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-1280800P3TZQW-TH6H**
Approved by	
Date	

☐ **Preliminary Specification**
■ **Formal Specification**

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

Approved by	Checked by	Organized by
Patrick	Simon	Jessica

This Specification is subject to change without notice.

RECORD OF REVISION

Revision Date	Page	Contents	Editor
2020/10/07	-	New Release	Jessica

1. Features

The TFT LCD module Kit include

1.1 7" TFT Liquid Crystal Display module.

(1)   LCD Resolution : 1280 x RGB x 800

(2)   Number of Color : 16M colors (R,G,B 8 Bit digital each)

(3)   Built-in LED Back-light driver.

(4)   Brightness : 850 cd/m2

(5)   Touch panel
  - ✧   IC: ILI2511
  - ✧   Interface: I2C

(6)   Cover glass
  - ✧   Thickness: 2.0 mm

## 1.2 HDMI to LCD interface board

(1)   Single Power input: 12V / 2A power input. (Connector: PJ2).

(2)   HDMI Digital input : (Connector: HDMI1)
  - ✧   HDMI 1.4a Compliant
  - ✧   Single-link (Type A HDMI) on-chip TMDS receiver up to 225MHz. Support long cable.
  - ✧   Do not support HDCP.

(3)   Support input video format :

Resolution	V Sync	Resolution	V Sync
640x480	60	1280x800	60
640x480	72	1280x800	75
640x480	75	1280x960	60
800x600	56	1280x1024	60
800x600	60	1280x1024	75
800x600	72	1360x768	60
800x600	75	1366x768	60
848x480	60	1400x1050	60
1024x768	60	1400x1050	75
1024x768	70	1440x900	60
1024x768	75	1440x900	75
1152x864	75	1600x900	60
1280x720	60	1680x1050	60
1280x768	60	1680x1050	75
1280x768	75	1920x1080	60

2. TFT LCD Module Physical Specifications

Item	Specifications	unit
LCD size	7 inch (Diagonal)	
Resolution	1280 x (RGB) x 800	dot
Dot pitch	0.117(H) x 0.117(V)	mm
Color arrangement	RGB-stripe	
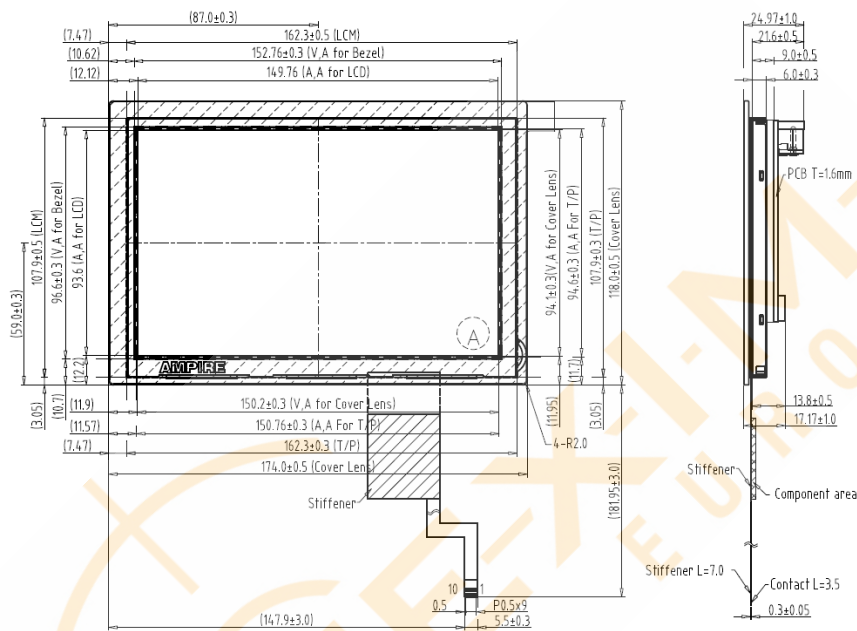
3. Absolute Maximum Ratings

Item	Symbol	Values		Unit	Remark
		Min.	Max.		
Power Voltage	VIN	-0.3	13	V	GND=0V, TA=25℃
Operation Temperature	TOP	-20	70	℃	
Storage Temperature	TST	-30	80	℃	

Note(1) The absolute maximum rating values of this product are not allowed to be exceeded at any times. Should a module be used with any of the absolute maximum ratings exceeded, the characteristics of the module may not be recovered, or in an extreme case, the module may be permanently destroyed.

4. Electrical Specifications

4.1 Typical Operation Conditions (HDMI Interface Board)

| Item	Symbol	Min.	Typ.	Max.	Unit	Note
HDMI Interface Board Power Supply voltage	VIN	11.5	12.0	12.5	V	
Power Consumption	IVIN	-	T.B.D	-	A	

4.2 Typical Operation Conditions (TFT LCD Module)

It's for design reference only. These supply voltage and signals do not need to input by end user.

