



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-1024600H4TMQW-T50H
APPROVED BY	
DATE	

Preliminary Specification

Formal Specification

AMPIRE CO., LTD.

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RECORD OF REVISION

Revision Date	Page	Contents	Editor
2019/12/16	-	New Release	Tank

1. GENERAL DESCRIPTION

1.1 Introduction

This is a color active matrix thin film transistor (TFT) liquid crystal display (LCD) that uses amorphous silicon TFT as a switching device. This model is composed of a TFT LCD panel, a driving circuit and a back light system. This TFT LCD has a 10.1 (16:9) inch diagonally measured active display area with WVGA (1024 horizontal by 600 vertical pixels) resolution.

1.2 Features

- 10.1" (16:9 diagonal) Inch configuration.
- 16.2M color by 6 bit +Hi-FRC input
- 1024600L3 REV.C PCB with DC/DC
- External LED Driver Board
- Projective Capacitive Touch
 - Interface : I2C
 - Touch Controller: ILI2511
 - Cover Lens :
 - ◆ Tempered Soda Lime Glass : T=1.0mm
 - ◆ Black border (Pantone :Black)

1.3 General information

Item	Specifications	unit
Outline Dimension	255.0 x 165.8 x 10.67	mm
Display area	222.72(H) x 125.28(V)	mm
Number of Pixel	1024 RGB (H) x 600(V)	Pixels
Pixel pitch	0.2175(H) x 0.2088(V)	mm
Pixel arrangement	RGB Vertical stripe	
Display mode	Normally white	
Back-light	White LED	

2. ABSOLUTE MAXIMUM RATINGS

2.1 Electrical Absolute Rating

2.1.1 TFT LCD Module

Item	Symbol	Values		UNIT	Note
		Min.	Max.		
LED driver 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	

2.1.2 Backlight unit

Item	Symbol	Typ.	Max.	Unit	Note
LED current	I _L	140	-	mA	(1) (2)(3)
LED voltage	V _L	19.2	20.4	V	(1) (2)(3)
LED reverse voltage	V _R	--	5	V	
LED forward current	I _F		20	mA	

Note:

(1) Permanent damage may occur to the LCD module if beyond this specification.

Functional operation should be restricted to the conditions described under normal operating conditions.

(2) T_a = 25±2°C

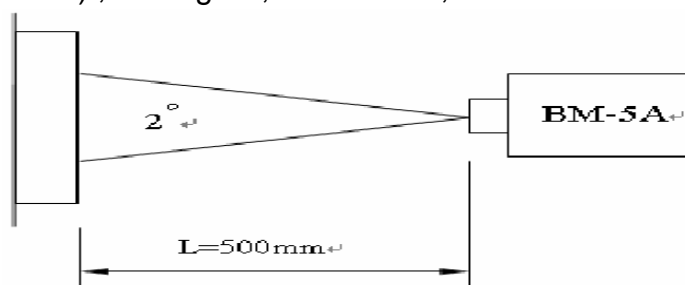
(3) Test Condition: LED current 140 mA. The LED lifetime could be decreased if operating I_L is larger than 140mA.

3. OPTICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Note	
Contrast ratio	CR	Point - 5 $\Theta = \Phi = 0^\circ$	400	500	--	--	(1)(2)(3)	
Luminance	Lw		320	400	-	cd/m ²	(1)(3)	
Luminance Uniformity	ΔL		70	80	-	%	(1)(3)	
Response Time (White – Black)	$T_r + T_f$		--	16	32	ms	(1)(3)(5)	
Viewing Angle	Vertical	Θ	$CR \geq 10$ Point - 5	120	150	-	Deg.	(1)(2)(4)
	Horizontal	Φ		130	160	-		
Color chromaticity	Red	Rx	Point - 5 $\Theta = \Phi = 0^\circ$	0.555	0.605	0.655	--	(1)(3)
		Ry		0.277	0.327	0.377		
	Green	Gx		0.236	0.286	0.336		
		Gy		0.476	0.526	0.576		
	Blue	Bx		0.100	0.150	0.200		
		By		0.095	0.145	0.195		
	White	Wx		0.263	0.313	0.363		
		Wy		0.279	0.329	0.379		

NOTE :

- (1) Measure conditions : $25^\circ\text{C} \pm 2^\circ\text{C}$, $60 \pm 10\% \text{RH}$ under 10Lux , in the dark room by BM-7TOPCON) , viewing 2° , VCC=3.3V , VDD=3.3V



- (2) Definition of Contrast Ratio :

$$\text{Contrast Ratio (CR)} = (\text{White}) \text{ Luminance of ON} \div (\text{Black}) \text{ Luminance of OFF}$$

- (3) Definition of Luminance :

Definition of Luminance Uniformity

Measure white luminance on the point 5 as figure9-1

Measure white luminance on the point 1 ~ 9 as figure9-1

$$\Delta L = [L(\text{MIN}) / L(\text{MAX})] \times 100\%$$

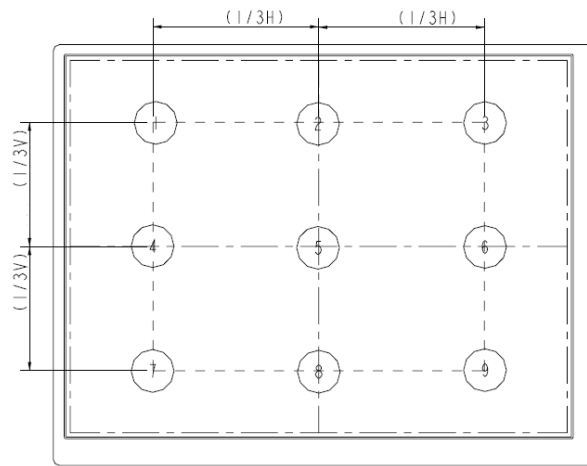


Fig9-1 Measuring point

(4) Definition of Viewing Angle(Θ, Φ), refer to Fig9-2 as below :

