TFT MODULE SPECIFICATION

RVT43ULTNWC0x V3.0A

4.3" RGB LCD TFT DATASHEET
Rev. 1.0
2026-08-05

Riverdi Sp. z o.o.

Nowy Swiat 36
80-299 Gdansk, Poland
VAT ID: PL5842767153
Registration number (KRS): 0000923967

+48 587 703 116

Office hours: 9:00 to 17:30 CET (Mon-Fri)

contact@riverdi.com

riverdi.com

ITEM	CONTENTS	UNIT
Display Type	TFT/Transmissive/Normally white	/
Size	4.3	Inch
Viewing Direction	12:00 (without image inversion)	O' Clock
Gray Scale Inversion Direction	6:00	O' Clock
Outside Dimensions (W x H x D)	120.38 x 79.20 x 4.95	mm
Active Area (W x H)	95.04 x 53.86	mm
Pixel Pitch (W x H)	0.198 x 0.198	mm
Resolution	480 (RGB) x 272	/
Surface Luminance	500	cd/m^2
LCD Interface Type	24-bit Parallel RGB	/
Color Depth	16.7M	/
Backlight Type	White LEDs	/
Pixel Arrangement	RGB Vertical Stripe	/
Driver IC of Board	ST7282-G4-1L	/
With/Without Touch	With Capacitive Touch Panel	/
LCD Input Voltage	3.3	V
Weight	TBD	g

Note 1. RoHS3 compliant

Note 2. LCM weight tolerance: ± 5%.

1. REVISION RECORD

REV NO.	REV DATE	CONTENTS	REMARKS
1.0	2026-08-05	Initial Release	

2. CONTENTS

1. REVISION RECORD 3
2. CONTENTS 4
3. MODULE CLASSIFICATION INFORMATION 5
4. ASSEMBLY GUIDE - INTEGRATION 6
   - 4.1 Rear side adhesive tape options: 6
   - 4.2 Cover glass color options: 6
   - 4.3 Products option 6
5. MODULE DRAWING 7
6. ABSOLUTE MAXIMUM RATINGS 8
7. ELECTRICAL CHARACTERISTICS 8
8. BACKLIGHT ELECTRICAL CHARACTERISTICS 9
9. ELECTRO-OPTICAL CHARACTERISTICS 10
10. INTERFACES DESCRIPTION 13
11. TIMING CHARACTERISTICS 15
    - 11.1 Timing table 15
    - 11.2 SYNC Mode Timing Diagram 16
    - 11.3 SYNC-DE Mode Timing Diagram 17
    - 11.4 DE Mode Timing Diagram 18
12. INSPECTION 18
13. RELIABILITY TEST 19
14. LEGAL INFORMATION 20
15. CONTACT 21

3. MODULE CLASSIFICATION INFORMATION

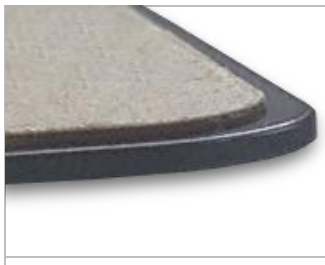
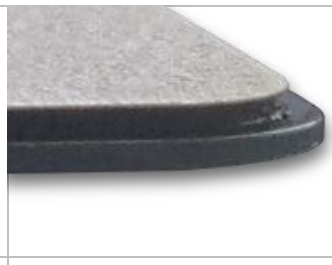
RV	T	4.3	U	L	T	N	W	C	0x	V3.0A
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.

NO.	PARAMETER	SYMBOL
1.	BRAND	RV – Riverdi
2.	PRODUCT TYPE	T – TFT Standard
3.	DISPLAY SIZE	4.3 – 4.3”
4.	MODEL SERIAL NO.	U (A-Z)
5.	RESOLUTION	L – 480 x 272 px
6.	INTERFACE	T – TFT LCD, RGB
7.	FRAME	N – Without Mounting Metal Frame
8.	BACKLIGHT TYPE	W – LED White
9.	TOUCH PANEL	C – With Capacitive Touch Panel
10.	VERSION	0x (00-99)
11.	MODULE REVISION	V3.0A

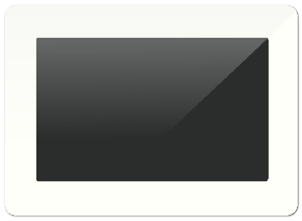
4. ASSEMBLY GUIDE - INTEGRATION

Three options of rear side adhesive tape are available: double side adhesive tape 0.2 mm with 3M 467MP glue, foam double side adhesive tape 0.5 mm with DST 3M 9495LE glue or without any tape. There are also two versions of glass color: black and white.

