



DM-TFT80-379
8.0" IPS 1600X480 BAR TYPE
DISPLAY PANEL WITH
CAPACITIVE TOUCH-LVDS

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1 Revision History

Date	Changes
2018-11-5	First release

2 Main Features

Item	Specification	Unit
Size	8.0	Inch
Resolution	1600(RGB) x 480	pixel
Module Dimension	249.2 x87.0 x 6.86	mm
Display area	194.4 x 58.32	mm
Pixel pitch	0.1215 x 0.1215	mm
TFT Controller IC	HX8249 +HX8678	-
CTP Driver IC	FT5926QSM	-
Interface	6/8bit LVDS	-
Display Color	16.7M	colors
View Direction	All	
Touch mode	10 points	-
Display mode	Transmissive / Normally black	-
Weight	TBD	g

3 Pin Description

3.1 TFT

Pin No.	Symbol	Function Description
1	STBYB	Enable IC
2	RESET	Reset IC
3	VDD	Supply voltage(3.3V).
4	VDD	Supply voltage(3.3V).
5	SELB	6/8bit mode select
6	GND	Ground
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	RXCLKIN-	- LVDS differential clock input
15	RXCLKIN+	+ LVDS differential clock input
16	GND	Ground
17	RXIN2-	- LVDS differential data input
18	RXIN2+	+ LVDS differential data input
19	GND	Ground
20	RXIN3-	- LVDS differential data input
21	RXIN3+	+ LVDS differential data input
22	GND	Ground
23	VSDN	Power for Driver IC
24	VSDN	Power for Driver IC
25	VSDN	Power for Driver IC
26	VSDN	Power for Driver IC
27	VSDN	Power for Driver IC
28	VSDN	Power for Driver IC
29	GND	Ground
30	RL	Horizontal shift direction
31	TB	Vertical shift direction
32	ATREN	Only for OTP program
33	CSB	SPI
34	SCL	SPI
35	SDA	SPI
36	VDD-OTP	7.5V for OTP program
37	LED-	LED Cathode
38	LED-	LED Cathode
39	LED+	LED Anode
40	LED+	LED Anode

Note.1 STBYB=H(3.3V),normal operarion. STBYB=L(GND),timing controller,source driver will run off,all opout are High-Z.