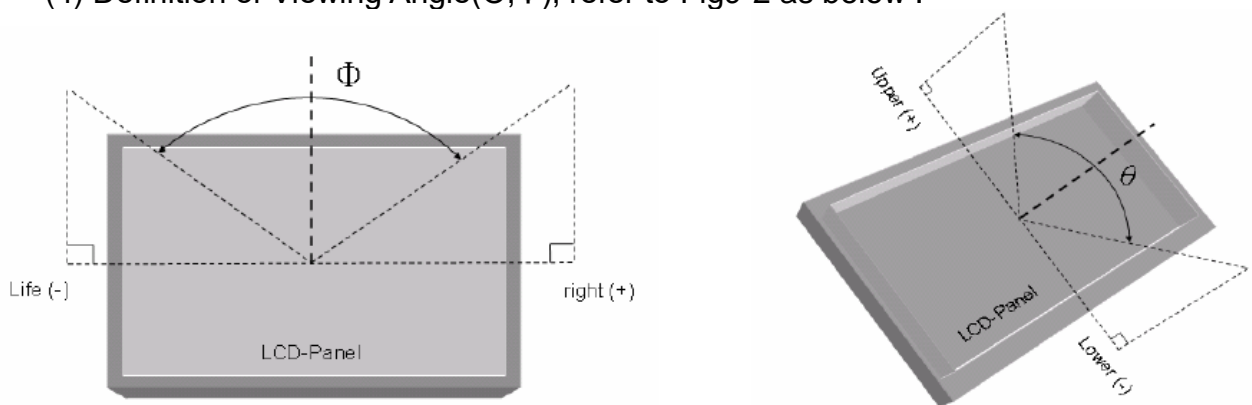


Fig9-2 Definition of Viewing Angle

(5) Definition of Response Time.(White – Black)

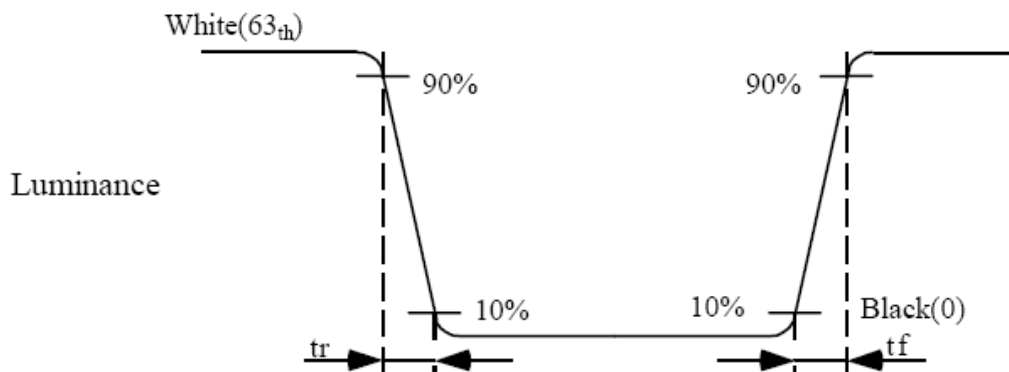


Fig9-3 Definition of Response Time(White-Black)

(6) End of Life shall be determined by the time when any of the following is satisfied under continuous lighting at 25°C

- Intensity drops to 50% of the Initial Value (Min. Luminance)
- Based on LED
- It is an estimative value

4. Pin Definition

4.1 TFT Module

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	NC	No connection	
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	NC	No connection	
25	NC	No connection	

26	NC	No connection	
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	
2	K	Cathode for LED backlight	

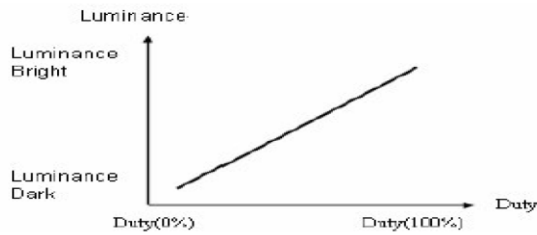
CN2(LED Driver Board): FPHTI-104TTW000(Kingfont or equivalent)

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

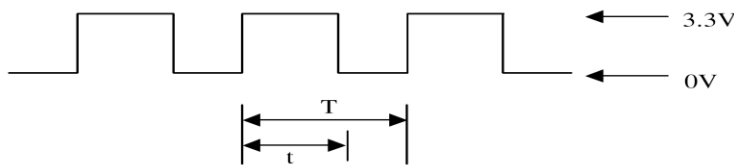
[Note]

(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%



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

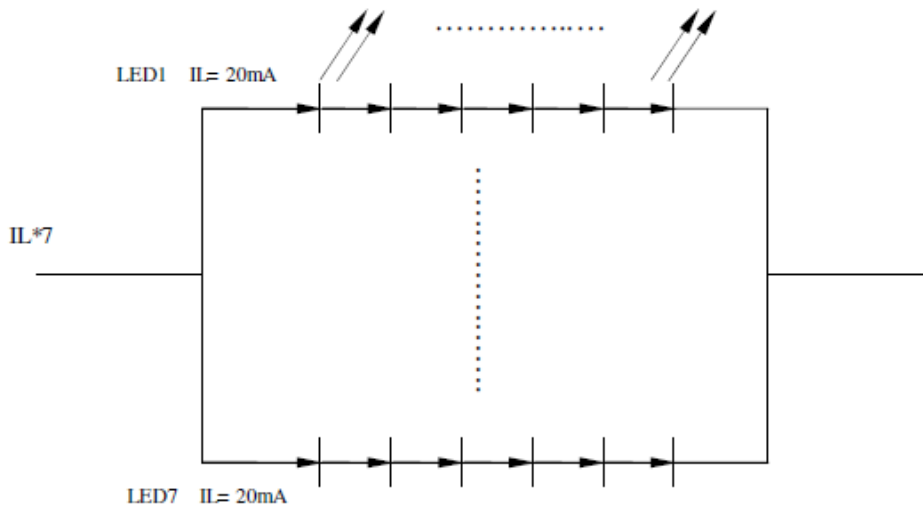
5 Back-Light Unit

Item	Symbol	Values			Unit	Note
		Min.	Typ.	Max.		
LED Driver voltage	VLED	9	12	15	V	
Power Supply Current For LED Driver	ILED	-	330	-	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	20.4	V	I _L =140mA T _a =25°C
LED current	I _L	--	140	--	mA	Note (1)
LED Life Time	-	20K	30K	--	Hour	Note (2)

Note (1) LED life time (Hr) can be defined as the time in which it continues to operate under the condition: T_a=25±3 °C, typical I_L value indicated in the above table until the brightness becomes less than 50%.

Note (2) The “LED life time” is defined as the module brightness decrease to 50% original brightness at T_a=25°C and I_L=140mA. The LED lifetime could be decreased if operating I_L is larger than 140mA. The constant current driving method is suggested.