4.1 Rear side adhesive tape options:

		
Double side adhesive tape with DST 3M 9495LE glue (total thickness 0.2mm)	Foam double side adhesive tape with 3M 9495LE glue (total thickness 0.5mm)	Without tape

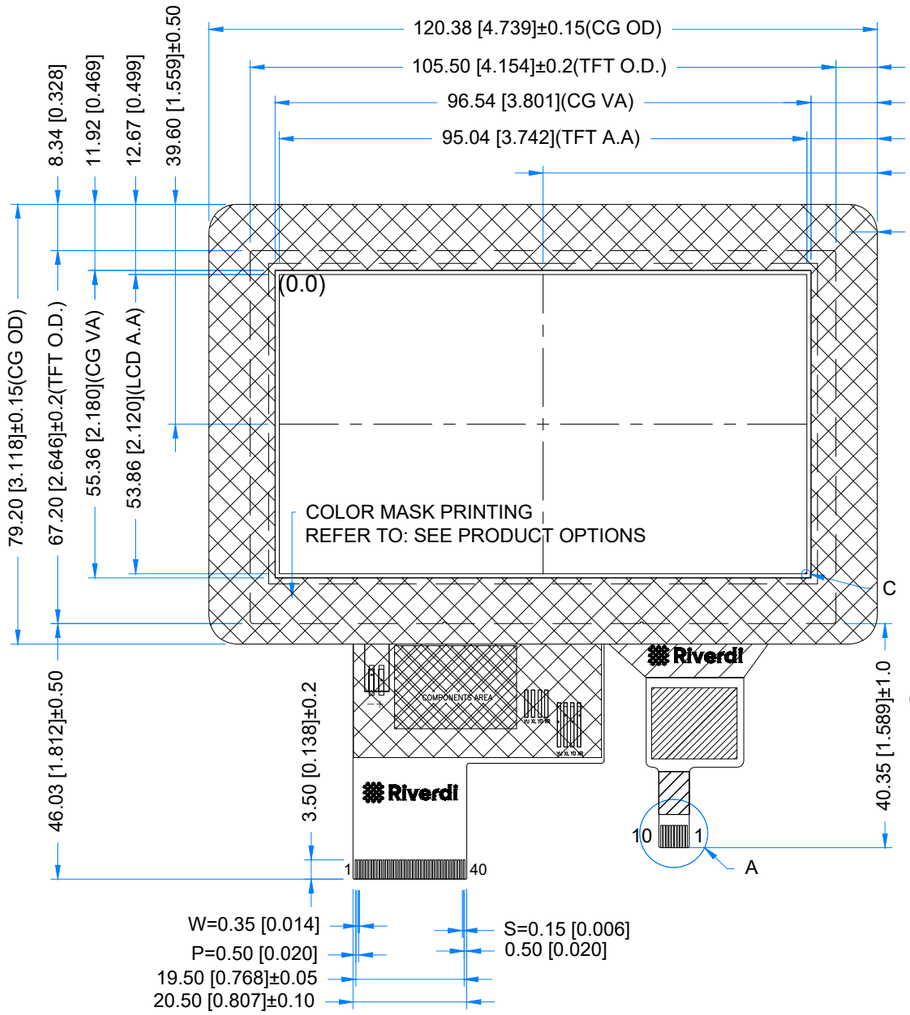
4.2 Cover glass color options:

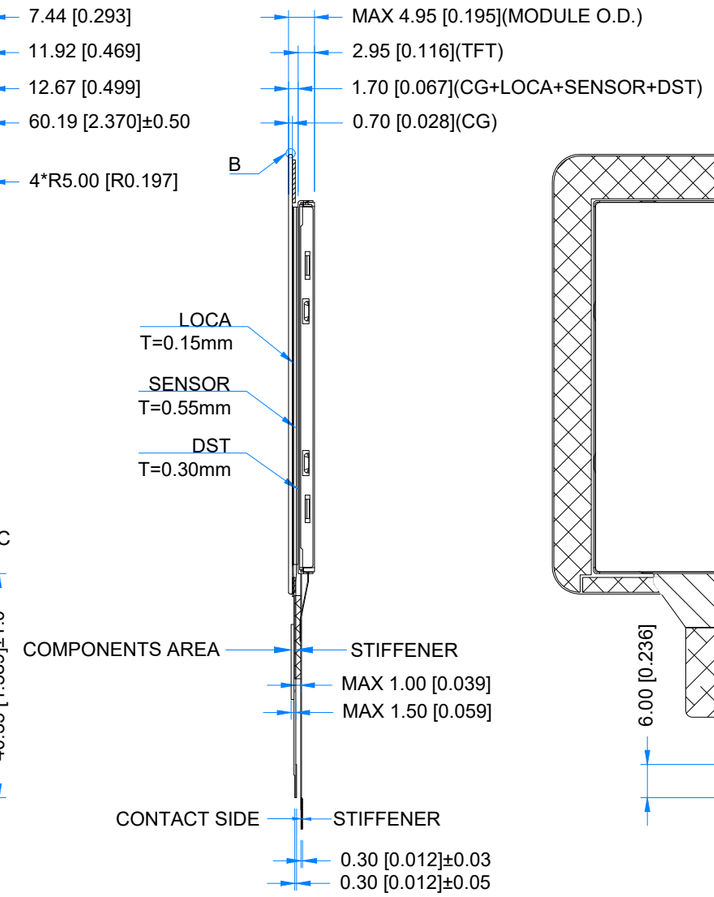
	
BLACK	WHITE

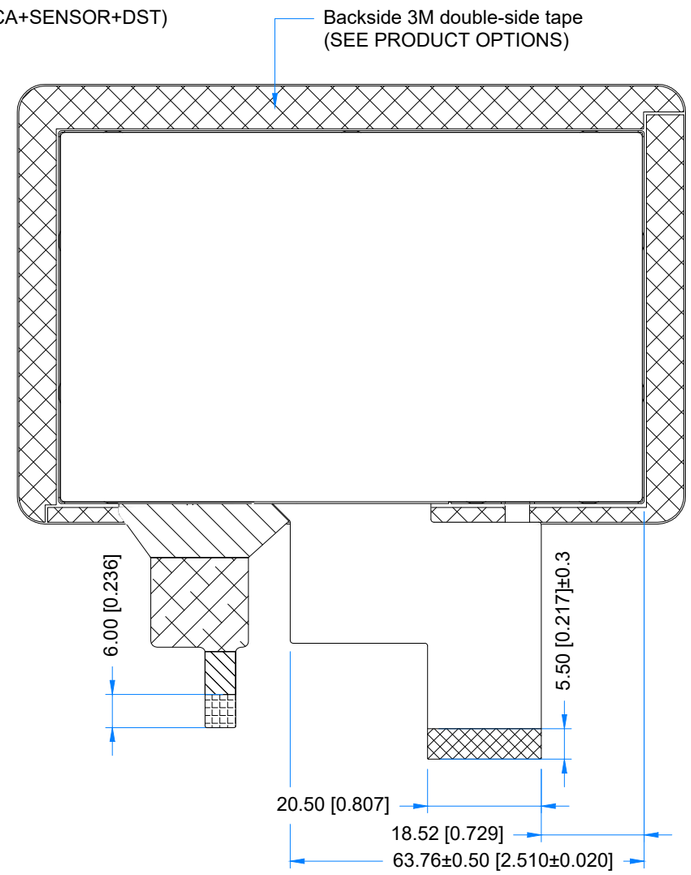
4.3 Products option

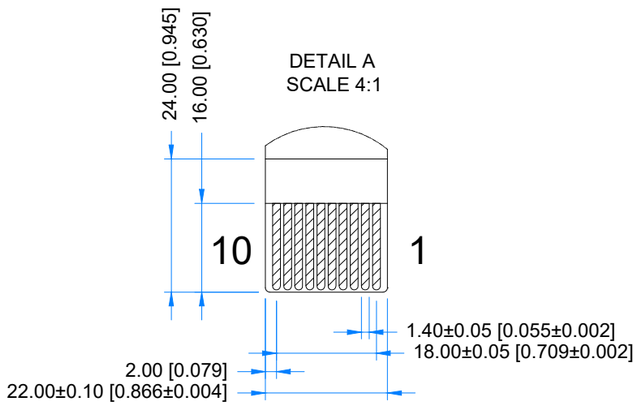
PART NUMBER	DESCRIPTION
RVT43ULTNWC00	BT815, uxTouch, black cover glass, 0.2mm DST
RVT43ULTNWC01	BT815, uxTouch, black cover glass, 0.5 mm DST
RVT43ULTNWC02	BT815, uxTouch, black cover glass, no DST
RVT43ULTNWC03	BT815, uxTouch, white cover glass, 0.2mm DST
RVT43ULTNWC04	BT815, uxTouch, white cover glass, 0.5 mm DST
RVT43ULTNWC05	BT815, uxTouch, white cover glass, no DST

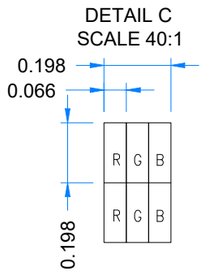
Revision:	Changes:	Date:
1.0	Initial Case	2026.04.07

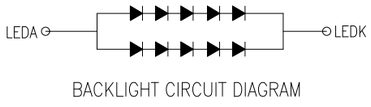


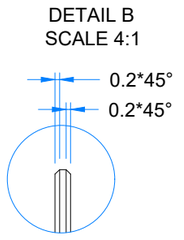












PRODUCT OPTIONS	
PN	DESCRIPTION
RVT43ULTNWC00	black cover glass, 0.2mm DST
RVT43UTFNWC01	black cover glass, 0.5 mm DST
RVT43ULTNWC02	black cover glass, no DST
RVT43ULTNWC03	white cover glass, 0.2mm DST
RVT43ULTNWC04	white cover glass, 0.5 mm DST
RVT43ULTNWC05	white cover glass, no DST