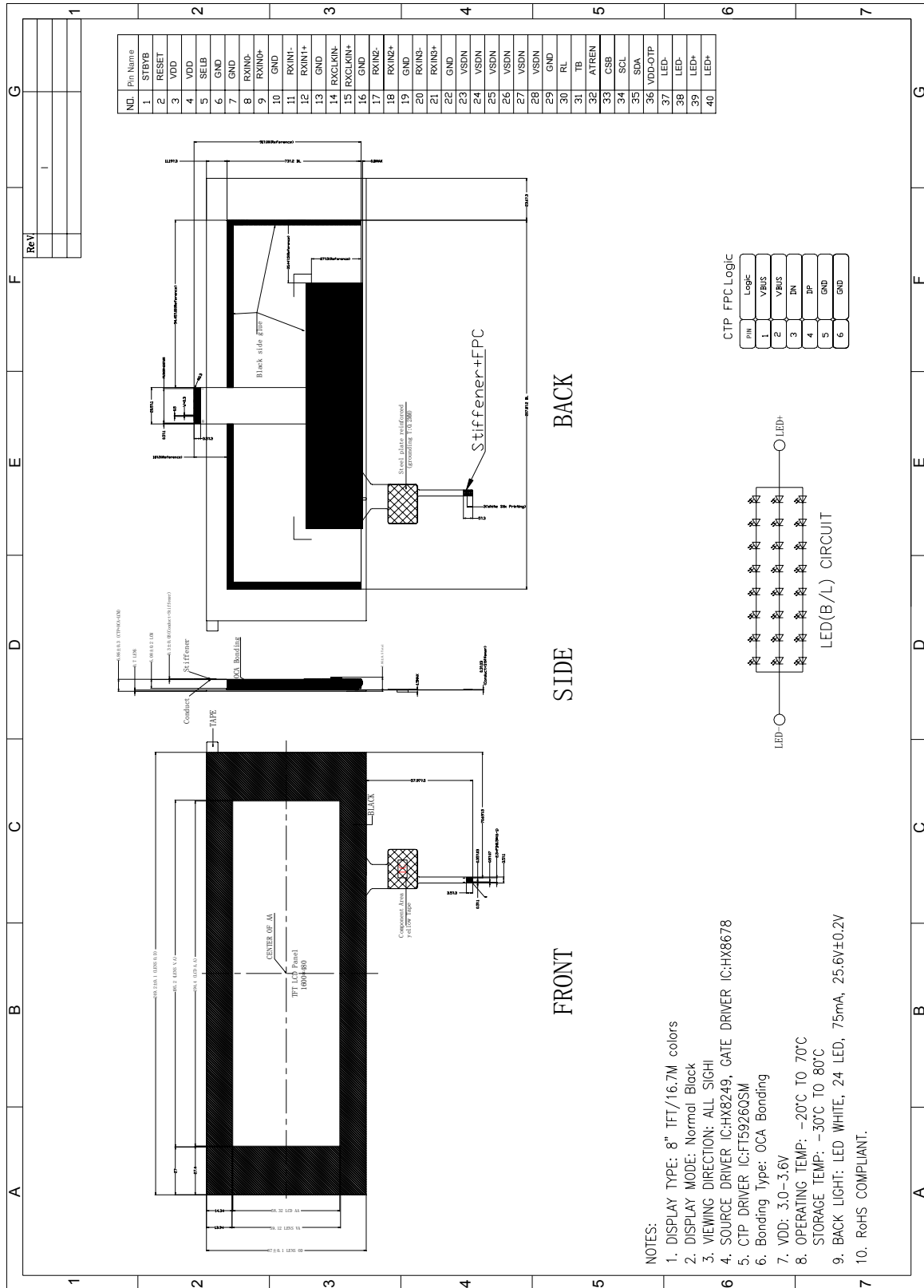
Note.2 Suggest to connection with an RC reset circuit for stability,Normally pull high. (47K Ω +0.1 μ F or extirnal MCU control)

Note.3 If LVDS iput data is 8 bit,SELB must be set to hight.

3.2 CTP

No.	Symbol	Description
1	VBUS	Supply voltage(4.5V-5.5V)
2	VBUS	Supply voltage(4.5V-5.5V)
3	DN	USB D-
4	DP	USB D+
5	GND	Ground
6	GND	Ground

4 Mechanical Drawing



- NOTES:
1. DISPLAY TYPE: 8" TFT/16.7M colors
 2. DISPLAY MODE: Normal Black
 3. VIEWING DIRECTION: ALL SIGH
 4. SOURCE DRIVER IC:HX8249, GATE DRIVER IC:HX8678
 5. CTP DRIVER IC:FT59260SM
 6. Bonding Type: OCA Bonding
 7. VDD: 3.0~3.6V
 8. OPERATING TEMP: -20°C TO 70°C
STORAGE TEMP: -30°C TO 80°C
 9. BACK LIGHT: LED WHITE, 24 LED, 75mA, 25.6V±0.2V
 10. RoHS COMPLIANT.

5 Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Digital Supply Voltage	VDD		3.0	3.3	3.6	V
Normal mode Current	IDD		-	25	-	mA
Operating Temperature	TOP	Absolute Max	-20	-	+70	°C
Storage Temperature	TST	Absolute Max	-30	-	+80	°C
LED Forward Current	If		60	75	-	mA
LED Forward Voltage	Vf		-	25.6	-	V

6 Optical Characteristics

Item	Symbol	Min	Typ	Max	Unit
View Angles TOP	θ U	-	85	-	deg
View Angles Bottom	θ D	-	85	-	deg
View Angles Right	θ R	-	85	-	deg
View Angles Left	θ L	-	85	-	deg
Response Time	Tr +Tf		25	35	ms
Contrast Ratio	CR	700	900	-	--
LCM Luminance	Lv	375	425	-	cd/m ²