Note (3) LED Light Bar Circuit



6 ELECTRICAL CHARACTERISTICS

6.1 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	9.0	12.0	15.0	V	
LED driver current of power supply	ILED	-	330		mA	VLED=12V ADJ=100%

Note 1: VDD-dip condition :

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

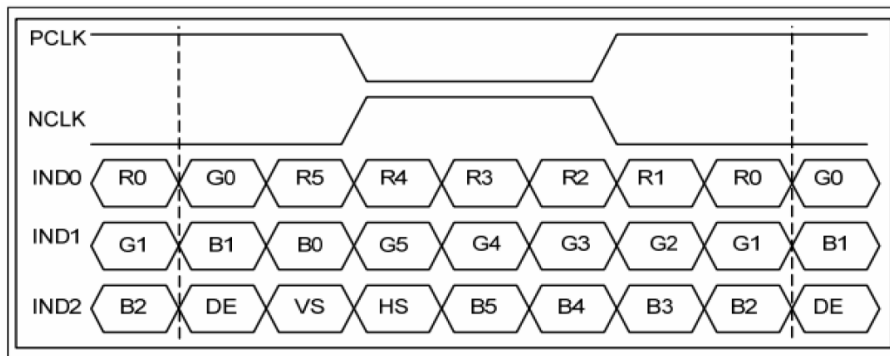
$VDD > 3.0V$, VDD-dip condition should be same as VDD-turn-con condition.

6.2 Switching Characteristics for LVDS Receiver

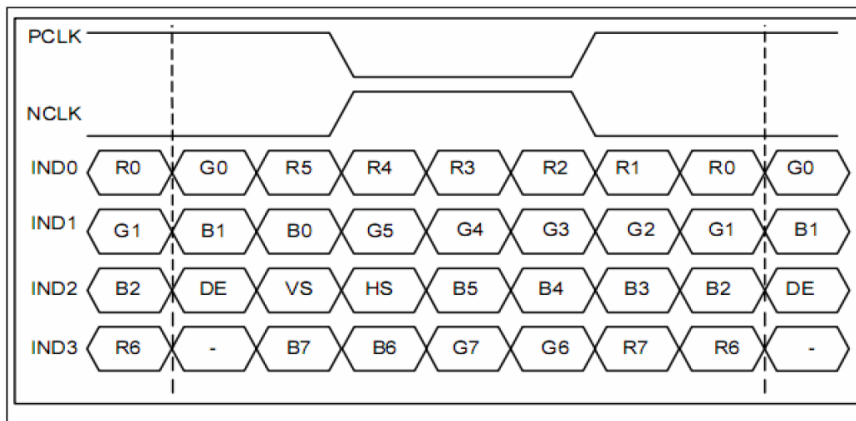
Item	Symbol	Min.	Typ.	Max.	Unit	Conditions
Differential Input High Threshold	V _{th}	—	—	100	mV	V _{CM} =1.2V
Differential Input Low Threshold	V _{tl}	-100	—	—	mV	
Input Current Differential input Voltage	I _{IN}	-10	—	+10	uA	
	V _{ID}	0.1	—	0.6	V	
Common Mode Voltage Offset	V _{CM}	0.7	1.2	1.6	V	

6.3 Bit LVDS input

6.3.1 6bit LVDS input



6.3.2 8Bit LVDS input

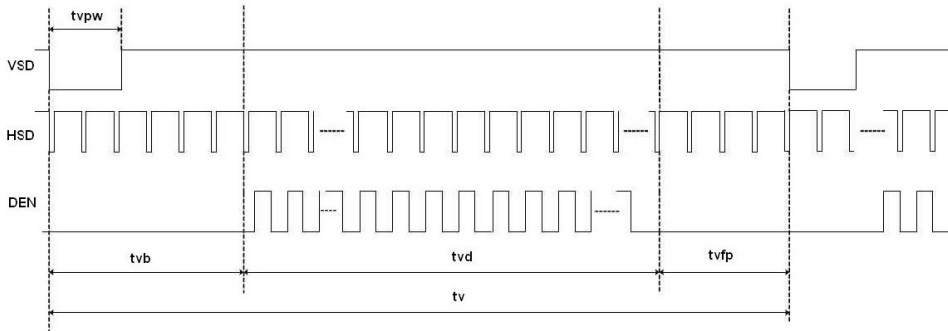


6.4 Interface Timing (DE mode)

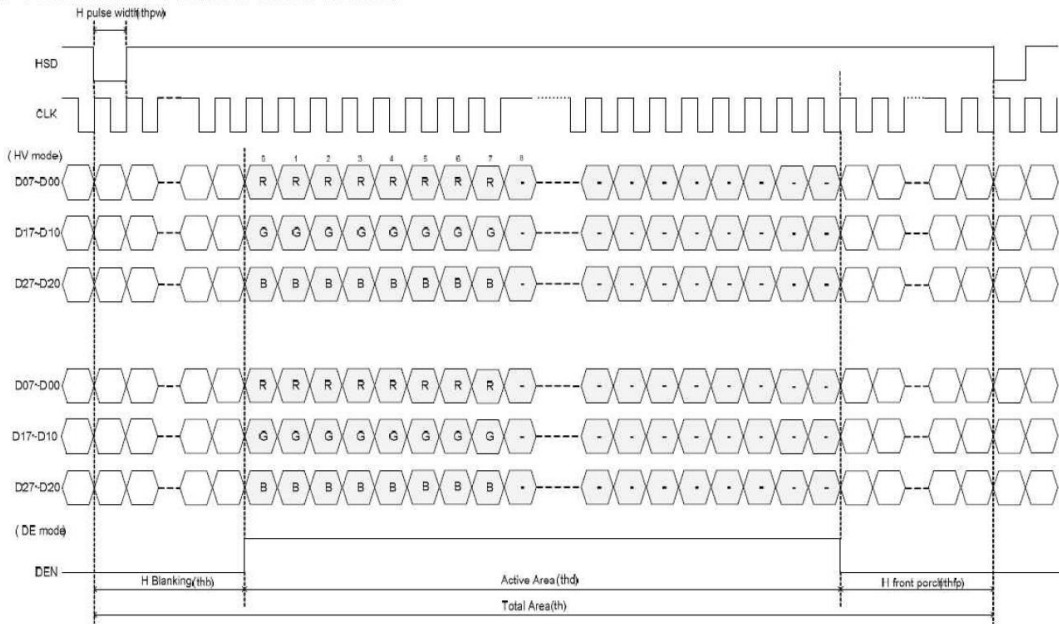
Item	Symbol	Min.	Typ.	Max.	Unit
Frame Rate	--	55	60	65	Hz
Frame Period	t1	610	635	800	line
Vertical Display Time	t2	600	600	600	line
Vertical Blanking Time	t3	10	35	200	line
1 Line Scanning Time	t4	1164	1344	1400	clock
Horizontal Display Time	t5	1024	1024	1024	clock
Horizontal Blanking Time	t6	140	320	376	clock
Clock Rate	t7	42.6	51.2	72.8	MHz