TFT NOTES:
1. DISPLAY TYPE: TRANSMISSIVE, NORMALLY WHITE
2. RESOLUTION: 480x272
3. VIEWING ANGLE: 12 O'CLOCK
4. INTERFACE: RGB
5. DRIVER IC: ST7282-G4-1L
6. OPERATING VOLTAGE: 3.3V
7. BACKLIGHT: WHITE LED, If=40mA, Vf=14V~17V

TP NOTES:
1. TP STRUCTURE: G+G
2. CG THICKNESS: 0.70mm
3. DRIVER IC: FT5446U
4. SURFACE HARDNESS: 7H

GENERAL NOTES:
1. SURFACE LUMINANCE: 500cd/m^2
2. OPERATING TEMPERATURE: -20°C ~ 70°C
3. STORAGE TEMPERATURE: -30°C ~ 80°C
4. WITHOUT INDIVIDUAL TOLERANCE: ±0.3mm
5. RoHS COMPLIANT

PN: RVT43ULTNWC0x V3.0A

SN:

Riverdi

DRAWN:	M.Stabinski	2026.04.07	1:1.10	
CHECKED:	M.Wierzbowski	2026.04.07	[mm]	
APPR:	M.Wierzbowski	2026.04.07	ISO A3	P. 1 of 1

6. ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN	MAX	UNIT
Power Supply Voltage	VDD	-0.3	4.5	V
Operating Temperature	T_{OP}	-20	70	°C
Storage Temperature	T_{ST}	-30	80	°C

Note. The above are maximum values. If exceeded, they may cause permanent damage to the unit.

7. ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT
Power Supply Voltage	VDD	3.0	3.3	3.6	V
Power Supply Current for VDD	IDD	-	19.5	-	mA
Input High-Level Voltage	VIH	0.7VDD	-	VDD	V
Input Low-Level Voltage	VIL	GND	-	0.3VDD	V
Input Leakage Current	ILKG	-1	-	1	µA

8. BACKLIGHT ELECTRICAL CHARACTERISTICS

PARAMETER	SYMBOL	MIN	TYP	MAX	UNIT	NOTE
Backlight Driving Voltage	V_F	14.0	16.0	17.0	V	
Backlight Driving Current	I_F	-	40	-	mA	
Backlight Power Consumption	W_{BL}	-	640	-	mW	
Backlight Lifetime	-	30,000	50,000	-	hours	Note

Note: Operating life time means brightness goes down to 50% initial brightness; The life time of LED will be reduced if LED is driven by high current, high ambient temperature and humidity conditions. Typical operating life time is an estimated data.

9. ELECTRO-OPTICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	MIN	TYP	MAX	UNIT	RMK	NOTE
Response Time	Tr+Tf	θ=0° ø=0° Ta=25 °C	-	25	50	ms	FIG 2.	4, 7
Contrast Ratio	Cr		400	500	-	---	FIG 3.	1, 7
Surface Luminance	Lv		-	500	-	cd/m2		2, 7
Luminance Uniformity	δ WHITE		80	-	-	%		3
Viewing Angle Range	θ	ø = 90°	40	50	-	deg	FIG 4.	6
		ø = 270°	60	70	-	deg		
		ø = 0°	60	70	-	deg		
		ø = 180°	60	70	-	deg		
CIE (x, y) Chromaticity	Rx	θ=0° ø=0° Ta=25 °C	0.546	0.596	0.646	-	FIG 3.	5,7
	Ry		0.312	0.362	0.412	-		
	Gx		0.277	0.327	0.377	-		
	Gy		0.524	0.574	0.624	-		
	Bx		0.097	0.147	0.197	-		
	By		0.016	0.066	0.116	-		
	Wx		0.236	0.286	0.336	-		
	Wy		0.256	0.306	0.356	-		
NTSC ratio	-	-		55.2	-	%		

Note 1. Contrast Ratio (CR) is defined mathematically as below, for more information see Figure 2.

$$\text{Contrast Ratio} = \frac{\text{Average Surface Luminance with all white pixels (P1, P2, P3, P4, P5)}}{\text{Average Surface Luminance with all black pixels (P1, P2, P3, P4, P5)}}$$

Note 2. Surface luminance is the LCD surface from the surface with all pixels displaying white. For more information see Figure 3.

Lv = Average Surface Luminance with all white pixels (P1, P2, P3, P4, P5)

Note 3. The uniformity in surface luminance δ WHITE is determined by measuring luminance at each test position 1 through 5, and then dividing the minimum luminance of 5 points luminance by maximum luminance of 5 points luminance. For more information see Figure 3.

$$\delta \text{ WHITE } = \frac{\text{Minimum Surface Luminance with all white pixels (P1, P2, P3, P4, P5)}}{\text{Maximum Surface Luminance with all white pixels (P1, P2, P3, P4, P5)}}$$

Note 4. Response time is the time required for the display to transition from white to black (Rise Time, Tr) and from black to white (Decay Time, Tf). For additional information see Figure 2. The test equipment is BM-7A.

