DM-TFT101-355
10.1" 1280X800 IPS
DISPLAY WITH 10 POINTS
CAPACITIVE TOUCH (USB
TOUCH INTERFACE)-
LVDS

Contents

1 Revision History

Date	Changes
2018-04-26	First release

2 Main Features

Item	Specification	Unit
Screen Size	10.1	inch
Driver Mode	Transmissive	-
Display Colors	65K/262K/16.7M	colors
Resolution	1280 x 800	dots
Interface	LVDS	-
Power Supply	3.3	V
View Direction	ALL	-
Background LED	LED Normally Black	-
Touch mode	10 points and Gestures	
Weight	TBD	g

3 Pin Description

3.1 TFT

Pin No.	Symbol	Function Description
1	VCOM	Common Voltage
2	VDD	Power Supply
3	VDD	Power Supply
4	NC	No connection
5	NC	No connection
6	NC	No connection
7	GND	Ground
8	RXIN0-	- LVDS differential data input
9	RXIN0+	+ LVDS differential data input
10	GND	Ground
11	RXIN1-	- LVDS differential data input
12	RXIN1+	+ LVDS differential data input
13	GND	Ground
14	RXIN2-	- LVDS differential data input
15	RXIN2+	+ LVDS differential data input
16	GND	Ground
17	RXCLKIN-	- LVDS differential clock input
18	RXCLKIN+	+ LVDS differential clock input
19	GND	Ground
20	RXIN3-	- LVDS differential data input
21	RXIN3+	+ LVDS differential data input
22	GND	Ground
23	NC	No connection
24	NC	No connection
25	GND	Ground
26	NC	No connection
27	LED_PWM	CABC controller signal output for backlight
28	NC	No connection
29	AVDD	Power for Analog Circuit
30	GND	Ground
31	LED-	LED Cathode
32	LED-	LED Cathode
33	NC	No connection
34	NC	No connection
35	VGL	Gate OFF Voltage
36	NC	No connection
37	CABC_EN	CABC Enable Input
38	VGH	Gate ON Voltage
39	LED+	LED Anode
40	LED+	LED Anode

Note1: The setting of CABC function are as follows.

Pin	Enable	Disable
CABC_EN	High Voltage	Low Voltage or open

Note2: LED_PWM is used to adjust backlight brightness.
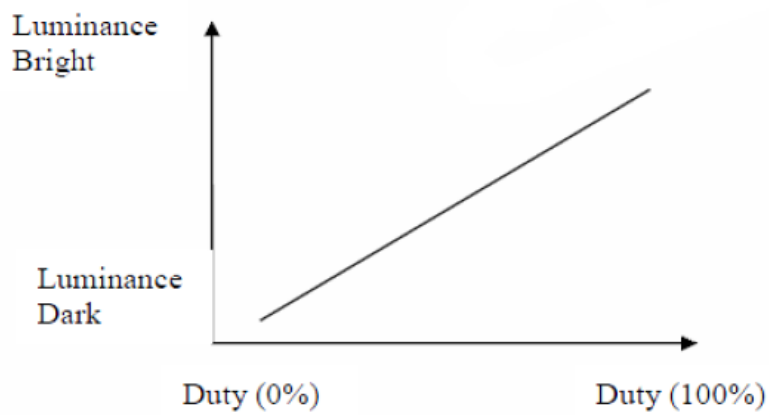
3.2 CTP

Pin No.	Symbol	Function Description
1	PSEL	Power Select pin. PSEL=0, powered by external voltage supply(2.8-3.6V); PSEL=5V(VBUS), powered by USB.
2	VBUS	VBUS sensor input, The pin should be connected to USB 4.5~5.5V
3	DN	USB D-
4	DP	USB D+
5	GND	Ground
6	NC	No connection
7	NC	No connection
8	NC	No connection
9	NC	No connection
10	NC	No connection
11	NC	No connection
12	NC	No connection

NOTE: A magnetic bead has to be added to the host for the FPC .

