

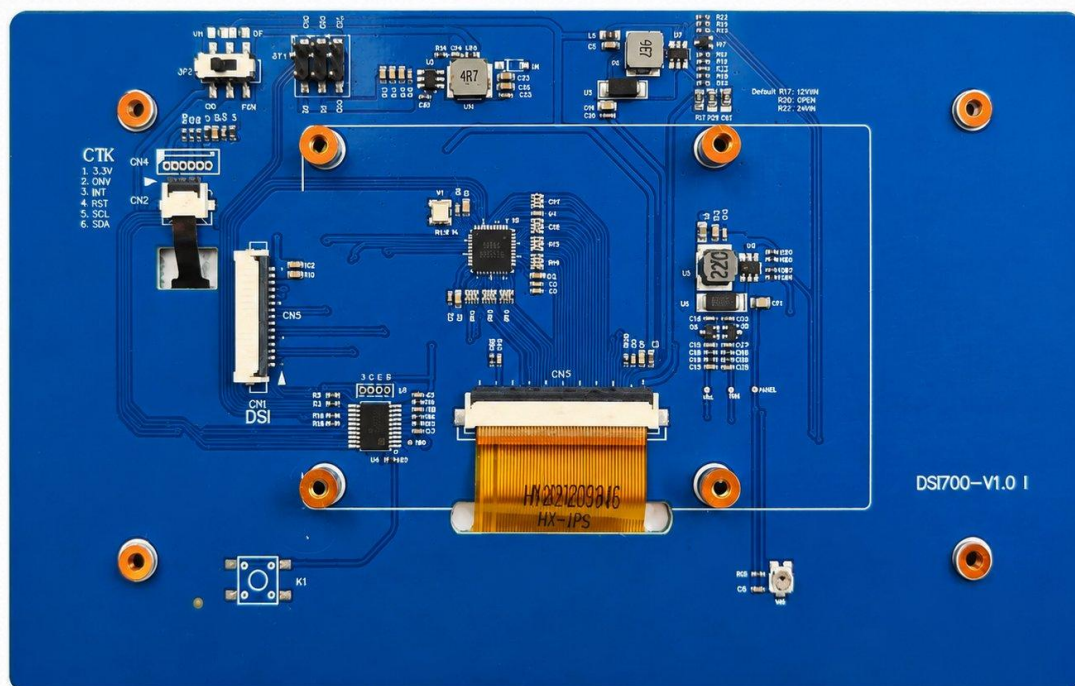


深圳市卡迪显示科技有限公司

SHENZHEN KADI DISPLAY

PN : KD070DSI02

7.0-inch DSI MIPI for Raspberry Pi





Contents

1. General Specifications	3
2. Electrical Characteristics	3
3. Drawing	4
4. Block Diagram	5
5. Optical Specifications	6
2. Reliability Test Items	10



1. General Specifications

Item	Specification	Unit
LCD Size	7.0	inch
Number of Pixels	1024(H) RGB x 600 (V)	pixels
Display Mode	Normally Black	-
Viewing Direction	80/80/80/80	-
Interface	DSI MIPI(15pin)	-
Display Colors	16.7M	colors
Outline Dimension	164.89 (H) x 100.00 (V) x 17.92 (D)	mm
Active Area	154.21 (H) x 85.92 (V)	mm
Pixel Pitch	0.1505 (H) x 0.1432 (V)	mm
Operation Temperature	-10~60	°C
Storage Temperature	-20~70	°C

Item	Specification
Touch Structure	G+G
Bonding Type with LCM	OCA Bonding
Driver IC	GT911
Interface	I ² C
Touch Count Max	5 Points
Surface treatment	-
Surface hardness	6H