Note 5. CIE (x, y) chromaticity, the x, y value is determined by measuring luminance at each test position 1 through 5, and then make average value.

Note 6. For TFT module, viewing angle is the angle at which the contrast ratio is greater 10. The angles are determined for the horizontal or x axis and the vertical or y axis with respect to the z axis which is normal to LCD surface. For more information see Figure 4.

Note 7. Viewing angle is measured at the center point of the LCD by CONOSCOPE (ergo-80). For response time testing, the testing data is based on BM-7A. Instruments for Contrast Ratio, Surface Luminance, Luminance Uniformity, Chromaticity the test data is based on SR-3A.

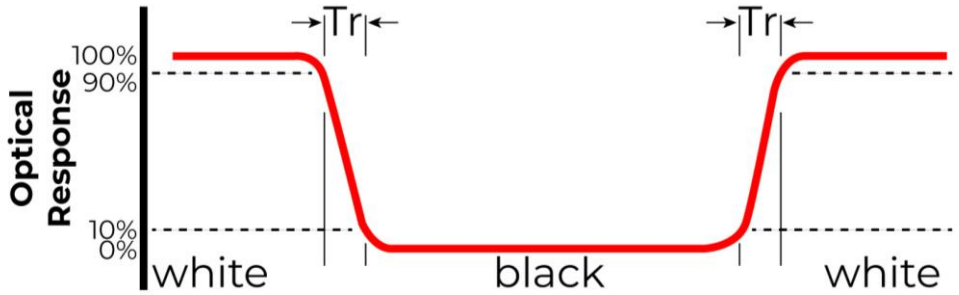
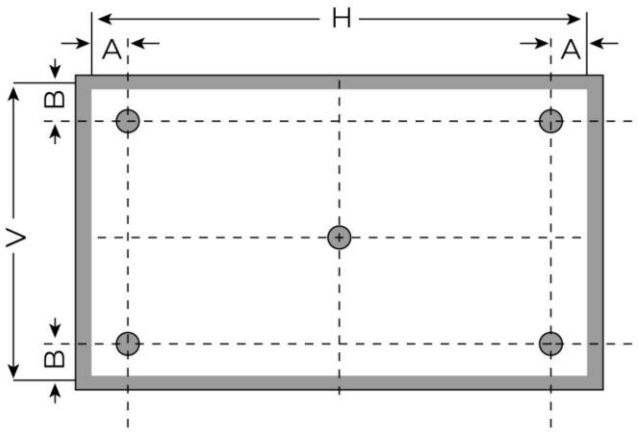


Figure 2. The definition of response time



A: 5mm

B: 5mm

H, V: Active Area

Light spot size ∅=5mm, 500mm distance from the LCD surface to detector lens.

Measurement instrument is SR-3A

Figure 3. Measuring method for Contrast ratio, surface luminance, Luminance uniformity, CIE (x, y) chromaticity

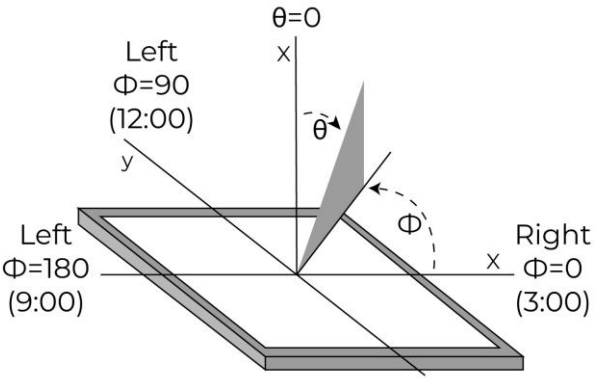


Figure 4. The definition of viewing angle

10. INTERFACES DESCRIPTION

PIN	SYMBOL	I/O/P	DESCRIPTION
1	LEDK	P	Cathode of LED backlight.
2	LEDA	P	Anode of LED backlight.
3	GND	P	Ground.
4	VDD	P	Power supply.
5	R0	I	Red data. (LSB)
6	R1	I	Red data.
7	R2	P	Red data.
8	R3	I	Red data.
9	R4	I	Red data.
10	R5	I	Red data.
11	R6	I	Red data.
12	R7	I	Red data. (MSB)
13	G0	I	Green data. (LSB)
14	G1	I	Green data.
15	G2	I	Green data.
16	G3	I	Green data.
17	G4	I	Green data.
18	G5	I	Green data.
19	G6	I	Green data.
20	G7	I	Green data. (MSB)
21	B0	I	Blue data. (LSB)
22	B1	I	Blue data.
23	B2	I	Blue data.
24	B3	I	Blue data.