Timing Diagram of Interface Signal (DE mode)

(1) Vertical input timing



(2) Horizontal Vertical input timing



7 Touch Panel Unit

Basic Characteristic

ITEM	SPECIFICATION
Interface Type	Projective Capacitive Multi-Touch Panel
Activation	Two-fingers or Single-finger
X/Y Position Reporting	Absolute Position
Touch Force	No contact pressure required
Calibration	No need for calibration
Report Rate	Approx. 80 points/sec
Interface	I2C
Control IC	ILI2511
Protocol	V3.X

7.1 Optical Characteristic

ITEM	SPECIFICATION
Transmittance	80% (min)

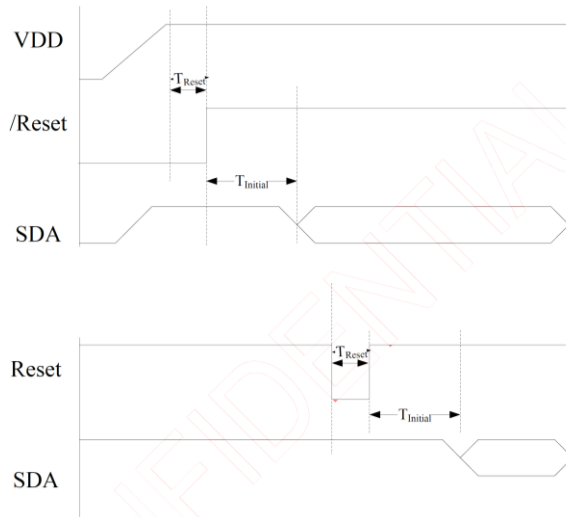
7.2 ELECTRICAL CHARACTERISTICS

ITEM	SPECIFICATION
I2C Interface	Power & signal Input 3.3V

7.3 Interface

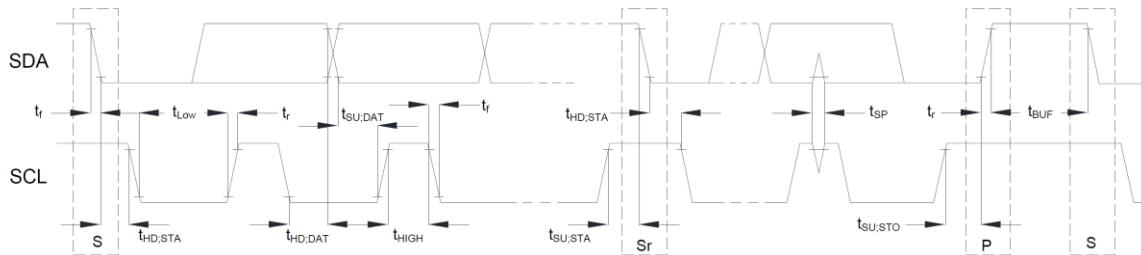
Pin	Name	Description
1	GND	GND
2	SDA	I2C Data
3	SCL	I2C Clock
4	VDD	Power 3.3V
5	/INT	Interrupt Request pin
6	/RES	Reset touch panel controller, active low

7.4 Power- on Timing Chart



Symbol	Parameter	MIN.	MAX.	Unit
$T_{Initial}$	After powering-on or resetting the device, the device needs $T_{Initial}$ time to configure the system.	-	100	ms
T_{Reset}	/Reset pin low hold time	50	-	μ s

7.5 I2C AC Waveform



7.6 I2C Characteristics

Symbol	Parameter	100KHz			400KHz		
		Min	Max	Unit	Min	Max	Unit
f _{SCL}	SCL clock frequency	0	100	kHz	0	400	KHz
t _{HD,STA}	Hold time (repeated) START condition. After this period, the first clock pulse is generated	4.0	–	μs	0.6	–	μs
t _{LOW}	LOW period of the SCL clock	4.7	–	μs	1.3	–	μs
t _{HIGH}	HIGH period of the SCL clock	4.0	–	μs	0.6	–	μs
t _{SU,STA}	Set-up time for a repeated START condition	4.7	–	μs	0.6	–	μs
t _{HD,DAT}	Data hold time	0	3.45	μs	0	0.9	μs
t _{SU,DAT}	Data set-up time	250	–	ns	100	–	ns
t _r	Rise time of both SDA and SCL signals	–	1000	ns	–	300	ns
t _f	Fall time of both SDA and SCL signals	–	300	ns	–	300	ns
t _{SU,STO}	Set-up time for STOP condition	4.0	–	μs	0.6	–	μs
t _{BUF}	Bus free time between a STOP and START condition	4.7	–	μs	1.3	–	μs

7.7 Device Address

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

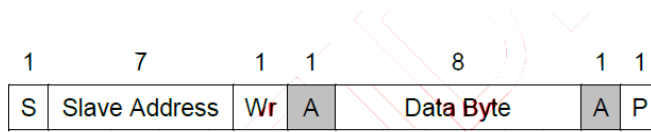
7-bit Device Address: 0x41

8-bit Device Read Address: 0x83

8-bit Device Write Address: 0x82

7.8 Data Transfer

Data is transferred over the I2C bus with 8-bit address and 8-bit data.



S Start Condition


Sr Repeated Start Condition


Rd Read (bit value of 1)


Wr Write (bit value of 0)

A/NA Acknowledge (this bit position may be '0' for an ACK or '1' for a NACK)