DC Electrical Characteristics

VDD=3.3V, AVDD=11V, AGND=GND=0V, Ta=25℃

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
Differential input high Threshold voltage	RXVTH	–	–	+0.1	V	
Differential input Low Threshold voltage	RXVTL	-0.1	–	–	V	
Input voltage range	RXVIN	0	–	VDD-1.0	V	
Differential input common Mode voltage	RXVCM	$|VID|/2$	–	2.4-$|VID|/2$	V	
Differential input voltage	$|VID|$	0.2	–	0.6	V	
LVDS Digital Operating Current	RVXliz	-10	–	+10	uA	
LVDS Digital Operating Current	Iddlvds	–	(40)	(50)	mA	Fclk=65MHz, VDD=3.3V
LVDS Digital Stand-by Current	Istlvds	–	(10)	(50)	uA	Clock & all functions are stopped
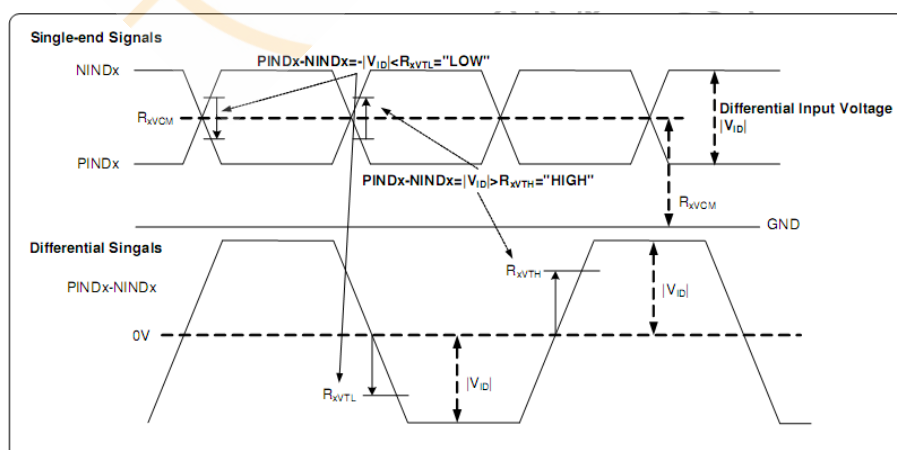
4.2.1   24-BIT LVDS Input Data Format
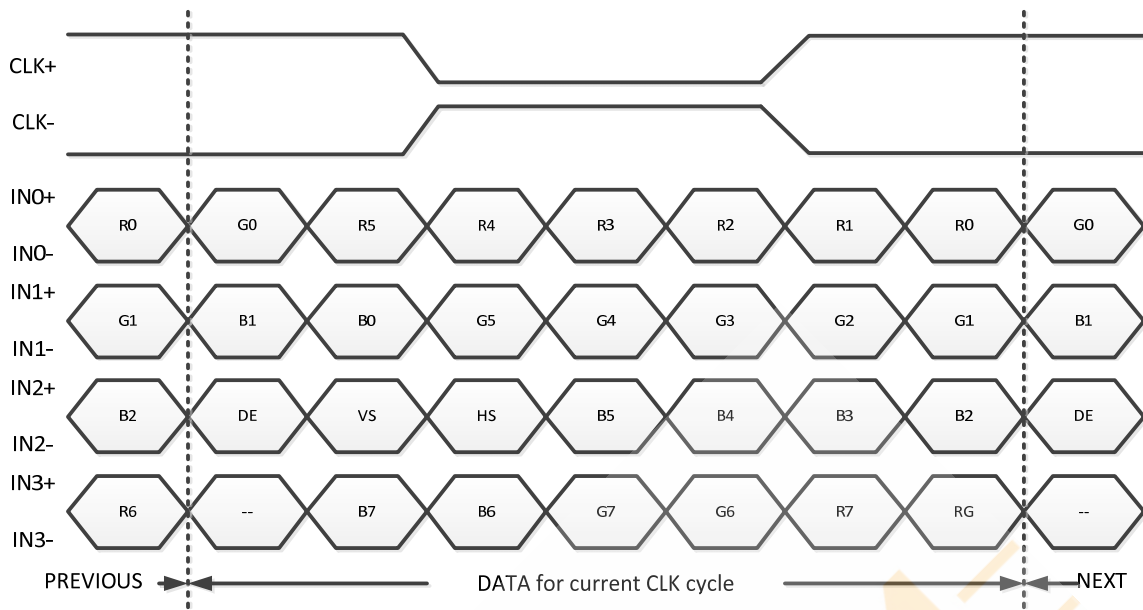
Note: R/G/B data 7: MSB, R/G/B data 0: LSB

Signal Name	Description	Remark
R7 R6 R5 R4 R3 R2 R1 R0	Red Data 7 (MSB) Red Data 6 Red Data 5 Red Data 4 Red Data 3 Red Data 2 Red Data 1 Red Data 0 (LSB)	Red-pixel Data Each red pixel's brightness data consists of these 8 bits pixel data.
G7 G6 G5 G4 G3 G2 G1 G0	Green Date 7 (MSB) Green Date 6 Green Date 5 Green Date 4 Green Date 3 Green Date 2 Green Date 1 Green Date 0 (LSB)	Green-pixel Data Each green pixel's brightness data consists of these 8 bits pixel data.
B7 B6 B5 B4 B3 B2 B1 B0	Blue Data 7 (MSB) Blue Data 6 Blue Data 5 Blue Data 4 Blue Data 3 Blue Data 2 Blue Data 1 Blue Data 0 (LSB)	Blue-pixel Data Each blue pixel's brightness data consists of these 8 bits pixel data.
CLK+ CLK-	LVDS Clock Input	
DE	Display Enable	
VS	Vertical Sync Signal	
HS	Horizontal Sync Signal	

4.2.2　Timing Table

LCD Interface Timing (DE mode)

1280x800 (RES[3:0] = 0010)

Parameter	Symbol	Value			Unit	Note
		Min.	Typ.	Max.		
CLK frequency	t_{CLK}	62.6	68.2	78.1	Mhz	
Horizontal blanking time	t_{HBT}	20	69	164	t_{CLK}	$t_{HBP} + t_{HFP}$
Horizontal back porch	t_{HBP}	5	5	164- t_{HFP}	t_{CLK}	
Horizontal display area	t_{HD}	1280	1280	1280	t_{CLK}	
Horizontal front porch	t_{HFP}	15	64	159	t_{CLK}	
Horizontal period	t_H	1300	1349	1444	t_{CLK}	
Horizontal pulse width	t_{HPW}	1	1	256	t_{CLK}	
Vertical blanking time	t_{VBT}	5	42	101	t_H	$t_{VBP} + t_{VFP}$
Vertical back porch	t_{VBP}	2	2	101- t_{VFP}	t_H	
Vertical display area	t_{VD}	800	800	800	t_H	
Vertical front porch	t_{VFP}	3	40	99	t_H	
Vertical period	t_V	803	842	901	t_H	
Vertical pulse width	t_{VPW}	1	1	128	t_H	