25	B4	I	Blue data.
26	B5	I	Blue data.
27	B6	I	Blue data.
28	B7	I	Blue data. (MSB)
29	GND	P	Ground.
30	DCLK	I	Pixel clock, data sampling at the DLCK falling edge.
31	DISP	I	Display control / standby mode selection. DISP=”Low”: Standby; (Default) DISP=”High”: Normal display.
32	HSYNC	I	Horizontal sync signal.
33	VSYNC	I	Vertical sync signal.
34	DE	I	Data input enable.
35	NC	-	No connection.
36	GND	P	Ground.
37	NC(XR)	-	No connection
38	NC(YD)	-	No connection
39	NC(XL)	-	No connection
40	NC(YU)	-	No connection

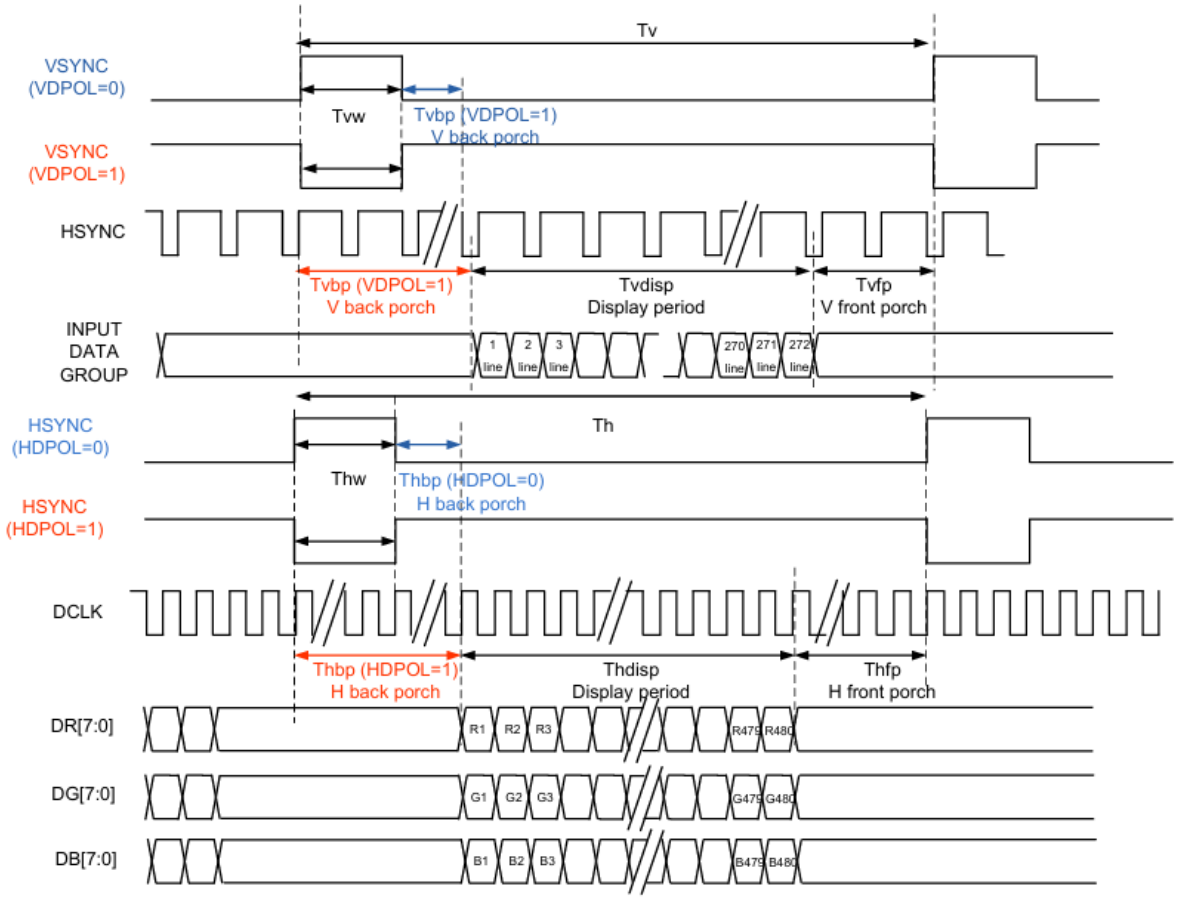
I/O/P definition: I----Input O----Output P----Power/Ground

