



## **DM-TFT28-304**

**2.8" 240x320 TFT LCD DISPLAY PANEL  
(ILI9341) WITH RESISTIVE TOUCH - SPI,  
MCU, RGB**

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## 1 Revision History

Date	Changes
2018-06-22	First release

## 2 Main Features

Item	Specification	Unit
LCD Type	TFT/TRANSMISSIVE	
Resolution	240(RGB) x 320	pixel
Module Dimension	50.20 x 69.30 x 4.00	mm
TFT Controller IC	ILI9341	-
RTP Controller IC	XPT2046	
Interface	8/9/16/18-Bit MCU, 16/18-Bit RGB, 3/4-Wire SPI	-
Dot Pitch	0.18 x 0.18	mm
Display Color	65K/262K	color
View Direction	12:00	o'clock
Backlight Type	LED	-
Weight	TBD	g

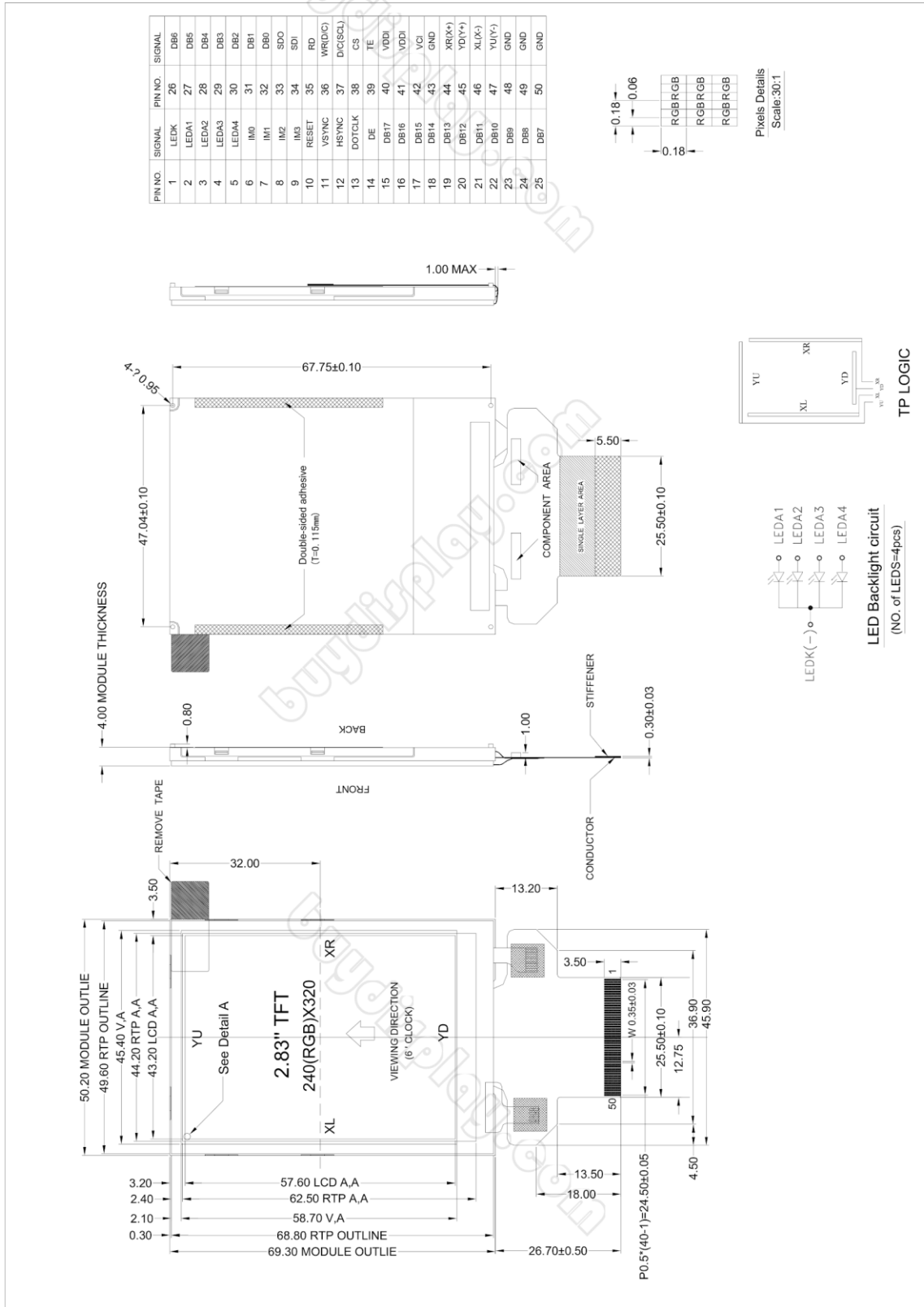
### 3 Pin Description

No.	Symbol	Description
1	LEDK	Cathode pin of backlight
2	LEDA1	Anode pin of backlight
3	LEDA2	Anode pin of backlight
4	LEDA3	Anode pin of backlight
5	LEDA4	Anode pin of backlight
6	IM0	Select Interface Mode;Note1
7	IM1	
8	IM2	
9	IM3	
10	RESET	Reset Pin
11	VSYNC	Frame synchronizing signal for RGB interface operation.
12	HSYNC	Line synchronizing signal for RGB interface operation.
13	DOTCLK	Dot clock signal for RGB interface operation.
14	DE	Data Enable Signal for RGB interface operation.
15-32	DB17-DB0	Data Bus
33	SDO	Serial Output Signal
34	SDI	Serial Input Signal
35	RD	Read execution control pin
36	WRX(D/CX)	Write execution control pin;Serial Register select s Signal
37	D/CX(SCL)	Register select signal;Serial Interface Clock
38	CSX	Chip select signal
39	TE	Tearing effect out pin synchronize MPU to frame ariting
40	VDDI	Power Supply to the interface pins,provide with 2.8V
41	VDDI	Power Supply to the interface pins,provide with 2.8V
42	VCI	Logic power ,provide with 2.8V
43	GND	Ground
44	X+	Touch panel output
45	Y+	Touch panel output
46	X-	Touch panel output
47	X-	Touch panel output
48	GND	Ground
49	GND	Ground
50	GND	Ground

Note 1:

IM3	IM2	IM1	IM0	MCU-Interface Mode	Pin in use	
					Register/content	GRAM
0	0	0	0	8080 MCU 8-bit Bus Interface I	D[7:0]	D[7:0],WRX,RDX,CSX,D/CX
0	0	0	1	8080 MCU 16-bit Bus Interface I	D[7:0]	D[15:0],WRX,RDX,CSX,D/CX
0	0	1	0	8080 MCU 9-bit Bus Interface I	D[7:0]	D[8:0],WRX,RDX,CSX,D/CX
0	0	1	1	8080 MCU 18-bit Bus Interface I	D[7:0]	D[17:0],WRX,RDX,CSX,D/CX
0	1	0	1	3-wire 9-bit data serial Interface I	SCL,SDA,CSX	
0	1	1	0	4-wire 8-bit data serial Interface I	SCL,SDA,D/CX,CSX	
1	0	0	0	8080 MCU 16-bit Bus Interface II	D[8:1]	D[17:0],D[8:1],WRX,RDX,CSX,D/CX
1	0	0	1	8080 MCU 8-bit Bus Interface II	D[17:10]	D[17:10],WRX,RDX,CSX,D/CX
