Preferred but Optional	A2	10100010	162
14	0E	LCD module Serial No-Preferred but Optional	0F	00001111	15
15	0F	LCD module Serial No-Preferred but Optional	00	00000000	0
16	10	Week of manufacture=25	19	00011001	25
17	11	Year of manufacture=2012	16	00010110	22
18	12	EDID Structure Version#=1	01	00000001	1
19	13	EDID revision#=3	03	00000011	3
20	14	Video input definition=Digital input, CRGB	80	10000000	128
21	15	Max H image size=22cm	16	00010110	22
22	16	Max V image size=13cm	0D	00001101	13
23	17	Display Gamma=2.2	78	01111000	120
24	18	Feature support(DPMS)=Active off, RGB color	0A	00001010	10
25	19	Red/green low bits(10000110)	86	10000110	134
26	1A	Blue/white low bits(00100110)	26	00100110	38
27	1B	Red x, Red x=0.592	97	10010111	151
28	1C	Red y, Red y=0.340	57	01010111	87
29	1D	Green x, Green x=0.341	57	01010111	87
30	1E	Green y, Green y=0.592	97	10010111	151
31	1F	Blue x, Blue x=0.156	28	00101000	40
32	20	Blue y, Blue y=0.127	20	00100000	32
33	21	White x, White x=0.321	52	01010010	82
34	22	White y, White y=0.33	54	01010100	84
35	23	Established timing 1	00	00000000	0
36	24	Established timing 2	00	00000000	0
37	25	Manufacturer's timings	00	00000000	0
38	26	Standard timing#1 was not used	01	00000001	1
39	27		01	00000001	1
40	28	Standard timing#2 was not used	01	00000001	1
41	29		01	00000001	1
42	2A	Standard timing#3 was not used	01	00000001	1
43	2B		01	00000001	1
44	2C	Standard timing#4 was not used	01	00000001	1
45	2D		01	00000001	1
46	2E	Standard timing#5 was not used	01	00000001	1
47	2F		01	00000001	1
48	30	Standard timing#6 was not used	01	00000001	1
49	31		01	00000001	1
50	32	Standard timing#7 was not used	01	00000001	1
51	33		01	00000001	1
52	34	Standard timing#8 was not used	01	00000001	1
53	35		01	00000001	1
54	36	Detailed timing/monitor(descriptor#1)	00	00000000	0
55	37	1024×600@60Hz: Pixel Clock=51.2MHz	14	00010100	20
56	38	Horizontal active= 1024 pixels (L8b)	00	00000000	0
57	39	Horizontal blanking= 320 pixels (L8b)	40	01000000	64

58	3A	HA(U4b): HB(U4b)	41	01000001	65
59	3B	Vertical active= 600 lines (L8b)	58	01011000	88
60	3C	Vertical blanking= 35 lines (L8b)	23	00100011	35
61	3D	HA(U4b): HB(U4b)	20	00100000	32
62	3E	H sync. Offset=53 pixels	35	00110101	53
63	3F	H sync. Width=35 pixels	23	00100011	35
64	40	V sync. Offset=4 lines	45	01000101	69
65	41	V sync. Width=5 lines	00	00000000	0
66	42	H image size= 220 mm (L8b)	DC	11011100	220
67	43	V image size= 129 mm (L8b)	81	10000001	129
68	44	Horizontal Image (U4b): Vertical Image (U4b)	00	00000000	0
69	45	No Horizontal Border=0	00	00000000	0
70	46	No Vertical Border=0	00	00000000	0
71	47	Non-interlaced, Normal display, No stereo, Digital separate sync, H/V pol Negatives	19	00011001	25
72	48	Detailed timing/monitor(descriptor#2)	44	01000100	68
73	49	1024×600 @65Hz: Pixel Clock= 57MHz	16	00010110	22
74	4A	Horizontal active= 1024 pixels (L8b)	00	00000000	0
75	4B	Horizontal blanking= 340 pixels (L8b)	54	01010100	84
76	4C	HA(U4b): HB(U4b)	41	01000001	65
77	4D	Vertical active= 600 lines (L8b)	58	01011000	88
78	4E	Vertical blanking= 45 lines (L8b)	2D	00101101	45
79	4F	HA(U4b): HB(U4b)	20	00100000	32
80	50	H sync. Offset=93 pixels	5D	01011101	93
81	51	H sync. Width=35 pixels	23	00100011	35
82	52	V sync. Offset=17 lines	15	00010101	21
83	53	V sync. Width=5 lines	04	00000100	4
84	54	H image size= 220 mm (L8b)	DC	11011100	220
85	55	V image size= 129 mm (L8b)	81	10000001	129
86	56	Horizontal Image (U4b): Vertical Image (U4b)	00	00000000	0
87	57	No Horizontal Border=0	00	00000000	0
88	58	No Vertical Border=0	00	00000000	0
89	59	EDID Module revision	00	00000000	0
90	5A	Flag	00	00000000	0
91	5B	Flag	00	00000000	0
92	5C	Flag	00	00000000	0
93	5D	Dummy Descriptor	FE	11111110	254
94	5E	Flag	00	00000000	0
95	5F	PC Maker P/N 1st Character =M	00	00000000	0
96	60	PC Maker P/N 2nd Character =3	00	00000000	0
97	61	PC Maker P/N 3rd Character =4	00	00000000	0
98	62	PC Maker P/N 4th Character =9	00	00000000	0
99	63	PC Maker P/N 5th Character =5	00	00000000	0
100	64	LCD Supplier EEDID Revision # = 1.0	00	00000000	0
101	65	Manufacture P/N = 1	00	00000000	0
102	66	Manufacture P/N = 5	00	00000000	0
103	67	Manufacture P/N = P	00	00000000	0
104	68	Manufacture P/N = X	00	00000000	0
105	69	Manufacture P/N = 1	00	00000000	0
106	6A	Manufacture P/N = 4	00	00000000	0
107	6B	Manufacture P/N(If<13 char, then terminate with ASCII code, set remaining=20h)	00	00000000	0
108	6C	Flag	00	00000000	0
109	6D	Flag	00	00000000	0
110	6E	Flag	00	00000000	0
111	6F	Data Type Tag	FE	11111110	254
112	70	Flag	00	00000000	0
113	71	SMBUS Value = 20 nit	00	00000000	0
114	72	SMBUS Value = 28 nit	00	00000000	0
115	73	SMBUS Value = 40 nit	00	00000000	0
116	74	SMBUS Value = 56 nit	00	00000000	0

117	75	SMBUS Value = 79 nit	00	00000000	0
118	76	SMBUS Value = 111 nit	00	00000000	0
119	77	SMBUS Value = 156 nit	00	00000000	0
120	78	SMBUS Value = max nit	00	00000000	0
121	79	Number of LVDS channels=1	01	00000001	1
122	7A	Panel Self Test (00-Not Present, 01-Present)	00	00000000	0
123	7B	(If<13 char, then terminate with ASCII code 0Ah, set remaining char=20h)	00	00000000	0
124	7C	(If<13 char, then terminate with ASCII code 0Ah, set remaining char=20h)	00	00000000	0
125	7D	(If<13 char, then terminate with ASCII code 0Ah, set remaining char=20h)	00	00000000	0
126	7E	Extension Flag = 00	00	00000000	0
127	7F	Checksum	2E	00101110	46