11. TIMING CHARACTERISTICS

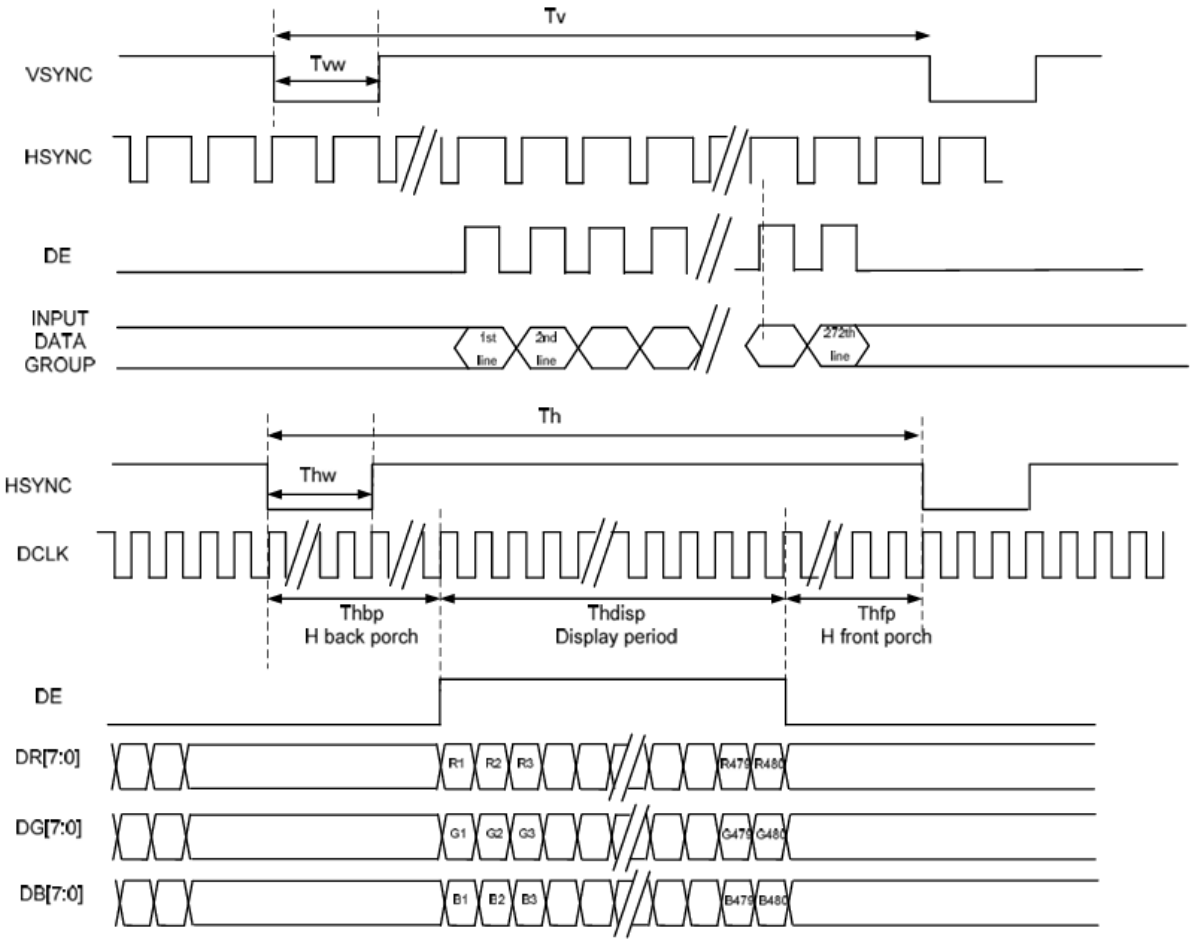
11.1 Timing table

PARAMETER		SYMBOL	MIN	TYP	MAX	UNIT
DCLK frequency		Fclk	8	9	12	MHz
DCLK Period		Tclk	83	111	125	ns
HSYNC	Period Time	Th	485	531	598	DCLK
	Display Period	Thdisp		480		
	H_{sync} Back Porch	Thbp	3	43	43	
	H_{sync} Front Porch	Thfp	2	8	75	
	H_{sync} Pulse Width	Thw	2	4	75	
VSYNC	Period Time	Tv	276	292	321	HSYNC
	Display Period	Tvdisp	272			
	V_{sync} Back Porch	Tvbp	2	12	12	
	V_{sync} Front Porch	Tvfp	2	8	37	
	V_{sync} Pulse Width	Tvw	2	4	37	