2. Electrical Characteristics

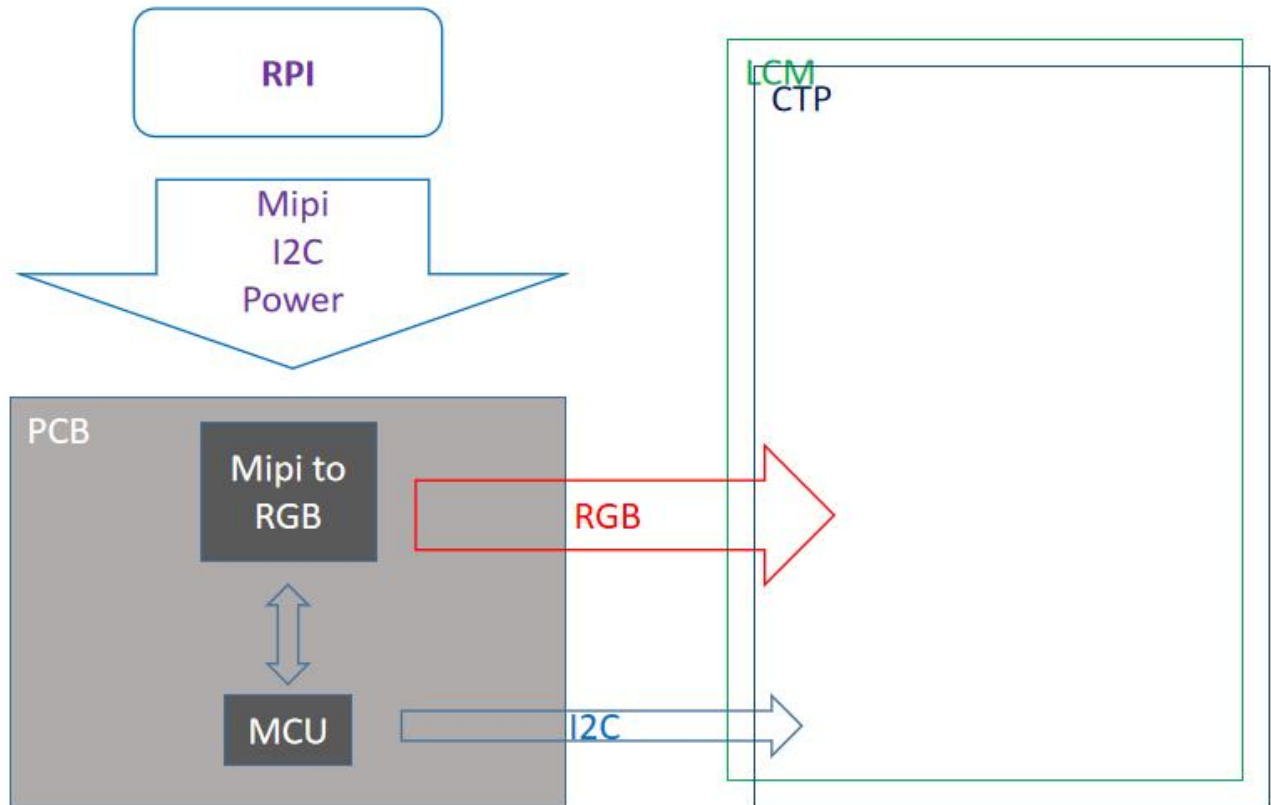
Item	Min	Typ	Max	Max
Supply Voltage	3.0	3.3	3.6	V
Backlight Voltage	-	9.9	-	V
Backlight Current	-	180	-	mA
BL Power consumption	-	1.782	-	W
Life time		30000		Hours



CN1.1M1P1 PIN	
1SP 1mm	
	PIN Definition
1	GND
2	MP DN1
3	MP DP1
4	GND
5	MP DCP
6	MP DCP
7	GND
8	MP DNO
9	MP DP0
10	GND
11	SCLO
12	SDAO
13	GND
14	DC 3V3
15	DC 3V3



4. Block Diagram





5. Optical Specifications

Item	Symbol	Condition	Min.	Typ.	Max.	Unit	Note
Viewing Angle (CR $\geq$ 10) B/L ON	θ_T	$\Phi=90^\circ$ (12 o'clock)	-	80	-	deg	Note2
	θ_B	$\Phi=270^\circ$ (6 o'clock)	-	80	-	deg	Note2
	θ_L	$\Phi=180^\circ$ (9 o'clock)	-	80	-	deg	Note2
	θ_R	$\Phi=0^\circ$ (3 o'clock)	-	80	-	deg	Note2
Response Time	$T_{ON}+T_{OFF}$	Normal $\theta=\Phi=0^\circ$	-	30	-	ms	Note4
Contrast Ratio	CR		-	500	-	-	Note1 Note3
Color Chromaticity	W_X		0.215	0.245	0.275	-	Note1 Note5
	W_Y		0.235	0.265	0.295	-	Note1 Note5
Luminance	L		-	400	-	cd/m ²	Note1 Note7
Luminance Uniformity	Y_U		75	80	-	%	Note1 Note6

Note 1: Definition of optical measurement system

The optical characteristics should be measured in dark room. After 5 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.