To work in USB mode,the connection is as below. NC unconnected. Magnetic bead L1 should be connected to USB_5V.(J1 is one of the pins of FPC)

4 Mechanical Drawing

NO.	Pin Name
1	VCOM
2	VDD
3	VDD
4	NC
5	NC
6	NC
7	GND
8	RXIN0-
9	RXIN0+
10	GND
11	RXIN1-
12	RXIN1+
13	GND
14	RXIN2-
15	RXIN2+
16	GND
17	RXCLK-
18	RXCLK+
19	GND
20	RXIN3-
21	RXIN3+
22	GND
23	NC
24	NC
25	GND
26	NC
27	LED_PWM
28	NC
29	AVDD
30	GND
31	LED-
32	LED-
33	NC
34	NC
35	VGL
36	NC
37	CABC_EN
38	VGH
39	VLED+
40	VLED+

PCB BORAD

Detail A

59.42

26.25

connector

Sheet steel reinforcing
Contact G00

4.83±0.2 TOTAL
2.33±0.2 CTP
2.5±0.2 LCM

4.7Max PCB+Component

1.3 MAX

0.3±0.03

BACK

FRONT

A magnetic bead has to be added to the host for the FPC
To work in USB mode,the connection is as below. NC unconnected. Magnetic bead L1
should be connected to USB_5V.(J1 is one of the pins of FPC)

Black

4-R0.2

0.5
7.04
7.54

229.46±0.20 OUTLINE
228.46±0.1 COVER OD
217.96 COVER VA
216.96 AA

113.44

10.1" TFT

1280*RGB*800

IPS

72.73

149.1±0.20 OUTLINE
148.1±0.1 COVER OD
136.6 COVER VA
135.60 AA
4.93
4.43
0.5

III

2.5±0.3

0.35±0.03

III
5:1

0.5±0.07
5.5±0.03
6.5±0.05

NOTES:
1. DISPLAY TYPE: 10.1", TFT-LCD, 262K COLORS
2. DISPLAY MODE: NORMALLY BLACK
3. VIEWING DIRECTION: ALL
4. CTP DRIVER IC: FT5826QSL
5. VDD: 3.3V
6. CTP SURFACE HARDNESS: 6H
7. OPERATING TEMP: 0°C TO 50°C
   STORAGE TEMP: -20°C TO 60°C
8. RoHS COMPLIANT.

5 Electrical Characteristics

5.1 TFT

Item	Symbol	Condition	Min	Typ.	Max	Unit
Supply Voltage For Logic	VDD		3.0	3.3	3.6	V
Digital Operation Current	IDD	VDD=3.3V	-	150	-	mA
Low Level Input Voltage	V_{IL}		GND	-	0.2VDD	V
High Level Input Voltage	V_{IH}		0.8VDD	-	VDD	V
Low Level Output Voltage	V_{OL}		GND		0.2VDD	V
High Level Output Voltage	V_{OH}		0.8VDD		VDD	V
Backlight Forward Voltage	V_{LED}		-	9.3	9.9	V
Backlight Forward Current	I_{LED}		-	260	-	mA
Operating Temperature	TOP	Absolute Max	0	-	+50	℃
Storage Temperature	TST	Absolute Max	-20	-	+60	℃

5.2 CTP

Item	Symbol	Condition	Min	Typ.	Max	Unit
Supply Voltage For Logic	VDD		-	3.3	-	V
Digital Operation Current	IDD	VDD=3.3V	-	7.44	-	mA
Low Level Input Voltage	V_{IL}		GND	-	0.3VDD	V
High Level Input Voltage	V_{IH}		0.7VDD	-	VDD	V
Low Level Output Voltage	V_{OL}		GND		0.3VDD	V
High Level Output Voltage	V_{OH}		0.7VDD		VDD	V
Operating Temperature	TOP	Absolute Max	0	-	+50	℃
Storage Temperature	TST	Absolute Max	-20	-	+60	℃

6 Optical Characteristics

Item	Symbol	Min	Typ	Max	Unit	Note
View Angles Top		75	85		°	
View Angles Bottom		75	85		°	
View Angles Left		75	85		°	
View Angles Right		75	85		°	
Response Time (25°C)	Tr + Tf		35	50	ms	
Uniformity		70	75		%	
Contrast Ratio	CR	600	800			
Luminance	L_V	-	300	-	cd/m²	

7 Capacitive Touch Panel Characteristics

Item	Specification	Unit
IC	FT5826QSL	
Points	10	
Surface Hardness	6	H
Light Transmission	>85%	
Operating Humidity	20~85%	RH
Storage Humidity	5~90%	RH

USB is configured in device mode, and a Full speed USB function is supported. The USB function controller is as follows.