4.3　LED Driving Conditions

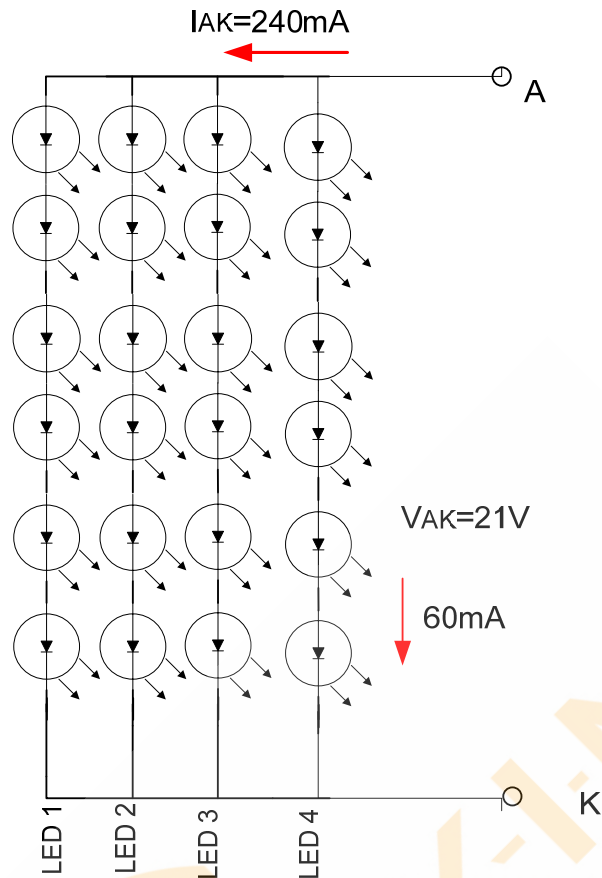**It's for design reference only. These supply voltage and signals do not need to input by end user.**

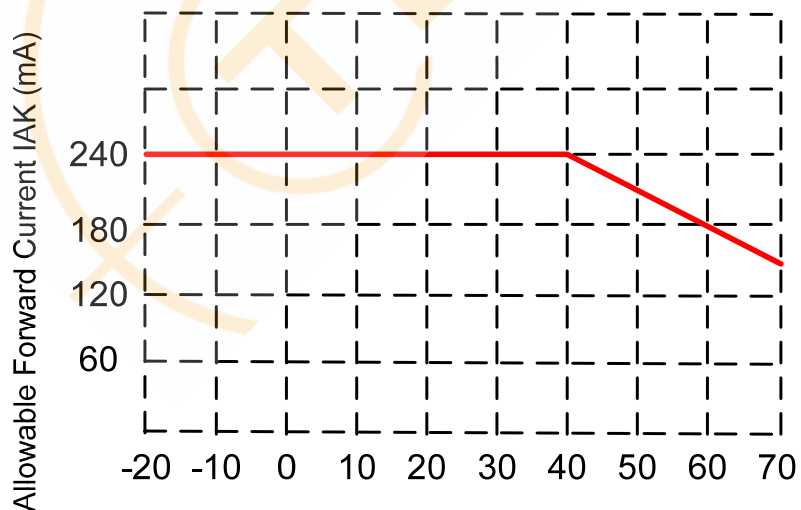| Item	Symbol	Values			Unit	Note
		Min.	Typ.	Max.		
LED Driver Power Voltage	VLED	9	12	14	V	
LED Driver Current Consumption	ILED	--	520	--	mA	VLED=12V ADJ=5V (duty 100%)
ADJ Input Voltage	VADJ	1.2	3.3	3.6	V	duty=100% Note(3)
LED voltage	VAK	--	21	--	V	Note(1)
LED forward Current	IAK	--	240	--	mA	Ta=25℃
LED life time	--	--	50,000	--	Hr	Note(2)

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

Note(2) Brightness to be decreased to 50% of the initial value. Ta=25℃

Note(3) VLEDADJ is PWM signal input. It is for brightness control.

$I_{AK}=240mA$

A

$V_{AK}=21V$

60mA

LED 1 LED 2 LED 3 LED 4

K

When LCM is operated over 40℃ ambient temperature, the **IAK** should be follow :

Allowable Forward Current IAK (mA)

240

180

120
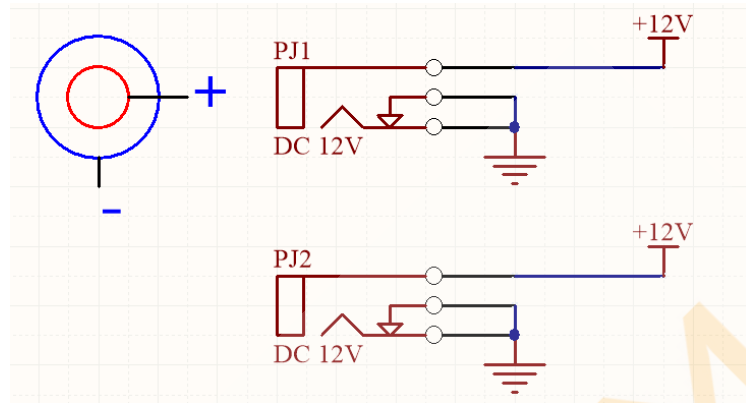
60

-20 -10 0 10 20 30 40 50 60 70

5. Interface

5.1 Interface (HDMI Interface Board)

● **PJ2 Power Supply Power Jack:**

Inner terminal is positive. Outer terminal is GND.