7 AC Characteristics

7.1 LVDS 6-bit vs. 8-bit mode

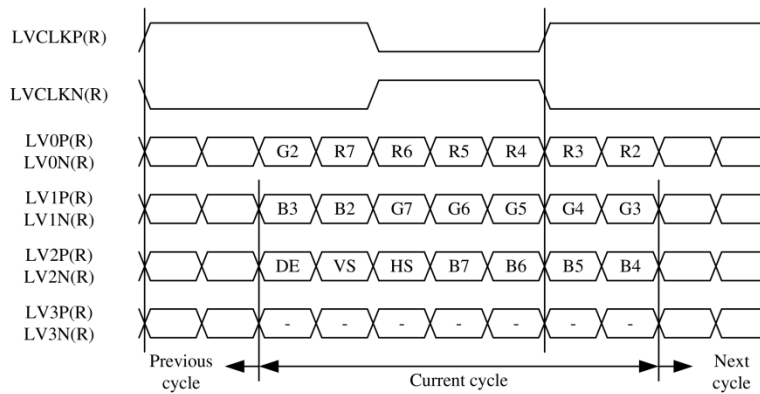


Figure 4.1: LVDS 6-bit

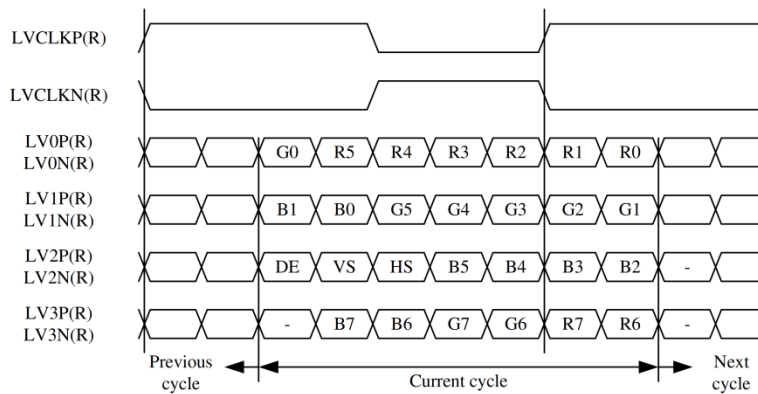


Figure 4.2: LVDS 8-bit (VESA format)

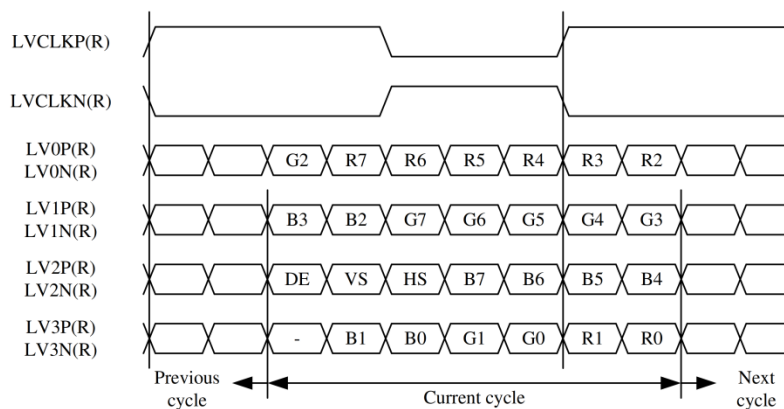


Figure 4.3: LVDS 8-bit (JEIDA format)

7.2 LVDS input timing

LVDS input timing is described as below.