USB 2.01-compliant composite device , full speed (12Mbps) ;

Require external crystal (12MHz) ;

Support USB LPM L1;

integrated transceiver;

Support USB-HID protocol for Win8.

Vendor ID: 0x2808

8 Timing Characteristics

8.1 Power Sequence

a. Power on:
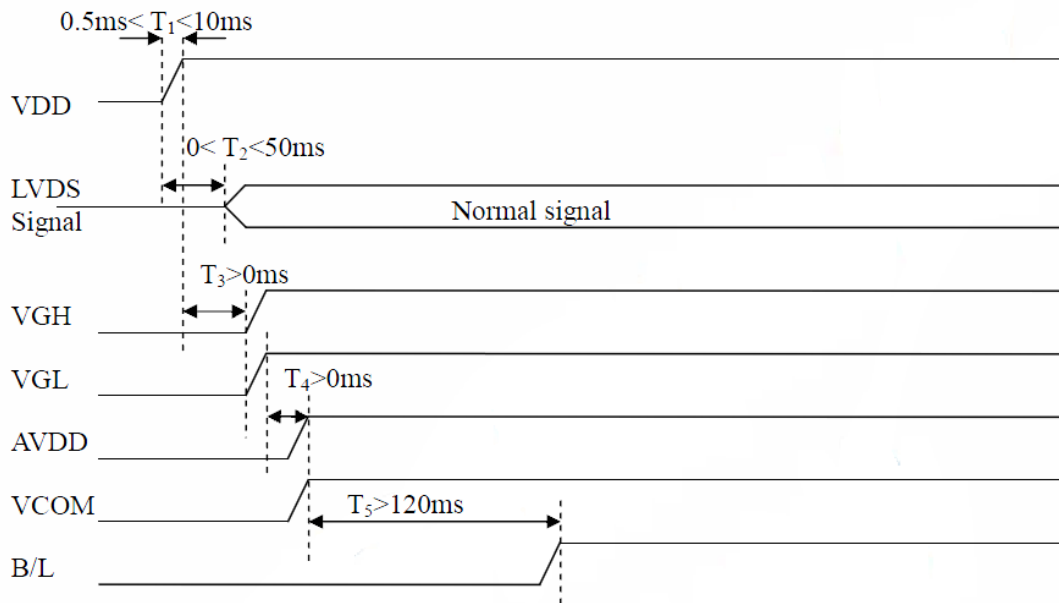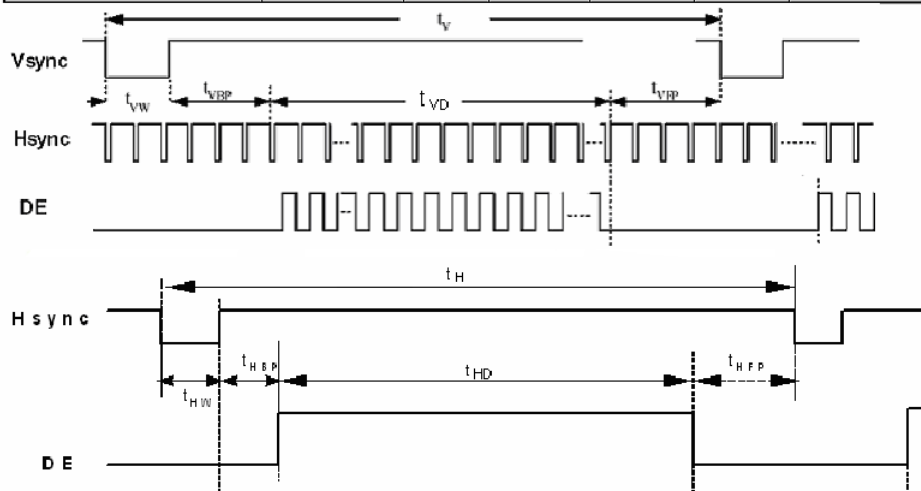