● **HDMI1: HDMI Type A Connector**

HDMI			
PIN	**SIGNAL**	**PIN**	**SIGNAL**
1	TMDS Data2+	11	TMDS Clock Shield (Ground)
2	TMDS Data2 Shield (Ground)	12	TMDS Clock-
3	TMDS Data2-	13	CEC (not used)
4	TMDS Data1+	14	Reserved (No Connection)
5	TMDS Data1 Shield (Ground)	15	SCL
6	TMDS Data1-	16	SDA
7	TMDS Data0+	17	DDC/CED (Ground)
8	TMDS Data0 Shield (Ground)	18	+5V input
9	TMDS Data0-	19	Hot Plug Detect
10	TMDS Clock+		

6. Optical Specifications

| Item		Symbol	Condition	Min.	Typ.	Max.	Unit	Remark
View Angles		θT	CR≧10	80	88	-	Degree	Note 2
		θB		80	88	-		
		θL		80	88	-		
		θR		80	88	-		
Contrast Ratio		CR	θ=0°	600	800	-		Left/right 0°Top/bottom 5°
Response Time		TON	25℃	-	35	40	ms	Note1 Note4
		TOFF						
Chromaticity	White	x		0.256	0.306	0.356		Note5 Note1
		y		0.279	0.329	0.379		
	Red	x		0.520	0.570	0.620		
		y		0.280	0.330	0.380		
	Green	x		0.300	0.350	0.400		
		y		0.542	0.592	0.642		
	Blue	x		0.105	0.155	0.205		
		y		0.051	0.101	0.151		
Uniformity		U		70	75	-	%	Note1、Note6
NTSC				45	50	-	%	
Luminance		L		**680**	**850**	-	cd/m2	Note7

Test Conditions

1. IF = 60mA(one channel), the ambient temperature is 25℃.

2. The test systems refer to Note 1 and Note2.

Definition of optical measurement system

The optical characteristics should be measured in dark room. After 10 Minutes operation, the optical 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(1) Definition of optical measurement system.

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, other items are measured by BM-5A/Field of view: 1° / Height: 500mm.)
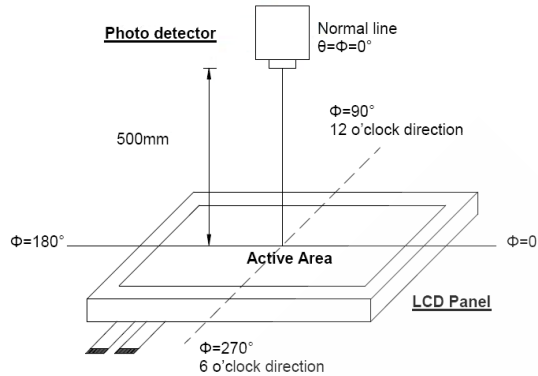

Note(2) Definition of viewing angle range
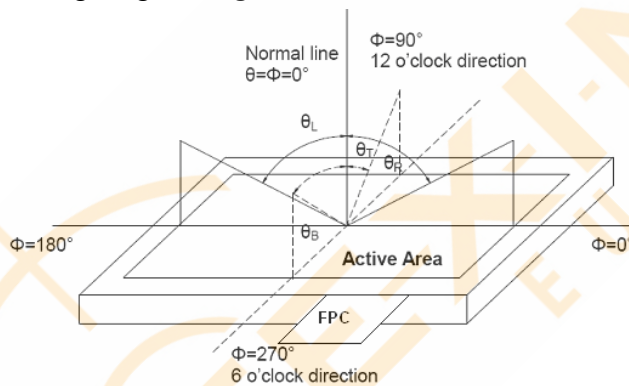
Note(3) Definition of Response time

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%.

Date: 2020/10/07   AMPIRE CO., LTD.   11
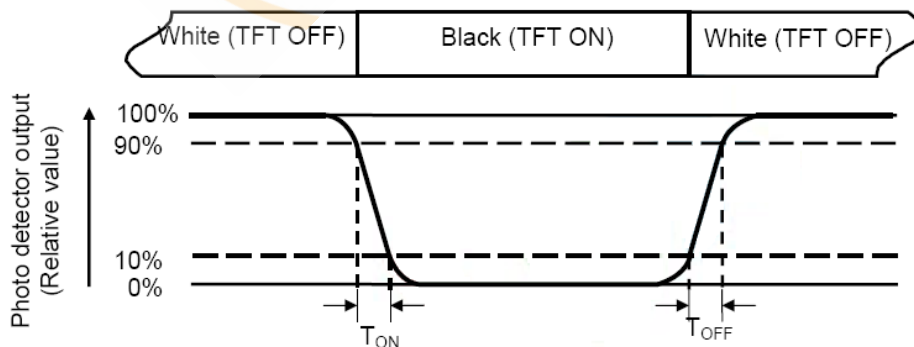
Note(4)   Definition of contrast ratio

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

Note(5)   Definition of color chromaticity (CIE1931)
Color coordinated measured at center point of LCD.

Note(6)   All input terminals LCD panel must be ground when measuring the center area of the panel.

Note(7)   Definition of Luminance Uniformity
Active area is divided into 9 measuring areas (Refer to bellow figure). Every measuring point is placed at the center of each measuring area.

$$\text{Luminance Uniformity (Yu)} = \frac{B_{min}}{B_{max}}$$

L ----- Active area length   W ----- Active area width
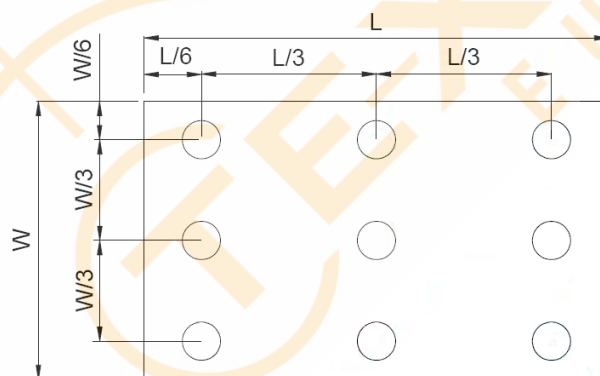
B_{max}: The measured maximum luminance of all measurement position.
B_{min}: The measured minimum luminance of all measurement position.