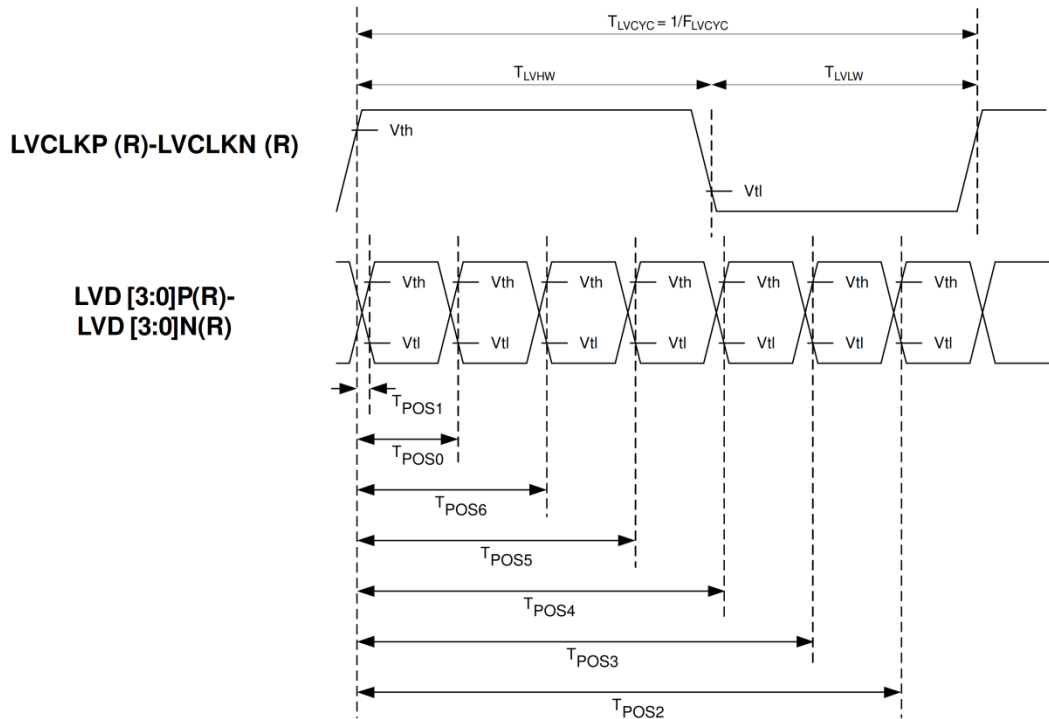


Figure 7.2: LVDS input timing

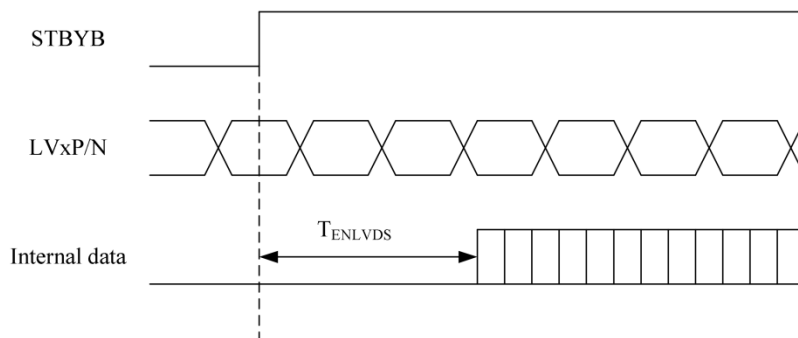
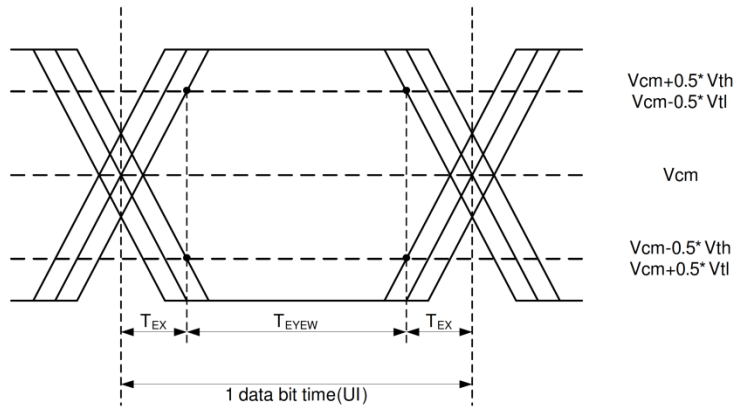