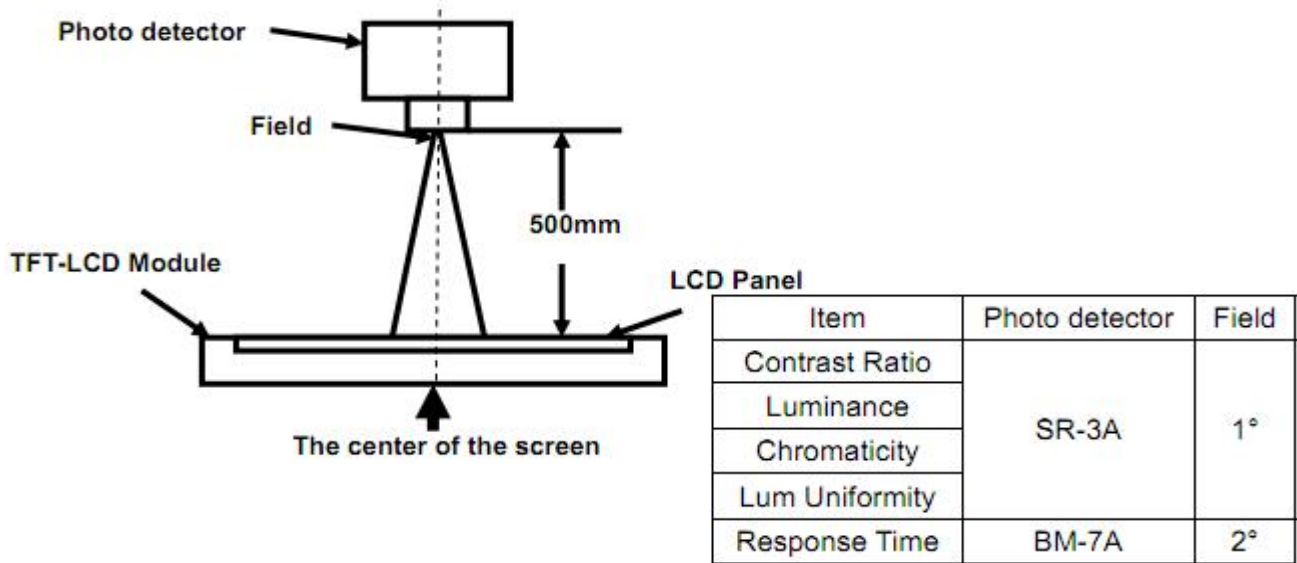


Fig 1

Note 2: Definition of viewing angle range and measurement system.

viewing angle is measured at the center point of the LCD by CONOSCOPE(ergo-80).