7. Projected Capacitive-type Touch Panel Specification

7.1 Basic Characteristics

Item	Specification
Interface Type	Projective Capacitive Multi-Touch Panel
Activation	**Multi-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**

7.2 Optical Characteristics

Item	Specification
Transmittance	80% (min)

7.3 Electrical Characteristics

Item	Specification
I2C Interface	Power & signal Input 3.3V

7.4 Interface

T/P tail Connector:HRS FH52E—10S—0.5SH or Equivalent

Pin	Name	Description
1	VCC	Power 3.3V
2	VCC	Power 3.3V
3	GND	GND
4	GND	GND
5	SDA	I2C Data
6	SCL	I2C Clock
7	GND	GND
8	INT	Interrupt Request pin
9	RESET	Reset touch panel controller
10	GND	GND

7.5 Power- on Timing Chart
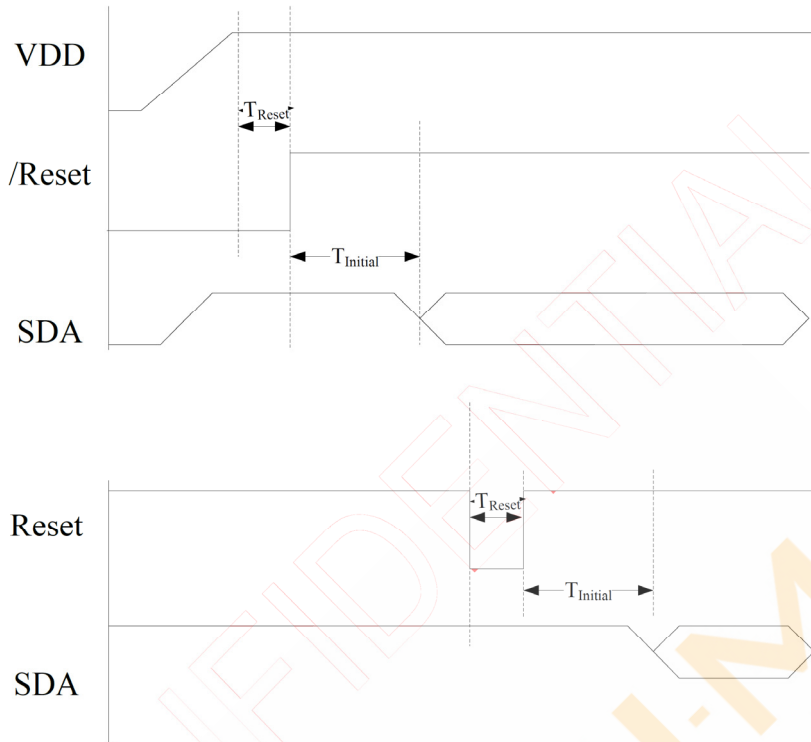
Symbol	Parameter	MIN.	MAX.	Unit
T$_{Initial}$	After powering-on or resetting the device, the device needs I$_{nitial}$ time to configure the system.	-	100	ms
T$_{Reset}$	/Reset pin low hold time	50	-	µs

7.6 I2C AC Waveform
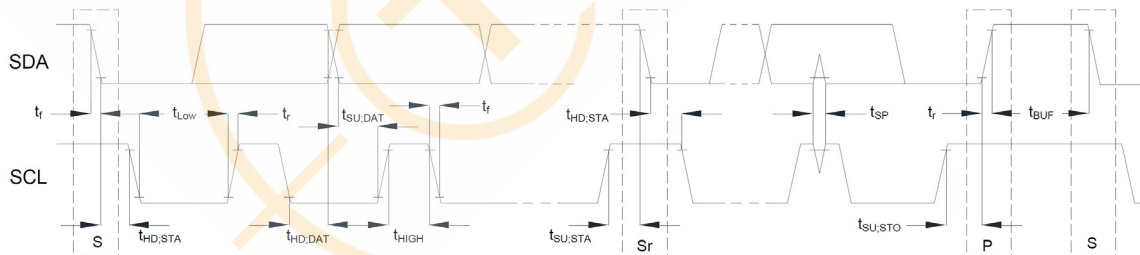
7.7 I2C Characteristics

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

7.8 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

Date: 2020/10/07   AMPIRE CO., LTD.   15

7.9 Data Transfer

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

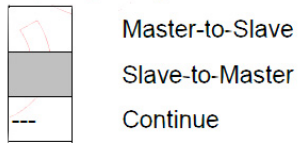| 1	7	1	1	8	1	1
S	Slave Address	Wr	A	Data Byte	A	P
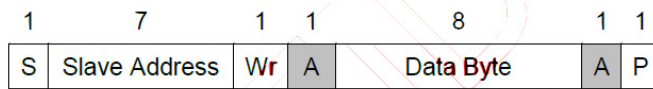
S	Start Condition
Sr	Repeated Start Condition
Rd	Read (bit value of 1)
Wr	Write (bit value of 0)
A/NA	Acknowledge (this bit position may be '0' for an ACK or '1' for a NACK)
P	Stop Condition
	Master-to-Slave
	Slave-to-Master
---	Continue

I2C Write timing
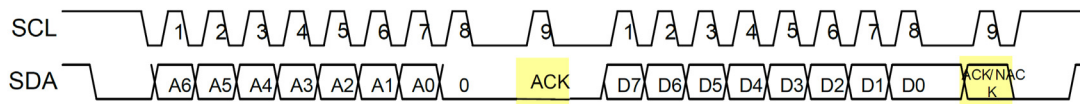
=> slave to master

I2C Read timing
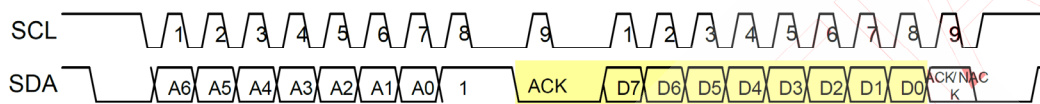
=> slave to master

Byte Write

S	Slave Address	Wr	A	Command Code	A	Data Byte	A	P
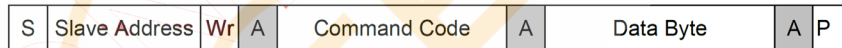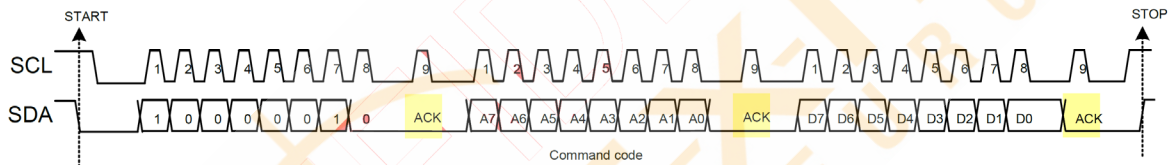
ig 5: Byte Write

