3.5"   TFT LCD PANE

PRODUCT   SPECIFICATIONS

业务联系电话：133 9284 8764

Final Specification (正式)

For Customer: _____

Module No. :   3.5-9488-45pin

Date: 2015/04/20
Version : 1.0

For Customer's Acceptance

Accepted by	Comment
Date:	

This specification is proposed by PU Yang Hong kong TECH. CO., LTD

Presented by	Reviewed by	Organized by

1. History of Specification Revision

Date	Rev.	Page	Contents
2015.04.20	1.0	-	New Release.

2. General Description

＊ Description

L035S11-45CA-NPA01 is a color active matrix TFT (Thin Film Transistor) liquid crystal display (LCD) that uses the amorphous silicon TFT as a switching device. This model is composed of a Transmissive typeTFT-LCD Panel, a driver circuit and a back-light unit. The resolution of a 3.5" Main LCD contains 320 x 480 pixels, and can display up to 262K colors and is suitable for cell phone application.

＊ Features
- High image quality a-Si TFT LCD module.
- Display Colors is up to 262k Colors.
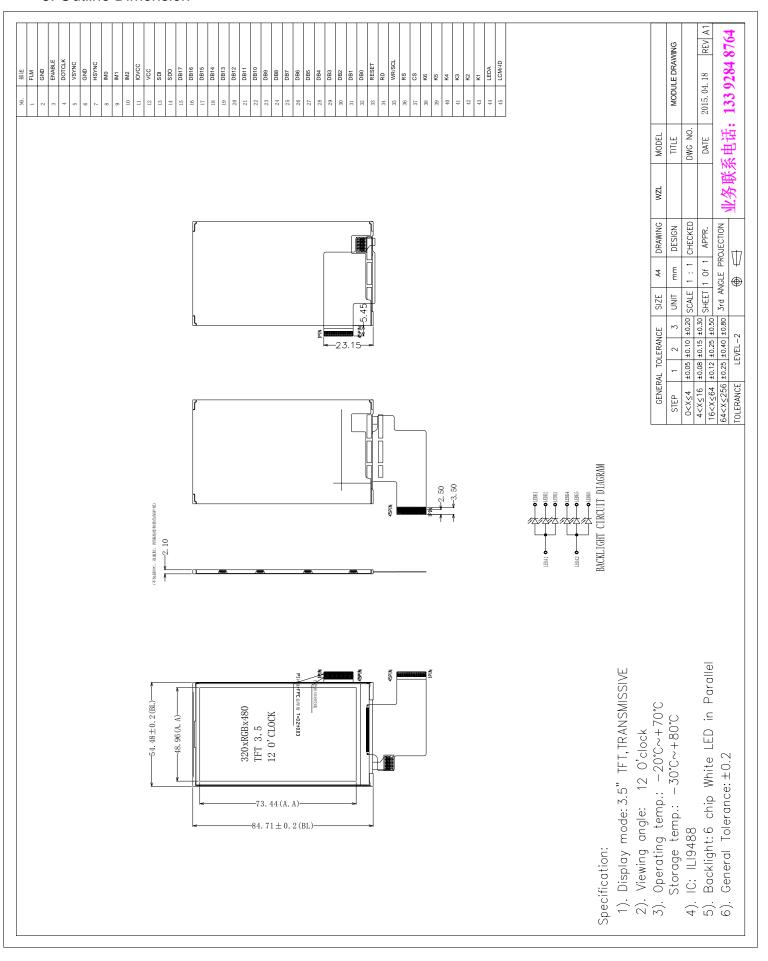- MCU 8080-8/16Bit

