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RoHS Compliant



Description

MP010827 is a 4.3 (16:9) inch diagonally measured active display with high resolution WXGA 800x480 display and high brightness. This model is composed of a TFT LCD panel, backlight system, and HDMI interface. It is designed to make Raspberry Pi usage easy. You can simply use this TFT display with your Raspberry Pi, or also you can use this as computer display with any device which has HDMI output. This 4.3" TFT model comes in 800x480 resolution that would be great for embedded computing usage too.

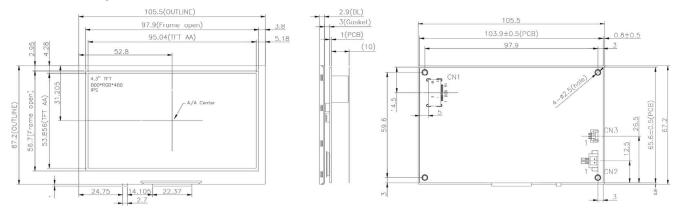
Features

No.	Item	Specification	Unit	
1	Panel Size	4.3"	Inch	
2	Number of Pixels	800 (W) × RGB × 480 (H)	Pixels	
3	Active Area	95.04 (W) × 53.856 (H)	mm	
4	Pixel Pitch	0.1188 (W) × 0.1122 (H)	mm	
5	Outline Dimension	105.5 (W) × 67.2 (H) × 16.9 (T)	mm	
6	Number of Colors	16.7M		
7	Display Mode	IPS / Normally Black / Transmissive		
8	View Direction	Free direction		
9	Display Format	RGB vertical stripe		
10	Surface Treatment	Anti-Glare		
11	Contrast Ratio	800 (Typ.)		
12	Luminance (cd/m^2)	1100 (Typ.)	cd/m2	
13	Video Input Interface	HDMI (Compliance HDMI V1.4)		
14	Backlight	White LED		
15	Operation Temperature	-30 to 70	°C	
16	Storage Temperature	-30 to 80	°C	
17	Weight	(60)	g	



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Mechanical Specification



Pin Description

HDMI (CN1) [HDMI A TYPE: A111974-2-01-R or compatible]

Pin No.	Symbol	I/O	Function
1	TMDS 2+	I	TMDS Data2+
2	GND	Р	TMDS Data2 Shield
3	TMDS 2-	I	TMDS Data2-
4	TMDS 1+	I	TMDS Data1+
5	GND	Р	TMDS Data1 Shield
6	TMDS 1-	I	TMDS Data1-
7	TMDS 0+	I	TMDS Data0+
8	GND	Р	TMDS Data0 Shield
9	TMDS 0-	I	TMDS Data0-
10	TMDS CLK+	I	TMDS Clock+
11	GND	Р	TMDS Clock Shield
12	TMDS CLK-	I	TMDS Clock-
13	CEC	I	CEC
14	N.C.	-	N.C.
15	DDC_SCL	I	IIC SCL to EDID ROM
16	DDC_SDA	I/O	IIC SDA to EDID ROM
17	GND	Р	DDC/CEC Ground
18	HD_5V	Р	+5V Power
19	HPD	0	Hot Plug Detect

Power Input(CN2) [WAFER P2.0mm:2001S-02-RTE or compatible]

Pin No.	Symbol	I/O	Function
1	5V	Р	Power Supply +5V
2	GND	Р	Ground

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Back-light Control(CN3) [WAFER P1.25mm:1251-03-ST-SE or compatible]

Pin No.	Symbol	I/O	Function	Note
1	GND	Р	Ground	
2	PWM	I	Back-light Dimming control (internal pull up to 3.3V)	*1
3	NC	-	No connection.	