Byte Read

c

S	Slave Address	Wr	A	Command Code	A	Sr	Slave Address	Rd	A	Data Byte	A	P
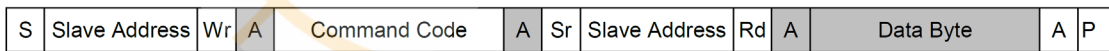
ig 6: Byte Read

Multi-Byte Write

ig 7: Multi-Byte Write

Multi-Byte Read

ig 8: Multi-Byte Read

7.10 Format Protocol
Protocol V3.X Command List

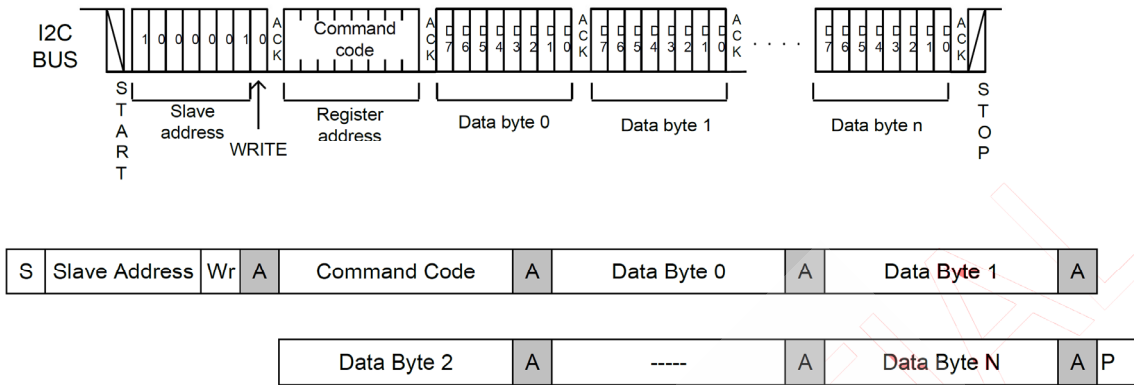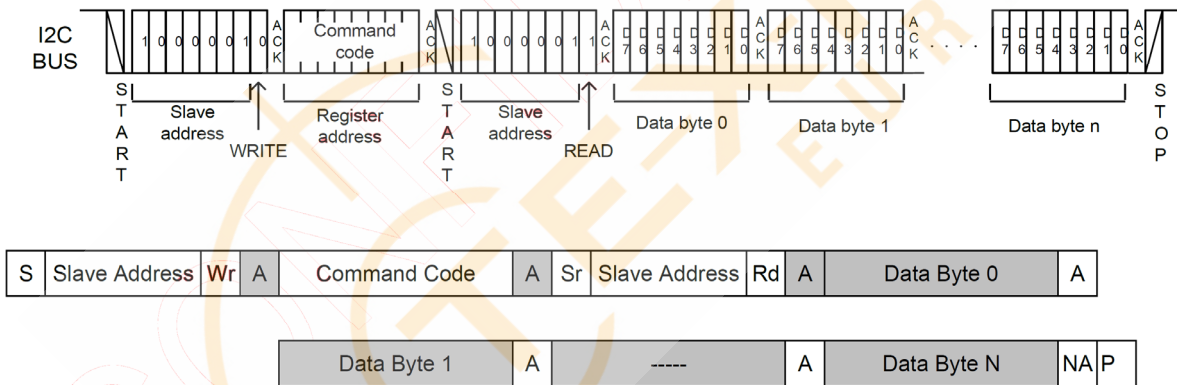| CMD Code	Name	Set /Get	Note	b7	b6	b5	b4	b3	b2	b1	b0
0x10	Touch Information	Get		0: No touch							
				1: Last Report at ID 0 to ID 5 (include release status)							
				2: Last Report at ID 6 to ID 9 (include release status)							
			ID0	1: Touch Down, 0: Touch Off	0	X_High direction coordinate	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

CMD Code	Name	Set / Get	Note	Data
				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		
			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		

8. 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 m in. 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 inspired after 1 hour storage in normal conditions (15~35℃, 45~65%RH).

Note(3) The module shouldn't be tested over one condition, and all the tests are independent.

Note(4) All reliability tests should be done without the protective film.

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 initial value.

9. General Precaution

9.1 Use Restriction

(1) This product is not authorized for use in life supporting systems, aircraft navigation control systems, military systems and any other application where performance failure could be life-threatening or otherwise catastrophic.

9.2 Disassembling or Modification

(1) Do not disassemble or modify the module. It may damage sensitive parts inside LCD module, and may cause scratches or dust on the display. AMPIRE does not warrant the module, if customers disassemble or modify the module.

9.3 Breakage of LCD Panel

(1) If LCD panel is broken and liquid crystal spills out, do not ingest or inhale liquid crystal, and do not contact liquid crystal with skin.
(2) If liquid crystal contacts mouth or eyes, rinse out with water immediately.
(3) If liquid crystal contacts skin or cloths, wash it off immediately with alcohol and rinse thoroughly with water.
(4) Handle carefully with chips of glass that may cause injury, when the glass is broken.

9.4 Electric Shock

(1) Disconnect power supply before handling LCD module.
(2) Do not pull or fold the LED cable.
(3) Do not touch the parts inside LCD modules and the fluorescent LED's connector or cables in order to prevent electric shock.