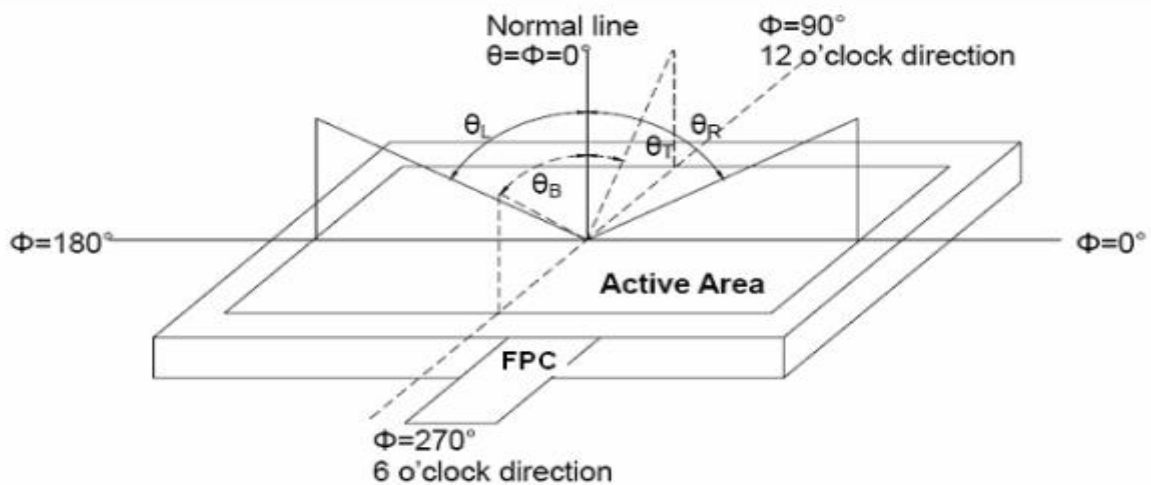


Fig 2 Definition of viewing angle

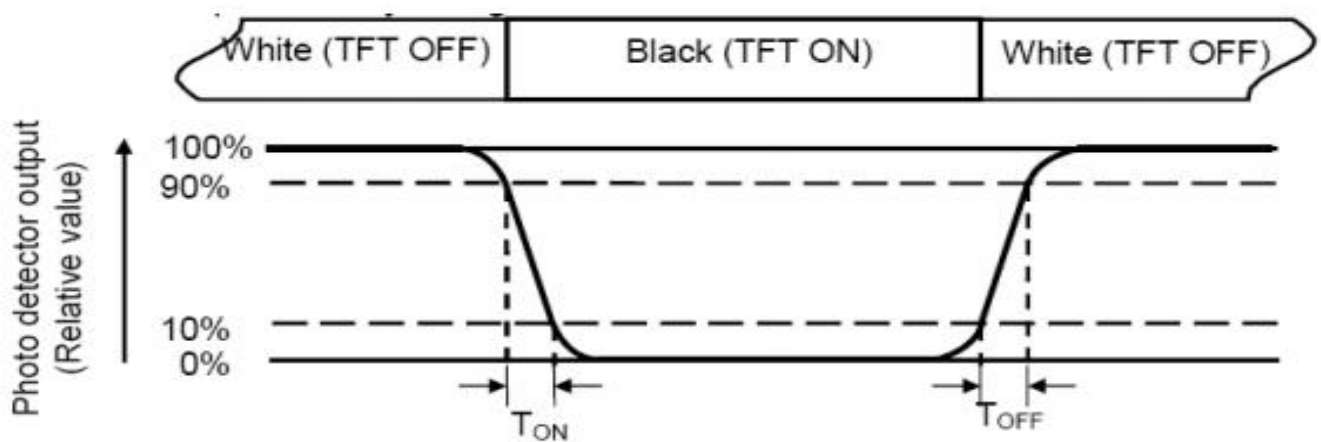


Note 3: Definition of contrast ratio

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

Note 4: Definition of Response time

The response time is defined as the LCD optical switching time interval between “White” state and “Black” state. Rise time (TON) is the time between photo detector output intensity changed from 90% to 10%. And fall time (TOFF) is the time between photo detector output intensity changed from 10% to 90%.



Note 5: Definition of color chromaticity (CIE1931)

Color coordinates measured at center point of LCD.

Note 6: Definition of Luminance Uniformity

The luminance uniformity in surface luminance is determined by measuring luminance at each test position 1 through n, and then dividing the maximum luminance of n points luminance by minimum luminance of n points luminance. For more information see FIG.3-a/b

Note 7: Surface luminance is the luminance with all pixels displaying white.

L_v = Average Surface Luminance with all white pixels ($P_1, P_2, P_3, \dots, P_n$)

For more information see FIG.3-a/b



Note 8: Size : $S \leq 5"$ (see Figure a) H,V : Active area

Light spot size $\varnothing = 5\text{mm}$ (BM-5) or $\varnothing = 7.7\text{mm}$ (BM-7) 50cm distance or test spot position : see Figure a.

measurement instrument : TOPCON's luminance meter SR-3A or BM-7 or compatible (see Figure 1).