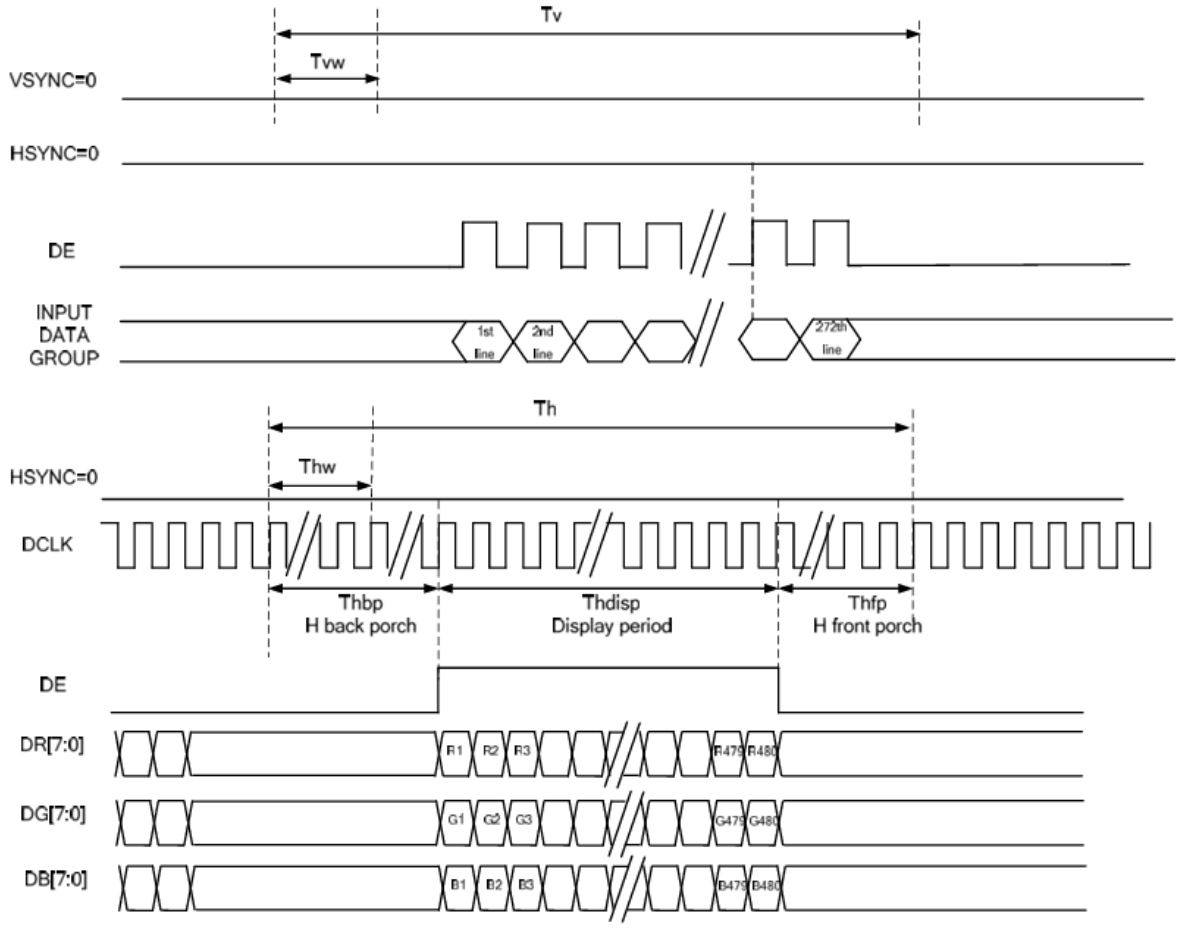
11.2 SYNC Mode Timing Diagram



11.3 SYNC-DE Mode Timing Diagram



11.4 DE Mode Timing Diagram



12. INSPECTION

Standard acceptance/rejection criteria for TFT module according to document available here.

13. RELIABILITY TEST

NO.	TEST ITEM	TEST CONDITION	NOTE
1	High Temperature Storage	80℃ ± 2℃ / 240Hrs.	IEC60068-2-2 GB2423.2
2	Low Temperature Storage	-30℃ ± 2℃ / 240Hrs.	IEC60068-2-1 GB2423.1
3	High Temperature Operating	70℃ ± 2℃ / 240Hrs.	IEC60068-2-2 GB2423.2
4	Low Temperature Operating	-20℃ ± 2℃ / 240Hrs.	IEC60068-2-1 GB2423.1
5	High Temperature and High Humidity Operation Test	60 ± 5℃, 90%RH 240Hrs.	IEC60068-2-3 GB/T2423.3
6	Thermal Shock Test (Non-operating)	-20±2℃(30Min.)~25±2℃(5Min.)~60±2℃(30Min.) 10Cycles	IEC60068-2-14 GB2423.22
7	Vibration Test (Non-operating)	Frequency: 10~55Hz Amplitude: 1.5mm Sweep Time: 11Mins Test Period: 6 Cycles For Each Direction of X, Y, Z (Packing Condition)	IEC60068-2-6 GB2423.10
8	Electro Static Discharge Test	R: 330Ω, C:150pF, 5points/panel Air: ±8KV, 10times; Contact: ±4KV, 10times; (Environment: 15℃~35℃, 30%~60%, 86Kpa~106Kpa)	IEC61000-4-2 GB/T17626.2

Note 1: Without water condensation.

Note 2: The function test shall be conducted after 2 hours storage at the room temperature (25℃±2℃) and room humidity (65%±5%) after removed from the test chamber. In the standard conditions, there shall be no functional defects occurred.

14. LEGAL INFORMATION

CE marking is usually obligatory only for a complete end product. Riverdi display modules are semi-finished goods which are used as inputs to become part of the finished products.

Therefore, Riverdi display modules are not CE marked.

This is not a standalone product. It was designed as an electronic component. It needs integration with a whole system to be fully functional.

Riverdi grants the guarantee for the proper operation of the goods for a period of 12 months from the date of possession of the goods. If in a consequence of this guaranteed execution the customer has received the defects-free item as replacement for the defective item, the effectiveness period of this guarantee shall start anew from the moment the customer receives the defects-free item.

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