b. Power off:
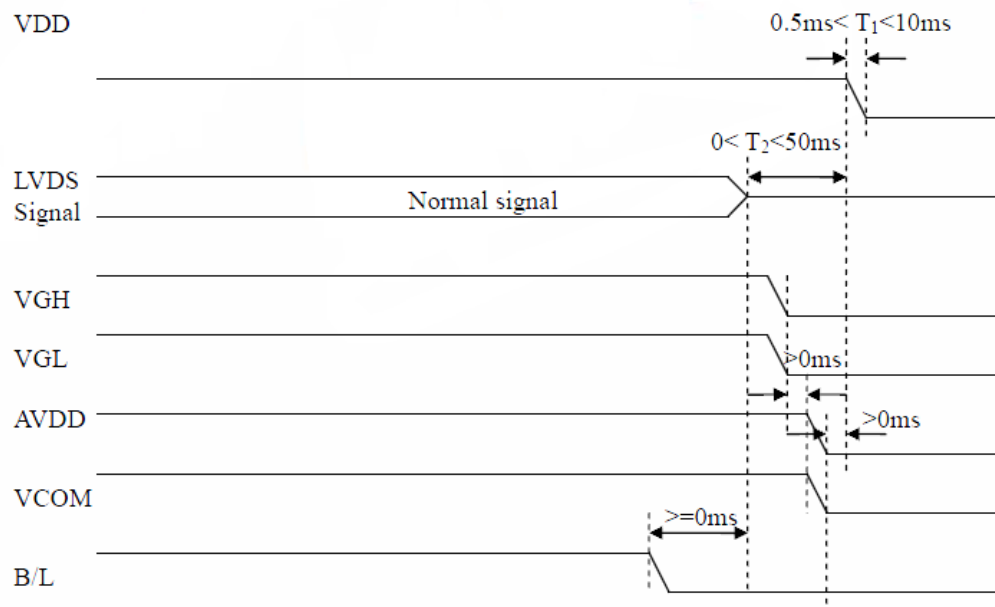
8.2 LVDS Signal Timing Characteristics

A AC Electrical Characteristics

Parameter	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
LVDS Differential input high Threshold voltage	R_{xVTH}	-	-	+100	mV	R_{XVCM}=1.2V
LVDS Differential input low Threshold voltage	R_{xVTL}	-100	-	-	mV	
LVDS Differential input common mode voltage	R_{xVCM}	0.7	-	1.6	V	
LVDS Differential voltage	$|V_{ID}|$	100	-	600	mV	
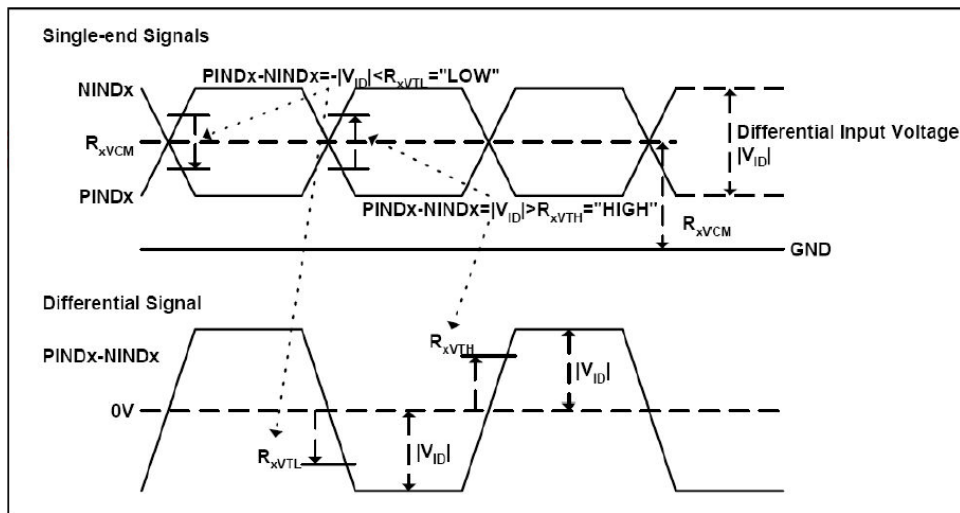
B Timing Table