Figure 7.3: LVDS wake up time

Single-ended:
LVD [3:0]P,
LVD [3:0]N



Differential:
LVD [3:0]P-LVD [3:0]N

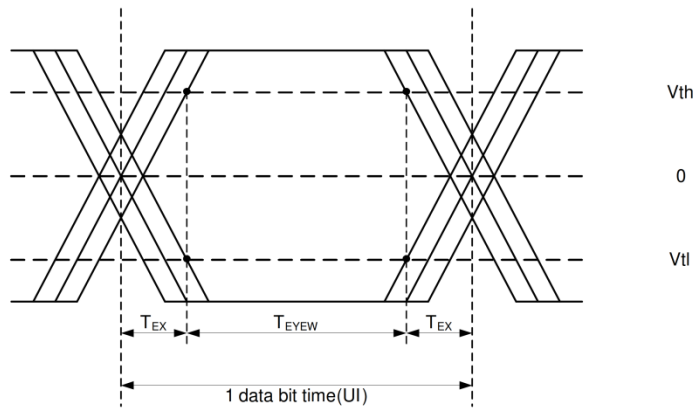


Figure 7.4: LVDS input eye diagram

Parameter	Symbol	Spec.			Unit
		Min.	Typ.	Max.	
Clock frequency	FLVCYC	10	-	85	MHz
Clock period	TLVCYC	11.76	-	100	nsec
1 data bit time	UI	-	1/7	-	TLVCYC
Clock high time	LVHW	2.9	4	4.1	UI
Clock low time	LVLW	2.9	3	4.1	UI
Position 1	TPOS1	-0.2	0	0.2	UI
Position 0	TPOS0	0.8	1	1.2	UI
Position 6	TPOS6	1.8	2	2.2	UI
Position 5	TPOS5	2.8	3	3.2	UI
Position 4	TPOS4	3.8	4	4.2	UI
Position 3	TPOS3	4.8	5	5.2	UI
Position 2	TPOS2	5.8	6	6.2	UI
Input eye width	TEYEW	0.6	-	-	UI
Input eye border	TEX	-	-	0.2	UI
LVDS wake up time	TENLVDS	-	-	150	μ s

Table 7.2: LVDS input timing parameters

7.3 Reset timing

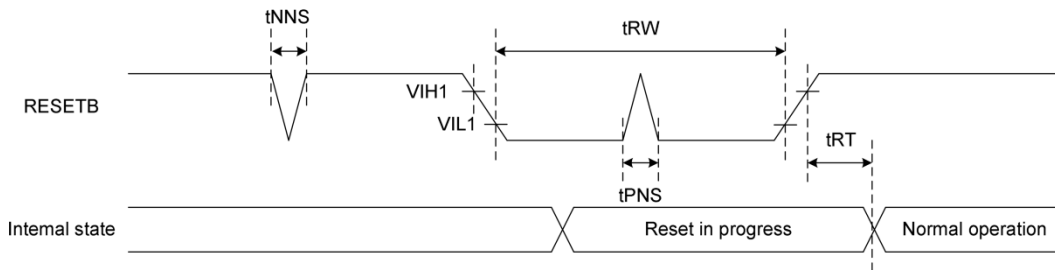


Figure 7.5: Reset timing

(VDD1=VDD2=2.7 to 3.6V, GND=0V, T_A=-40 to +95 °C)

Signal	Paramete	Symbol	Spec.			Unit
			Min.	Typ.	Max.	
RESETB	Reset pulse width	tRW	10	-	-	μs
	Reset complete time	tRT	-	-	5	μs
	Positive spike noise width	tPNS	-	-	100	ns
	Negative spike noise width	tNNS	-	-	100	ns

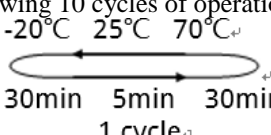
Table 7.4: Reset timing parameters

8 CTP Specification

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage	VDD		2.8	-	3.6	V
Normal mode Current			-	16.68	-	mA
Operating Temperature	TOP	Absolute Max	-20	-	+70	°C
Storage Temperature	TST	Absolute Max	-30	-	+80	°C

9 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

10 Warranty and Conditions

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