＊ Applications
- Mobile phone.
- Portable device

＊ General information

No	Item	Specification
1	Type	Transmissive
2	Display Mode	Normally White
3	Pixel Element	a-Si TFT
4	Screen Size	3.5 inch (diagonal)
5	Resolution	320(RGB) x 480
6	Color Number	262k
7	Active Area	48.96 (W) x 73.44 (H)
8	Color Arrangement	RGB-stripe
9	Assembly Type	COG
10	Back Light	6 - White LED (serial)
11	Viewing Direction	12 o'clock
12	Weight	(------g)
13	Module Dimension	54.66 (W) x 82.94 (H) x 2.2 max(T) mm
14	Polarizer Type	Normal View Film
15	Interface	8080-8/16bit
16	Driver IC	ILI9488

3. Outline Dimension

Pin List:

NO.	描述
1	FLM
2	GND
3	ENABLE
4	DOTCLK
5	VSYNC
6	GND
7	HSYNC
8	IM0
9	IM1
10	IM2
11	IOVCC
12	VCC
13	SDI
14	SDO
15	DB17
16	DB16
17	DB15
18	DB14
19	DB13
20	DB12
21	DB11
22	DB10
23	DB9
24	DB8
25	DB7
26	DB6
27	DB5
28	DB4
29	DB3
30	DB2
31	DB1
32	DB0
33	RESET
34	RD
35	WR/SCL
36	RS
37	CS
38	K6
39	K5
40	K4
41	K3
42	K2
43	K1
44	LEDA
45	LCM-ID

BACKLIGHT CIRCUIT DIAGRAM

320xRGBx480
TFT 3.5
12 O'CLOCK

PIN头+FPC总厚度 T=0.2±0.03

23.15
5.45
IPIN
45PIN
2.50
3.50
2.10

54.48±0.2(BL)
48.96(A.A)
73.44(A.A)
84.71±0.2(BL)

Specification:
1). Display mode:3.5" TFT,TRANSMISSIVE
2). Viewing angle: 12 O'clock
3). Operating temp.: -20°C~+70°C
    Storage temp.: -30°C~+80°C
4). IC: ILI9488
5). Backlight:6 chip White LED in Parallel
6). General Tolerance: ±0.2

GENERAL TOLERANCE				MODEL		
STEP	1	2	3		TITLE	MODULE DRAWING
0<X≤4	±0.05	±0.10	±0.20		DWG NO.	
4<X≤16	±0.08	±0.15	±0.30		DATE	2015.04.18
16<X≤64	±0.12	±0.25	±0.50			REV A1
64<X≤256	±0.25	±0.40	±0.80			
TOLERANCE	LEVEL-2					

GENERAL	DRAWING	SIZE	A4	DESIGN	WZL
		UNIT	mm	CHECKED	
		SCALE	1:1	APPR.	
		SHEET	1 Of 1		

3rd ANGLE PROJECTION

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4. Input Terminal Pin Assignment

Pin no	Symbol	Description
1	TE	控制脚
2	GND	地
3	ENABLE	数据启动
4	DOTCLK	数据脚
5	VSYNC	垂直同步信号
6	GND	地
7	HSYNC	水平同步信号
8	IM0	数据位选择脚
9	IM1	数据位选择脚
10	IM2	数据位选择脚
11	IOVCC	电源
12	VCC	电源
13	SDI	控制脚
14	SDO	控制脚
15	DB17	数据传输
16	DB16	数据传输
17	DB15	数据传输
18	DB14	数据传输
19	DB13	数据传输
20	DB12	数据传输
21	DB11	数据传输
22	DB10	数据传输
23	DB9	数据传输
24	DB8	数据传输
25	DB7	数据传输
26	DB6	数据传输
27	DB5	数据传输
28	DB4	数据传输
29	DB3	数据传输
30	DB2	数据传输
31	DB1	数据传输
32	DB0	数据传输
33	RESET	复位
34	RD	读信号
35	WR/SCL	写信号
36	RS	指令控制
37	CS	片选信号
38	K6	悬空
39	K5	悬空
40	K4	悬空
41	K3	悬空
42	K2	悬空
43	K1	背光负极
44	LEDA	背光正极
45	LCM/-ID	控制脚