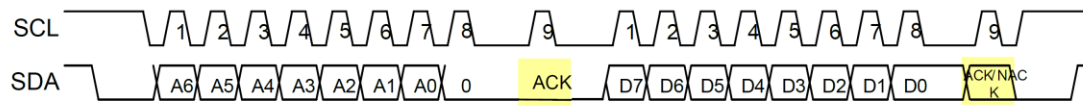
P Stop Condition

 Master-to-Slave

 Slave-to-Master

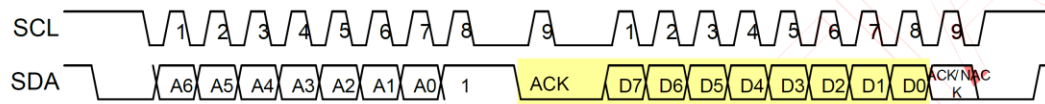
 Continue

I2C Write timing



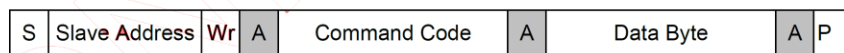
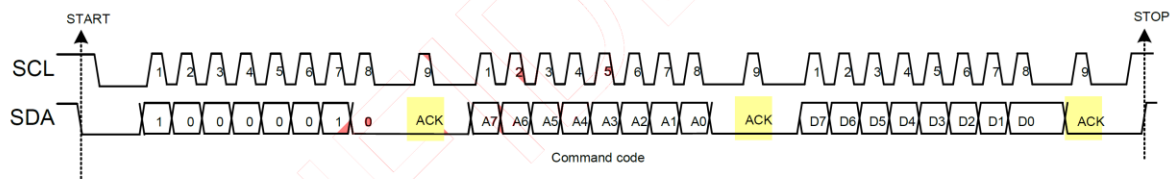
 => slave to master

I2C Read timing



 => slave to master

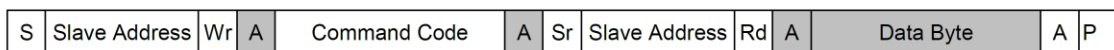
Byte Write



Byte Write

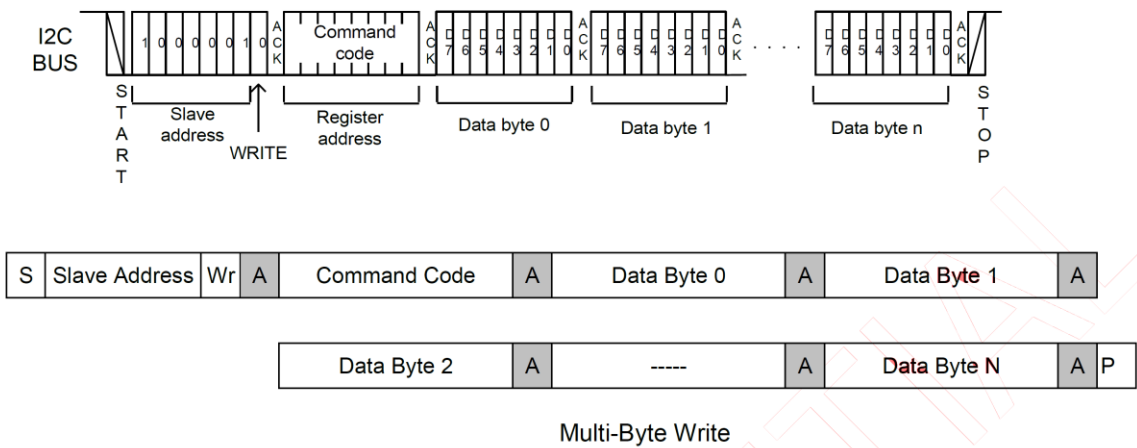
Byte Read

C

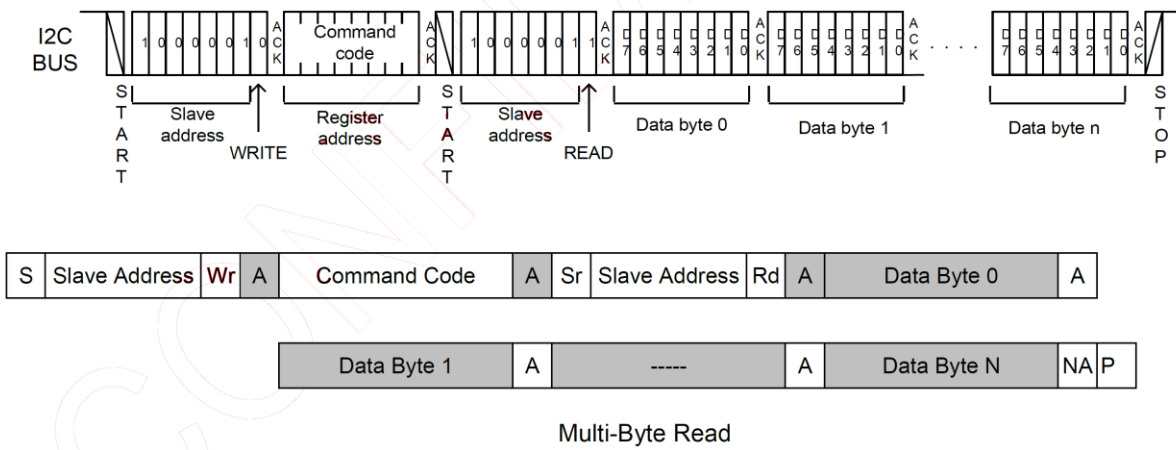


Byte Read

Multi-Byte Write



Multi-Byte Read



7.9 Format Protocol

Protocol V3.X Command List

CMD Code	Name	Set /Get	Note	b7	b6	b5	b4	b3	b2	b1	b0			
0x10	Touch Information	Get		0: No touch 1: Last Report at ID 0 to ID 5 (include release status) 2: Last Report at ID 6 to ID 9 (include release status)										
			ID0	1: Touch Down, 0: Touch Off	0	X_High direction coordinate								
				X_Low direction coordinate										
				0	0	Y_High direction coordinate								
				Y_Low direction coordinate										
				Touch Pressure										
			ID1	1: Touch Down, 0: Touch Off	0	X_High direction coordinate								
				X_Low direction coordinate										
				0	0	Y_High direction coordinate								
				Y_Low direction coordinate										
				Touch Pressure										
			ID2	1: Touch Down, 0: Touch Off	0	X_High direction coordinate								
				X_Low direction coordinate										
				0	0	Y_High direction coordinate								
				Y_Low direction coordinate										
				Touch Pressure										
			ID3	1: Touch Down, 0: Touch Off	0	X_High direction coordinate								
				X_Low direction coordinate										
				0	0	Y_High direction coordinate								
				Y_Low direction coordinate										
Touch Pressure														
ID4	1: Touch Down, 0: Touch Off	0	X_High direction coordinate											
	X_Low direction coordinate													
	0	0	Y_High direction coordinate											
	Y_Low direction coordinate													
	Touch Pressure													