1	0	1	0	8080 MCU 18-bit Bus Interface II	D[8:1]	D[17:0],WRX,RDX,CSX,D/CX
1	0	1	1	8080 MCU 9-bit Bus Interface II	D[17:10]	D[17:9],WRX,RDX,CSX,D/CX
1	1	0	1	3-wire 9-bit data serial Interface II	SCL,SDI,SDO,CSX	
1	1	1	0	4-wire 8-bit data serial Interface II	SCL,SDI,D/CX,SDO,CSX	

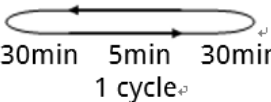
# 4 Mechanical Drawing



## 5 Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V <sub>CI</sub>		2.5	2.8	3.3	V
I/O Digital Voltage	V <sub>DDIO</sub>		1.65	2.8	3.3	V
Input Current	I <sub>DD</sub>			8		mA
Low Level Input Voltage	V <sub>IL</sub>		GND		0.3IOVCC	V
High Level Input Voltage	V <sub>IH</sub>		0.7IOVCC		IOVCC	V
Low Level Output Voltage	V <sub>OL</sub>		GND		0.2IOVCC	V
High Level Output Voltage	V <sub>OH</sub>		0.8IOVCC		IOVCC	V
Operating Temperature	TOP	Absolute Max	-20		+70	°C
Storage Temperature	TST	Absolute Max	-30		+80	°C
LED Forward Current	I <sub>f</sub>	-	80		mA	
LED Forward Voltage	V <sub>f</sub>		3.2		V	

## 6 Reliability

Test Item	Content of Test	Test Condition	Note
High Temperature Storage	Endurance test applying the high storage temperature for a long time.	80°C 200hrs	2
Low Temperature Storage	Endurance test applying the high storage temperature for a long time.	-30°C 200hrs	1,2
High Temperature Operation	Endurance test applying the electric stress (Voltage & Current) and the thermal stress to the element for a long time.	70°C 200hrs	-
Low Temperature Operation	Endurance test applying the electric stress under low temperature for a long time.	-20°C 200hrs	1
High Temperature/ Humidity Operation	The module should be allowed to stand at 60°C,90%RH max, for 96hrs under no-load condition excluding the polarizer. Then taking it out and drying it at normal temperature.	60°C,90%RH 96hrs	1,2
Thermal Shock Resistance	The sample should be allowed stand the following 10 cycles of operation. 	-20°C/70°C 10 cycles	-
Vibration Test	Endurance test applying the vibration during transportation and using.	Total fixed amplitude: 15mm; Vibration: 10~55Hz; One cycle 60 seconds to 3 directions of X, Y, Z, for each 16 minutes.	3
Static Electricity Test	Endurance test apply the electric stress to the terminal.	VS=800V, RS=1.5kΩ, CS=100pF, 1 time.	-

Note1: No dew condensation to be observed.

Note2: The function test shall be conducted after 4 hours storage at the normal. Temperature and humidity after remove from the rest chamber.

Note3: Test performed on product itself, not inside a container



## 7 Warranty and Conditions

<http://www.displaymodule.com/pages/faq>