5. Absolute Maximum Ratings

5.1 Electrical Absolute Maximum Ratings
(1) TFT-LCD Panel Absolute Maximum Ratings

Ta=25℃ GND=0V
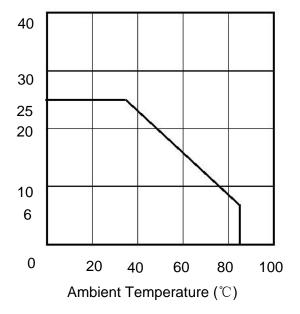
Item	Symbol	Condition	Standard Value		Unit	Remark
			Min.	Max.		
Input power supply voltage	IOVCC	GND=0V	-0.3	4.6	V	---
	Vci	GND=0V	-0.3	4.6	V	---
	Vin	GND=0V	-0.3	VCC+0.3	V	---

* If the LSI is used above these absolute maximum ratings, it may become permanently damaged. Using the LSI within the following electrical characteristics limit is strongly recommended for normal operation. If these electrical characteristic conditions are also exceeded, the LSI will malfunction and cause poor reliability.

5.2 Environment Absolute Maximum Ratings

Item	Symbol	Min.	Max.	Unit	Remark
Operation temperature range	Top	-20	70	℃	Ambient
Storage temperature range	Tst	-30	80	℃	Ambient

(1) Corrosive gas environment is not acceptable.
(2) TFT-LCD color will change slightly depending on environment temperature. This phenomenon is reversible.
(3) Current reduction rate of LED backlight is according to the graph indicated below:

Ambient Temperature (℃)

6. Reliability Test Items

No.	Test items	Conditions	Remark
1	High temperature storage	80℃ 240H	
2	Low temperature storage	-30℃ 240H	
3	High temperature & high humidity storage	60℃. 90% RH, 240H	
4	Thermal Shock	-20℃ ,30 min /80℃ ,30 min , 30 cycles	Static
5	Electrostatic discharge	150pF, 330Ω, ±2 KV, Air	Non-operation

Criterion: There should be no change which might affect the practical display function when the display quality test is conducted under normal operating condition.

7. Precautions for Operation and Storage

7.1 Precautions for Operation

(1) Since LCD panel is made of glass, in order to prevent from glass broken or color tone change, please do not apply any mechanical shock or impact or excessive force to it when installing the LCD module.

(2) If LCD panel is broken and liquid crystal substance leaks out and contact your skin or clothes, please immediately wash it off by using soap and water.

(3) The polarizer on the LCD surface is soft and easily scratched. Please be careful when handling.

(4) If LCD surface becomes contaminated, please wipe it off gently by using moisten soft cloth with normal hexane, do not use acetone, ketone, ethanol, isopropyl alcohol or water. If there is saliva or water on the LCD surface, please wipe it off immediately.

(5) When handling LCD module, please be sure that the body and the tools are properly grounded. And do not touch I/F pins with bare hands or contaminate I/F pins.

(6) Do not attempt to disassemble or process the LCD module.

(7) LCD module should be used under recommended operating conditions shown in chapter 4 and 6.

(8) Response time will be extremely slower at lower temperature than at specified temperature and LCD will show different color when at higher temperature. The phenomenon will disappear when returning to specified condition.

(9) Foggy dew, moisture condensation or water droplets deposited on surface and contact terminals will cause polarizer stain or damage, the deteriorated display quality and electrochemical reaction then leads to the shorter life time and permanent damage to the module probably. Please pay attention to the environmental temperature and humidity.

7.2 Precautions for Storage

(1) Please store LCD module in a dark place, avoid exposure to sunlight, the light of fluorescent lamp or any ultraviolet ray.

(2) Keep the environment temperature at between 10°C and 35°C and at normal humidity. Avoid high temperature, high humidity or temperature below 0°C.

(3) That keeps the LCD modules stored in the container shipped from supplier before using them is recommended.

(4) Do not leave any article on the LCD module surface for an extended period of time.

7.3 Warranty period

warrants for a period of 12 months from the shipping date when stored or used under normal condition