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Clock Frequency	1/Tc	(68.9)	71.1	(73.4)	MHz	Frame rate =60Hz
Horizontal display area	t_{HD}		1280		Tc	
HS period time	t_H	(1410)	1440	(1470)	Tc	
HS Width +Back Porch +Front Porch	t_{HW}+ t_{HBP} +t_{HFP}	(60)	160	(190)	Tc	
Vertical display area	t_{VD}		800		t_H	
VS period time	t_V	(815)	823	(833)	t_H	
VS Width +Back Porch +Front Porch	t_{VW}+ t_{VBP} +t_{VFP}	(15)	23	(33)	t_H	

C LVDS Data Input Format
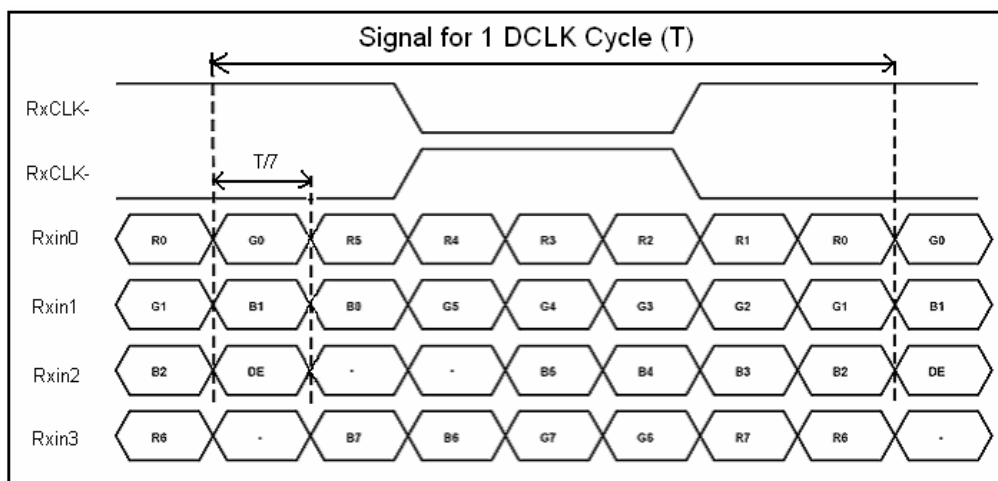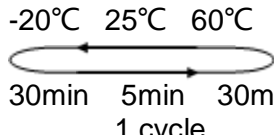
9 Driver/Controller Information

9.1 TFT

9.2 CTP

Built-in FT5826 Controller:

https://drive.google.com/file/d/1fQwVb1afEWMitYH3dyzZFs9H-FYPxZxj/view?usp=sharing

10 Reliability

Test Item	Content of Test	Test Condition	Note
High Temperature Storage	Endurance test applying the high storage temperature for a long time.	60℃ 200hrs	2
Low Temperature Storage	Endurance test applying the high storage temperature for a long time.	-20℃ 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.	50℃ 200hrs	-
Low Temperature Operation	Endurance test applying the electric stress under low temperature for a long time.	0 ℃ 200hrs	1
High Temperature/ Humidity Operation	The module should be allowed to stand at 60℃,90%RH max, for 96hrs under no-load condition excluding the polarizer. Then taking it out and drying it at normal temperature.	60℃,90%RH 96hrs	1,2
Thermal Shock Resistance	The sample should be allowed stand the following 10 cycles of operation. -20℃ 25℃ 60℃ 30min 5min 30min 1 cycle	-20℃/60℃ 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: The packing have to including into the vibration testing.

11 Warranty and Conditions

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