			ID5	1: Touch Down, 0: Touch Off	0	X_High direction coordinate
				X_Low direction coordinate		
				0	0	Y_High direction coordinate
				Y_Low direction coordinate		
				Touch Pressure		
0x14	Touch Information 2	Get	ID6	1: Touch Down, 0: Touch Off	0	X_High direction coordinate
				X_Low direction coordinate		
				0	0	Y_High direction coordinate
				Y_Low direction coordinate		
				Touch Pressure		
		ID7	1: Touch Down, 0: Touch Off	0	X_High direction coordinate	
			X_Low direction coordinate			
			0	0	Y_High direction coordinate	
			Y_Low direction coordinate			
			Touch Pressure			
			ID8	1: Touch Down, 0: Touch Off	0	X_High direction coordinate
				X_Low direction coordinate		
				0	0	Y_High direction coordinate
				Y_Low direction coordinate		
				Touch Pressure		
		ID9	1: Touch Down, 0: Touch Off	0	X_High direction coordinate	
			X_Low direction coordinate			
			0	0	Y_High direction coordinate	
			Y_Low direction coordinate			
			Touch Pressure			
0x20				The maximum X coordinate (bit 7:0)		
				The maximum X coordinate (bit 15:8)		
				The maximum Y coordinate (bit 7:0)		
				The maximum Y coordinate (bit 15:8)		
				The channel numbers of X direction		
				The channel numbers of Y direction		
				The maximum report points		

				The channel numbers of TouchKey / Scrolling Bar
				For Touch Key Application (Maximum supports 31 Touch Key) Byte 8 : The Touch Key number (<32) Byte 9: 0xFF
0x30	Enter Sleep Mode	Set		--
0x40	Firmware Version	Get		Chip ID Code
				Major firmware version
				Minor firmware version
				Release firmware version
				For Customer Firmware Version
				For Customer Firmware Version
				For Customer Firmware Version
				For Customer Firmware Version
0x42		Get		Major protocol version : 0x03
				Minor protocol version : XX
				Release protocol version : XX

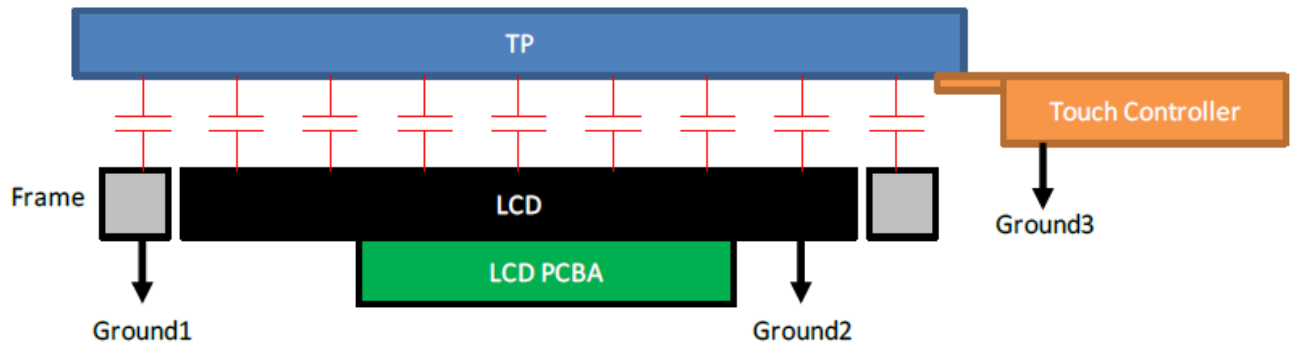
Protocol V3.X Data Format

CMD Code	Name	Set / Get	Note	b7	b6	b5	b4	b3	b2	b1	b0			
0x10	Touch Information	Get	Packet Number	0: No touch 1: Last Report at ID 0 to ID 5 (include release status) 2: Last Report at ID 6 to ID 9 (include release status)										
			ID0	1: Touch Down, 0: Touch Off	0	X_High direction coordinate								
				X_Low direction coordinate										
				0	0	Y_High direction coordinate								
				Y_Low direction coordinate										
				Touch Pressure										

			ID1	1: Touch Down, 0: Touch Off	0	X_High direction coordinate
				X_Low direction coordinate		
				0	0	Y_High direction coordinate
				Y_Low direction coordinate		
				Touch Pressure		
			ID2	1: Touch Down, 0: Touch Off	0	X_High direction coordinate
				X_Low direction coordinate		
				0	0	Y_High direction coordinate
				Y_Low direction coordinate		
				Touch Pressure		
			ID3	1: Touch Down, 0: Touch Off	0	X_High direction coordinate
				X_Low direction coordinate		
				0	0	Y_High direction coordinate
				Y_Low direction coordinate		
				Touch Pressure		
			ID4	1: Touch Down, 0: Touch Off	0	X_High direction coordinate
X_Low direction coordinate						
0	0	Y_High direction coordinate				
Y_Low direction coordinate						
Touch Pressure						

				X_Low direction coordinate		
				0	0	Y_High direction coordinate
				Y_Low direction coordinate		
				Touch Pressure		
				ID5	1: Touch Down, 0: Touch Off	0
			X_Low direction coordinate			
			0		0	Y_High direction coordinate
			Y_Low direction coordinate			
			Touch Pressure			

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

8. RELIABILITY TEST CONDITIONS

Test Item	Test Conditions	Note
High Temperature Operation	70±3°C , t=240 hrs	
Low Temperature Operation	-20±3°C , t=240 hrs	
High Temperature Storage	80±3°C , t=240 hrs	1,2
Low Temperature Storage	-30±3°C , 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).

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.

9. General Precautions

9-1 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.

9-2 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.

9-3 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.

9-4 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.

9-5 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.