9.5 Absolute Maximum Ratings and Power Protection Circuit

(1) Do not exceed the absolute maximum rating values, such as the supply voltage variation, input voltage variation, variation in parts' parameters, environmental temperature, etc., otherwise LCD module may be damaged.
(2) Please do not leave LCD module in the environment of high humidity and high temperature for a long time.
(3) It's recommended to employ protection circuit for power supply.

9.6 Operation

(1) Do not touch, push or rub the polarizer with anything harder than HB pencil lead.

(2) Use fingerstalls of soft gloves in order to keep clean display quality, when persons handle the LCD module for incoming inspection or assembly.

(3) When the surface is dusty, please wipe gently with absorbent cotton or other soft material.

(4) Wipe off saliva or water drops as soon as possible. If saliva or water drops contact with polarizer for a long time, they may cause deformation or color fading.

(5) When cleaning the adhesives, please use absorbent cotton wetted with a little petroleum benzene or other adequate solvent.

9.7 Mechanism

(1) Please mount LCD module by using mounting holes arranged in four corners tightly.

(2) Please hold the LCD module properly when you use or store it.

(3) 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.

---
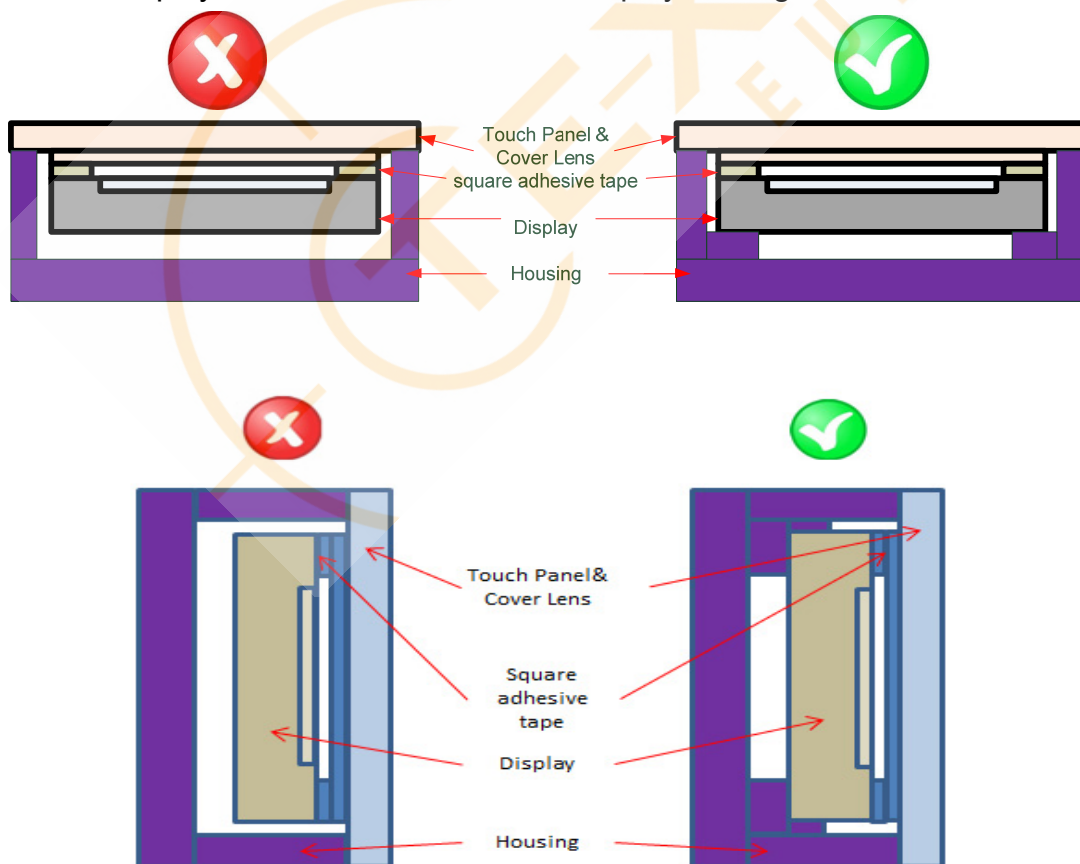
(4) TP needs to work in environment with stable stray capacitance. In order to minimize the variation in stray capacitance, all conductive mechanical parts must not be floating. Intermittent floating any conductive part around the touch sensor may cause significant stray capacitance change and abnormal touch function. It is recommended to keep all conductive parts having same electrical potential as the GND of the touch controller module.
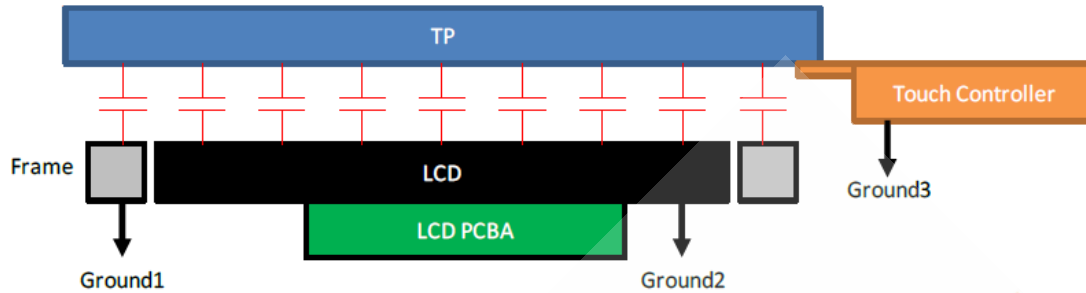
GND1, GND2 and GND3 should be connected together to have the same ground

9.8 Static Electricity

(1) Protection film must remove very slowly from the surface of LCD module to prevent from electrostatic occurrence.

(2) Because LCD modules use CMOS-IC on circuit board and TFT-LCD panel, it is very weak to electrostatic discharge. Please be careful with electrostatic discharge. Persons who handle the module should be grounded through adequate methods.

9.9 Strong Light Exposure

(1) The module shall not be exposed under strong light such as direct sunlight. Otherwise, display characteristics may be changed.
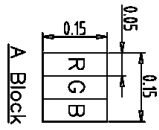
9.10 Disposal

(1) When disposing LCD module, obey the local environmental regulations.