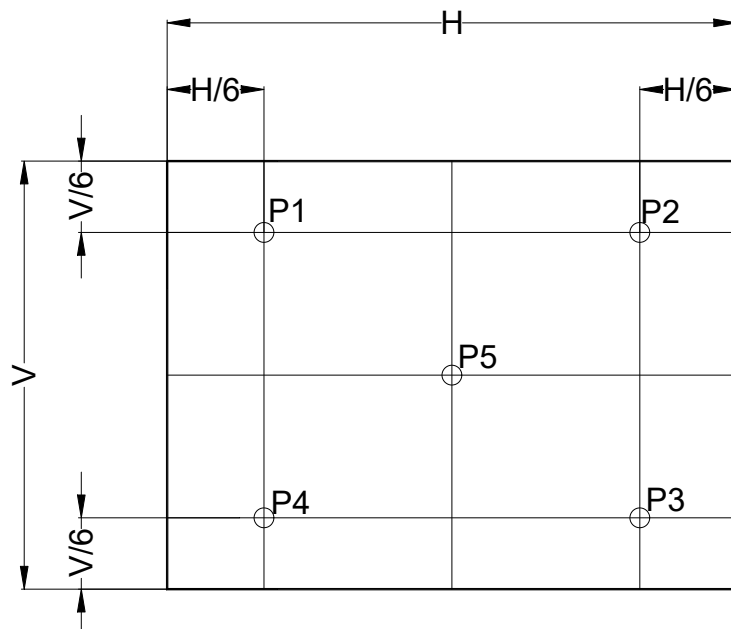


Fig. 3-a Definition of points

$5" < S \leq 12.3"$ (see Figure b) . H,V : Active area

Light spot size $\varnothing = 5\text{mm}$ (BM-5) or $\varnothing = 7.7\text{mm}$ (BM-7) 50cm distance or compatible distance from the LCD surface to detector lens. test spot position : see Figure b.

measurement instrument : TOPCON's luminance meter SR-3A or BM-7 or compatible (see Figure 1).

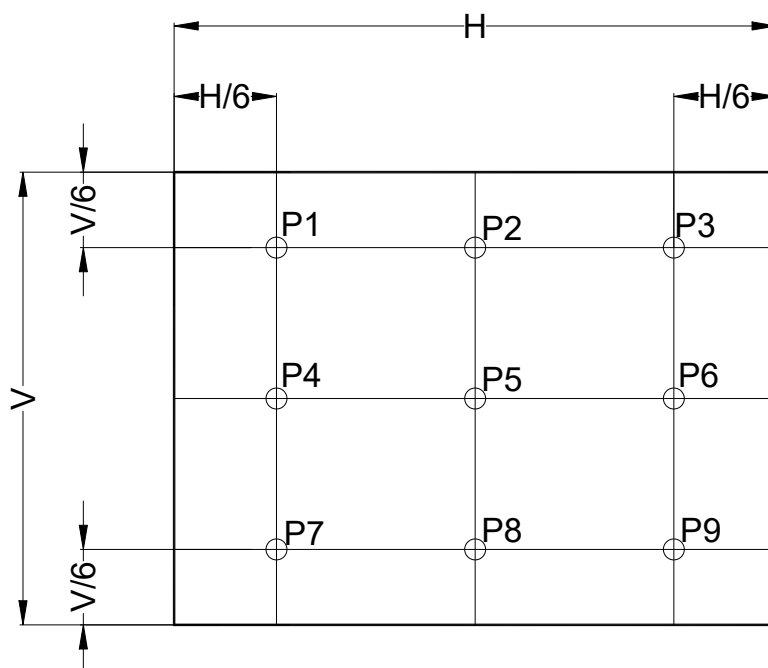


Fig. 3-b Definition of points



2. Reliability Test Items

Test Item	Test Conditions
High Temperature Storage	Ta= +70℃ 24hrs
Low Temperature Storage	Ta= -20℃ 24hrs
High Temperature Operation	Ta= +60℃ 24hrs
Low Temperature Operation	Ta= -10℃ 24hrs
High Temperature and Humidity Storage	Ta= +60℃, 90% RH 24hrs
Thermal Shock (Non-operation)	-20℃/30 min ~ +70℃/30 min for 24 cycles Start with cold temperature end with high temperature
Electro Static Discharge	Contact = ± 2 kV, class B Air = ± 8 kV, class B R=330Ω,C=150pF
Vibration	Sweep: 10Hz~55Hz~10Hz Stroke: 1.5mm 2 hrs for each direction of X .Y. Z.

Notes: The test result shall be evaluated after the sample has been left at room temperature and humidity for 2 hours without load. No condensation shall be accepted. The sample will not be accepted if appear these defects:

- 1). Air bubble in the LCD
- 2). Seal leak or Glass crack
- 3). Non display or abnormal display
- 4). Brightness reduction >50%