9-6 Others

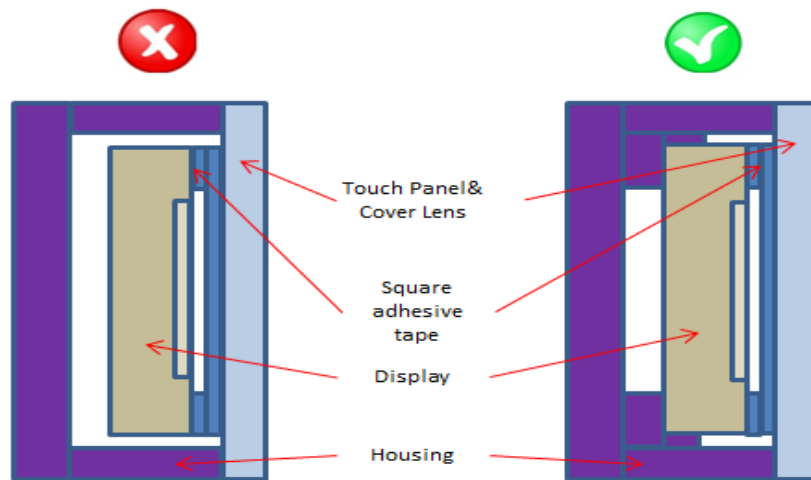
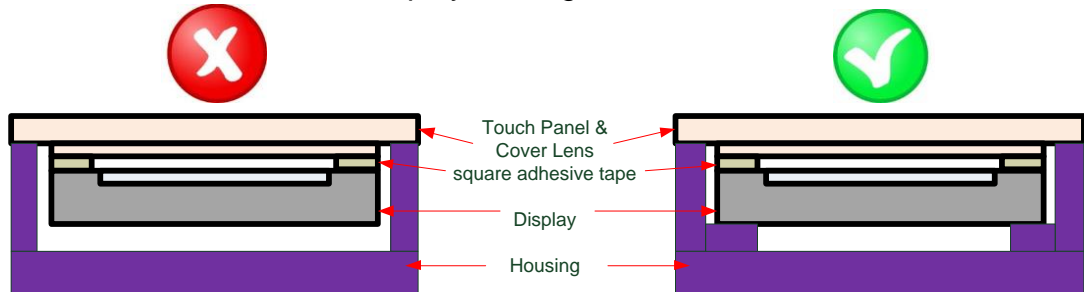
1. AMIPRE will provide one year warrantee for all products and three months warrantee for all repairing products.

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

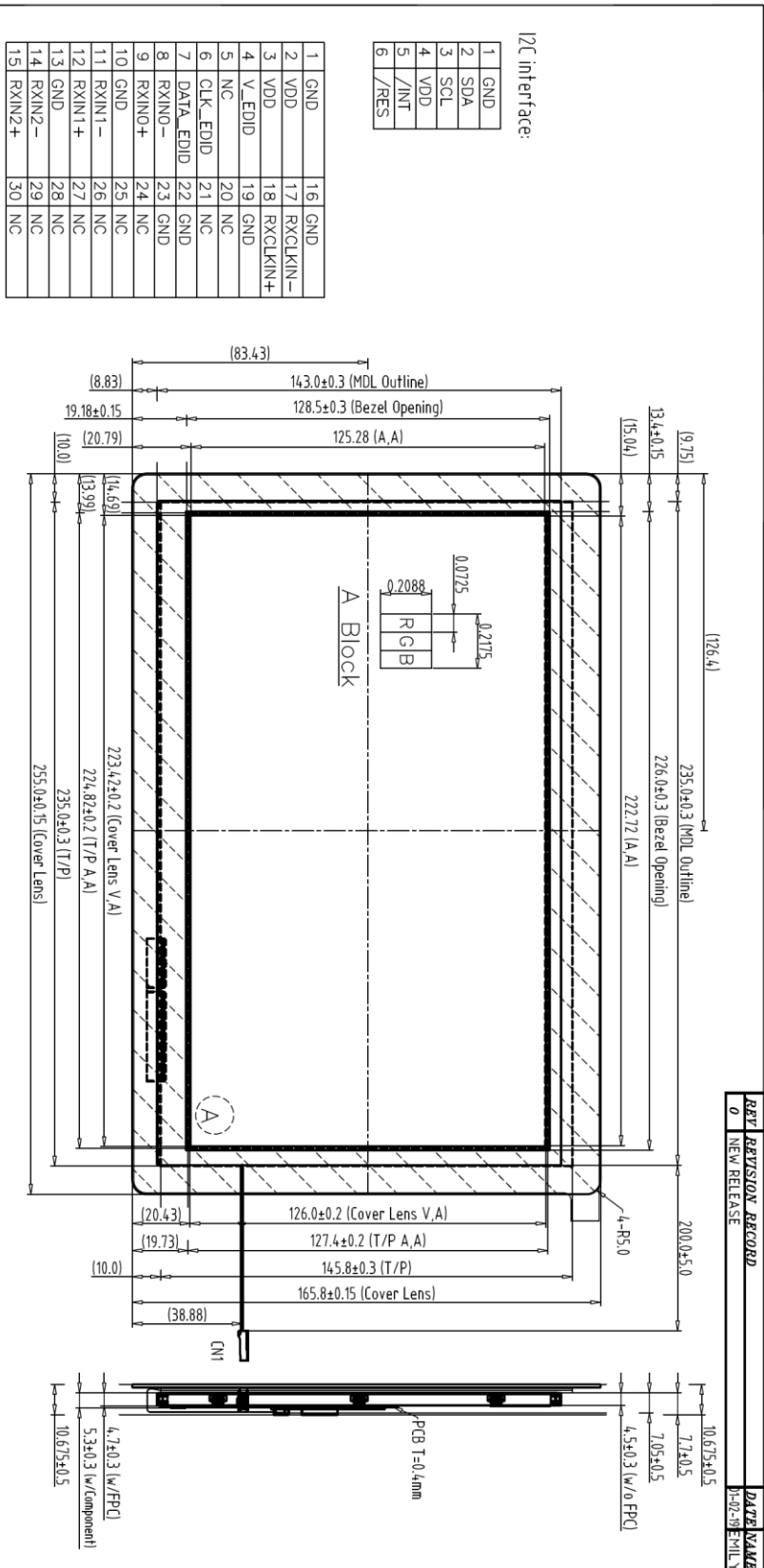
9-7 Mechanism

(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. OUTLINE DIMENSION



- Note:
1. Unless indicated, Tolerance "±0.3"
 2. CN2:P1.0 30Pin/DS100-430-H23 or Equivalent
 3. CN1:JST BHSR-02VS-1 or Equivalent

REV	REVISION RECORD	DATE	NAME
0	NEW RELEASE	2019-02-19	EMILY

NO.	DESCRIPTION	DATE	APPD.	CHK.	DATE	TTTLZ
1	1024600H1 LCM					
2	1024600L_PCB (2110246004)					
3	1024600LD-T_CTP (1791024620)					
4	2810246012 (LL 2511)					
5	12C Interface					
6						