Absolute Maximum Ratings

Electrical Absolute Rating HDMI TFT LCD Module

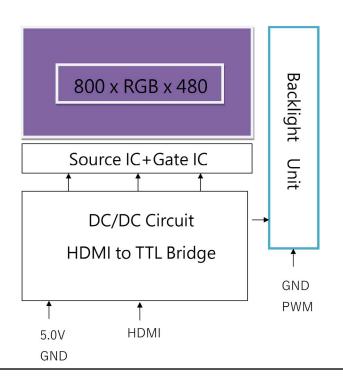
Itam	Cumbal	Val	ues	Unit
Item	Symbol	Min		Unit
Power supply voltage	5V	4.5	5.5	V

Environment Absolute Rating

Item	Cumbal	Val	ues	Unit	Note	
item	Symbol Min		Max.	Unit	Note	
Operating Temperature	Тор	-30	70	°C	Ambient	
Storage Temperature	Tst	-30	80	C	temperature	

Block Diagram

5.2 TFT LCD Module



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Electrical Characteristics

HDMI TFT LCD Module

Itam	Symbol		Values		l leit	Note
Item	Symbol	Min	Тур.	Max.	Unit	Note
Supply Voltage	5V	4.5	5	5.5	V	
PWM frequency		200	-	200K	Hz	
DIMA Dinamina Valta na	Vpwm-ih	2	3.3	5	V	
PWM Dimming Voltage	VPWM-IL	-	-	0.8	ľ	
Supply Current	ICC(5V)	-	375	405	mA	
LED life time		-	50000	-	Hr	(1)

Note

The "LED life time" is defined as the module brightness decrease to 50% original brightness that the ambient temperature is 25°C 60% RH.

Optical Characteristics

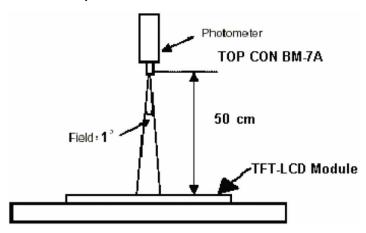
Ite	m	Symbol	Condition	Min.	Тур.	Max.	Unit
Brightness				880	1100		cd/m2
Unifor	rmity	B-uni	Note1, Note	70	75	-	%
Contrast Ratio		CR	3, (θ= 0°, Normal Viewing	640	800		
Response Time		Tr + Tf			30	40	ms
Colour	\\/hito	Wx	Angle)	0.26	0.31	0.36	
Chromaticity	Chromaticity White	Wy		0.28	0.33	0.38	
	Horizontal	θx+	Center CR≥10				
View angle	попиона	θх-		70	90		
		θΥ+		70	80		
	Vertical	θΥ-]				

Note: The following optical specifications shall be measured in a darkroom or equivalent state (ambient luminance ≤1 lux, and at room temperature). The operation temperature is 25°C±2°C. The measurement method is shown in Note1.





Note1: The method of optical measurement

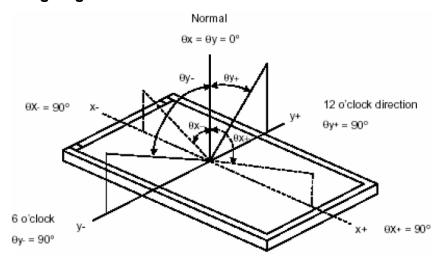


Note2: Measured at the center area of the panel and at the viewing angle of the $\theta x=\theta y=0^{\circ}$

Note3: Definition of Contrast Ratio (CR):

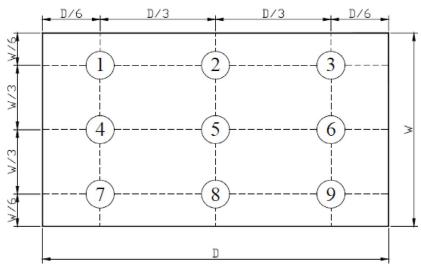
CR = Luminance with all pixels in white state ÷ Luminance with all pixels in Black state

Definition of Viewing Angle



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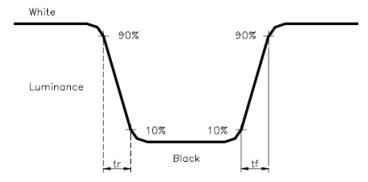
Definition of Brightness Uniformity (B-uni)



B-uni = (Minimum luminance of 9 points÷Maximum luminance of 9points)X100%

Note 6: Definition of Response Time:

The Response Time is set initially by defining the "Rising Time (Tr)" and the "Falling Time (Tf)" respectively. Tr and Tf are defined as following figure



Note 7: Definition of Chromaticity:

The color coordinates (Wx,Wy),(Rx,Ry),(Gx,Gy),and (Bx,By) are obtained with all pixels in the viewing field at white, red, green, and blue states, respectively.

Part Number Table

Description	Part Number	
TFT LCD, 4.3", HDMI, 800 × 480	MP010827	

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