9.11 Others

(1) 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.

10. Outline Dimension

HDMI

1	Data2+
2	Data2 Shield (Ground)
3	Data2-
4	Data1+
5	Data1 Shield (Ground)
6	Data1-
7	Data0+
8	Data0 Shield (Ground)
9	Data0-
10	Clock+
11	Clock Shield (Ground)
12	Clock-
13	CEC (not used)
14	Reserved (No Connection)
15	SCL
16	SDA
17	DDC/CED (Ground)
18	+5V input
19	Hot Plug Detect

JP3

1	VCC
2	VCC
3	GND
4	GND
5	SDA
6	SCL
7	GND
8	INT
9	RESET
10	GND

Note:
1. Unless indicated, Tolerance "±0.3"
2. UV Glue For OLB Protection.
3. HDMI A TYPE:P0.5 19Pin/HDFP1L-1N51 or Equivalent
4. CN1:P0.5 40PIN/089H40-000000-G2-R or Equivalent.
5. DC Jack:DC-0005-20-20Z2S-Y or Equivalent.
6. T/P tail Connector:HRS FH52E-10S-0.5SH or Equivalent
7. LCD 1280X3(R.G.B)x800=> 7.0" Digital TFT LCD

7	1280800P3-10 LCM			
2	New PCB (HDMI/4Layers)	8		
3	1280800P8-T P-CAP (IL2511/I2C)	9		
4	1280800P4-T21 Cover Lens	10		
5	(174.0x118.0x2.0mm)	11		
6		12		

TOLERANCE GRADE(±)	A	B
DIM.	IX	
MM		
PARTS NO. LCM		
1280800P3-TH6		

DRN.	CHK.	APPD.
EMILY		
DATE 09-28-20'	DATE	DATE

Date: 2020/10/07   AMPIRE CO., LTD.   28

HDMI

1	Data2+
2	Data2 Shield (Ground)
3	Data2-
4	Data1+
5	Data1 Shield (Ground)
6	Data1-
7	Data0+
8	Data0 Shield (Ground)
9	Data0-
10	Clock+
11	Clock Shield (Ground)
12	Clock-
13	CEC (not used)
14	Reserved (No Connection)
15	SCL
16	SDA
17	DDC/CED (Ground)
18	+5V input
19	Hot Plug Detect

JP3

1	VCC
2	VCC
3	GND
4	GND
5	SDA
6	SCL
7	GND
8	INT
9	RESET
10	GND

A Block

| R |
| G |
| B |

0.05
0.15
0.15

Note:
1. Unless indicated, Tolerance ±0.3"
2. UV Glue For OLB Protection.
3. HDMI A TYPE:P0.5 19Pin/HDFP1L-1N51 or Equivalent
4. CN1:P0.5 40PIN/089H40-000000-G2-R or Equivalent.
5. DC Jack:DC-0005-20-20ZZS-Y or Equivalent.
6. T/P tail Connector:HRS FH52E-10S-0.5SH or Equivalent.
7. LCD 1280X3(R.G.B)x800=> 7.0" Digital TFT LCD

	TOLERANCE GRADE(±)	A	B	DIM.	IB NO.	MM	DFN.	APPD.

PARTS NO.LCM-1 1280800P3-TH6

8	128080OP3-10 LCM	7		
2	New PCB (HDMI/4Layers)	8		
3	128080P8-T P-CAP (IL2511/2C)	9		
4	128080OP4-T21 Cover Lens	10		
5	(174.0x118.0x2.0mm)	11		
6		12		

AMPIRE 晶采光電科技

Back view

Conductive fabric
7.0×15.5mm
Black print
Caption tape
Component area
Component Area(t=1.2Max)
HDMI
CN1

118.0±0.5 (Cover Lens)
(3.05) (23.0) 84.0±0.3 (PCB)
174.0±0.5 (Cover Lens)
162.3±0.5 (LCM)
160.0±0.3 (PCB)
(87.0±0.3)
30.5±0.3
P0.5×9
5.5±0.3
0.5
45.65±0.3
24.5±0.3
(47.9±3.0)
79.53±0.3
25.0
(134.6)
(181.95±3.0)
(7.4.7)
(3.05)
(48.0±0.3)
107.9±0.5 (LCM)
(59.0±0.3)
(1.315)
(7.4.7)

11. Package

TBD

TEXIM EUROPE

Contact details

The Netherlands

Elektrostraat 17
NL-7483 PG Haaksbergen

T: +31 (0)53 573 33 33
F: +31 (0)53 573 33 30
E: nl@texim-europe.com

Belgium

Zuiderlaan 14 bus 10
B-1731 Zellik

T: +32 (0)2 462 01 00
F: +32 (0)2 462 01 25
E: belgium@texim-europe.com

UK & Ireland

St. Mary's House, Church Lane
Carlton Le Moorland
Lincoln LN5 9HS

T: +44 (0)1522 789 555
F: +44 (0)845 299 22 26
E: uk@texim-europe.com

Germany North

Bahnhofstrasse 92
D-25451 Quickborn

T: +49 (0)4106 627 07-0
F: +49 (0)4106 627 07-20
E: germany@texim-europe.com

Germany South

Martin-Kollar-Strasse 9
D-81829 München

T: +49 (0)89 436 086-0
F: +49 (0)89 436 086-19
E: germany@texim-europe.com

Austria

Warwitzstrasse 9
A-5020 Salzburg

T: +43 (0)662 216 026
F: +43 (0)662 216 026-66
E: austria@texim-europe.com

Nordic region

Sdr. Jagtvej 12
DK-2970 Hørsholm

T: +45 88 20 26 30
F: +45 88 20 26 39
E: nordic@texim-europe.com

Italy

Via Matteotti 43
IT-20864 Agrate Brianza (MB)

T: +39 (0)39 971 3293
F: +39 (0)39 971 3293
E: italy@texim-europe.com

General information

info@texim-europe.com
www.texim-europe.com