TOLERANCE	GRADE	A	B	DIM.	MM	DWN.	DATE
				IE NO.		CHK.	DATE
				PARTS NO.	1024600H4-1	APPD.	DATE
				DWG. NO.	*190107MA		

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1024600H4-T

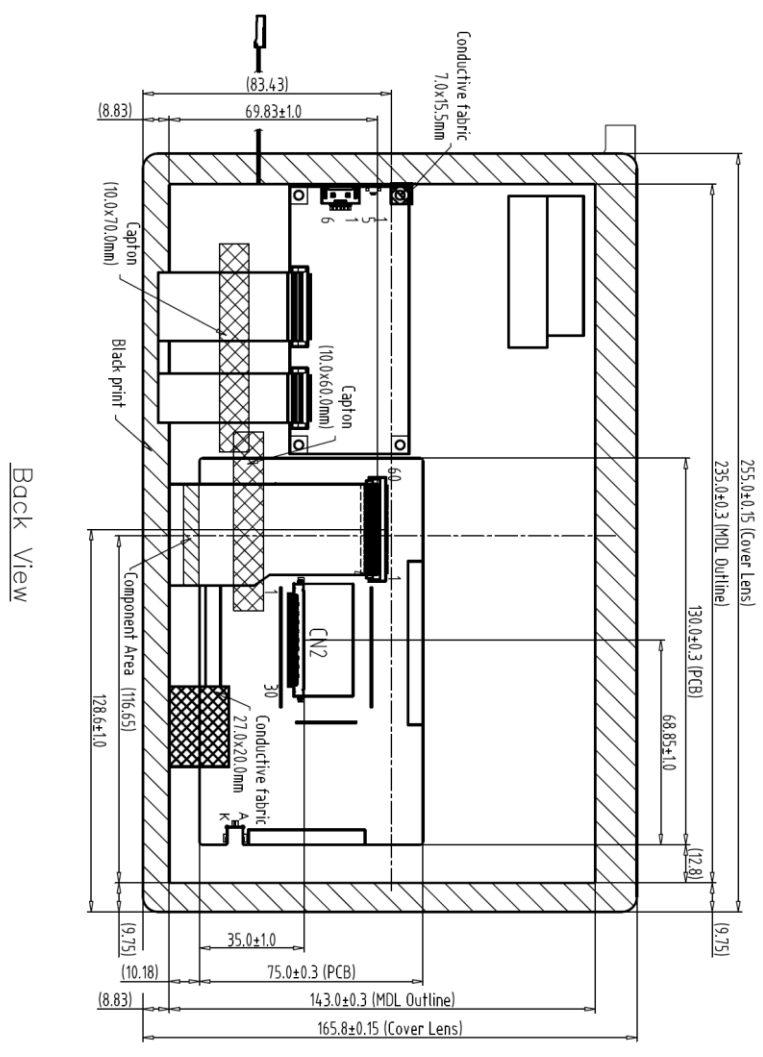
SHEET 1 OF 1

REV	REVISION RECORD	DATE	NAME
0	NEW RELEASE	14-02-19	EMILY

I2C Interface:

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

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

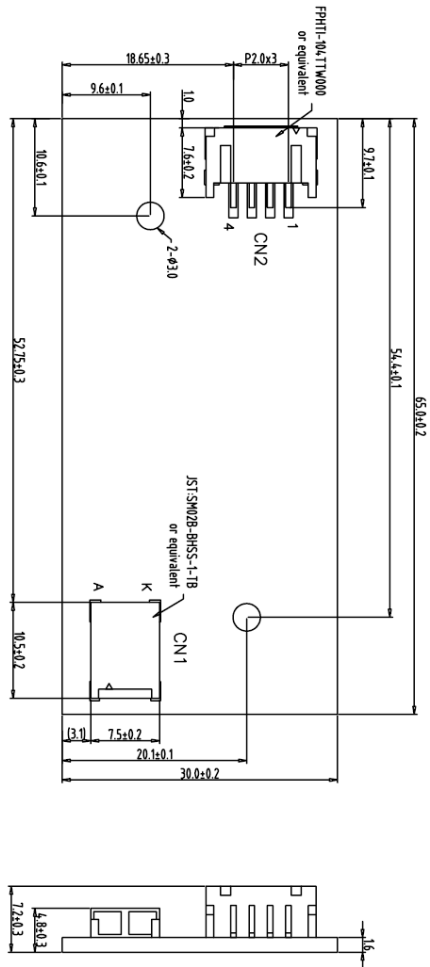


Note:
 1. Unless indicated, Tolerance "±0.3"
 2. CN2:P1.0 30Pin/DS100-430-H23 or Equivalent
 3. CN1:JST BHSR-02VS-1 or Equivalent

1	1024600H1 LCM	7																			
2	1024600L PCB (2110246004)	8																			
3	1024600LD-T CTP (1791024620)	9																			
4	2810246012 (LL 2511)	10																			
5	I2C Interface	11																			
6		12																			
		TOLERANCE GRADE(E)		A	B	DIM.		MM	DWN.		EMILY	DATE		01-02-19	TITLE		1024600H4-T				
		PARTS NO.				JE NO.			CHK.			DATE			DWG. NO.		*190108MA				
		PARTS NO.		1024600H4-1	APPD.				DATE			SHEET		1 OF 1							

MM 晶采光電科技

REV.	REVISION RECORD	DATE	NAME
0	NEW RELEASE	17-2-10	EMILY
1	Added Dimensions	10-7-11	EMILY
2	TFT-1024600-11-0 Rename to 1024600B2-01	10-1-11	EMILY



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	2	7	8	9	10	11	12
TFT-1024600-11-0							

1	2	4	B	DIM.	MM	DWN.	EMILY	DATE
~6	0.05	0.1						12-23-10
6~18	0.08	0.18				CHK		
18~50	0.1	0.25		IE NO.				
50~180	0.2	0.4		PARTS NO.	L.C.M-2	APPD.		
180~	0.3	0.5			1024600B2			

No.	TITLE	DWG. NO.	SHEET
1	1024600B2 (10.1")	*101272MA	1 OF 1
2			



11. Package

REV	REVISION RECORD	DATE	NAME
0	NEW RELEASE	05-31-19	MILLY

ERP No.: 1801024619

EPE SPACER
ERP No.: 9080000215

LCM x2 PCS

FULL TRAY x5PCS
(交錯堆疊)

ESD Bag
ERP No.: 9090000054

EPE PROTECT SHEET

ESD BAG PACKAGE OK

CARTON

Size: LxHxW
(558.0x385.0x182.0mm)
ERP No.: 9000000112
(底部印10.4"字樣)

Note:
1. Tray=1x2=2pcs.
2. ESD BAG=5xTray=10pcs.(6 Tray)

1	交叉堆疊	7	TOLERANCE	GRADE	A	B	DIM.	MM	DWG.	MILLY	DATE	DATE	DWG. NO.	SHEET
2		8									05-31-19		1024600H4-T	1 OP 1
3		9												
4		10												
5		11												
6		12												

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