Winstar Display Co., LTD
華凌光電股份有限公司
WEB: https://www.winstar.com.tw E-mail: sales@winstar.com.tw

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF50-800480FL#0PW0-FC

APPROVED BY: **(FOR CUSTOMER USE ONLY)**	**PCB VERSION:** **DATA:**

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
first FC components			葉虹蘭
ISSUED DATE: 2020/05/21			

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General Specifications

Item	Dimension	Unit
Size	5.0	inch
Dot Matrix	800× 3(RGB) × 480	dots
Module dimension	120.7(W) ×75.8(H) ×2.8mm	mm
Active area	108(W) ×64.8 (H) mm	mm
Dot pitch	0.135(W) ×0.135(H) mm	mm
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	16:9	
Driver IC	ST7262 or equivalent	
Interface	LVDS	
Backlight Type	LED ,Normally White	
With /Without TP	Without TP	
Surface	Anti-Glare	

*Color tone slight changed by temperature and driving voltage.

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Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-30	—	+80	℃
Storage Temperature	TST	-30	—	+80	℃

Note: Device is subject to be damaged permanently if stresses beyond those absolute maximum ratings listed above

1. Temp. ≦60℃, 90% RH MAX. Temp.＞60℃, Absolute humidity shall be less than 90% RH at 60℃

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Electrical Characteristics

1. Typical Operation Conditions

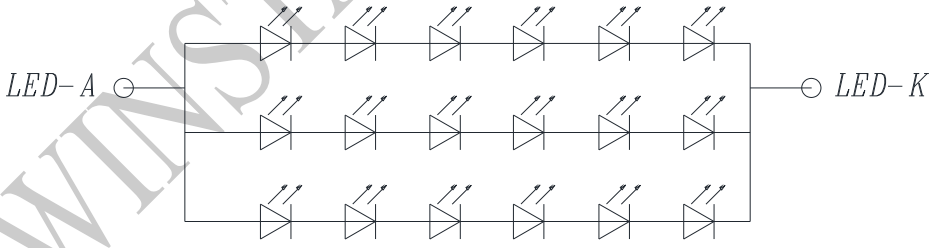
Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Power voltage	VCC	3.1	3.3	3.6	V	
Power voltage	VCCI	3.1	3.3	3.6	V	
Current for Driver(Black)	ICC	-	67.6	102	mA	Vcc=3.3V

2. Backlight Driving Conditions

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Voltage for LED backlight	VL	16.8	19.2	20.4	V	Note 1
Current for LED backlight	IL	--	60	--	mA	
LED life time	-	--	50,000	-	Hr	Note 2

Note 1: The LED Supply Voltage is defined by the number of LED at Ta=25℃ and I_L =20ma/pcs.

Note 2: The “LED life time” is defined as the module brightness decrease to 50% Original brightness at Ta=25℃ and I_L =20mA/pcs. The LED lifetime could be decreased if operating I_L is lager than 25mA/pcs.



CIRCUIT DIAGRAM(LED 3*6=18 DIES)

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Interface

1. LCM PIN Definition

FPC Connector is used for the module electronics interface.

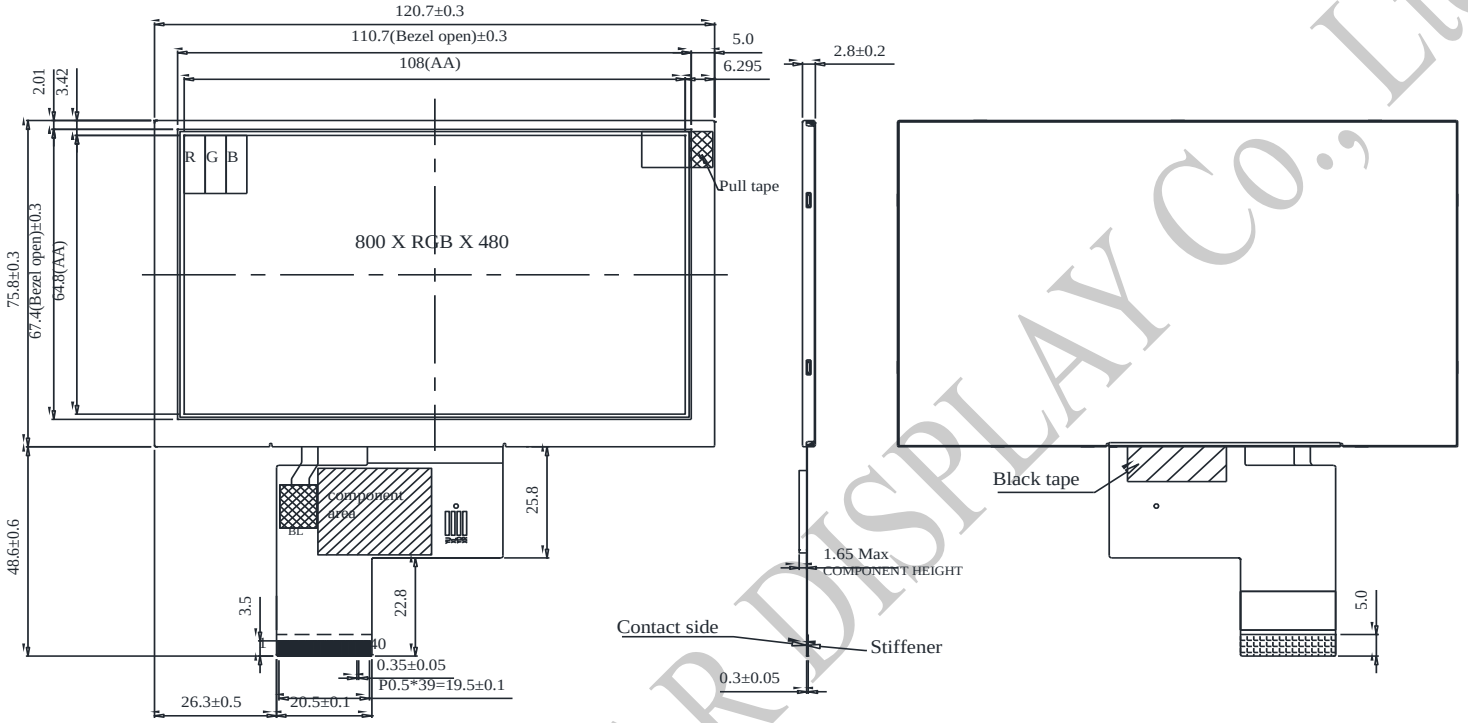
Pin	Symbol	Function	Remark
1	NC	No connection	
2	VCC	Power voltage	
3	VCCI	Power supply for digital I/O pins.	
4	NC	No connection	
5	GRB	Global reset pin. When GRB is “L”, internal initialization procedure is executed	
6	DISP	Display on/off	
7	GND	Power Ground	
8	RXIN0-	LVDS input lane: RX0-/ RX0+	
9	RXIN0+		
10	GND	Power Ground	
11	RXIN1-	LVDS input lane: RX1-/ RX1+	
12	RXIN1+		
13	GND	Power Ground	
14	RXIN2-	LVDS input lane: RX2-/ RX2+	
15	RXIN2+		
16	GND	Power Ground	
17	RXCLKIN-	LVDS input lane, detail pin define please refer to LVDS Input Pin Mapping Table.	
18	RXCLKIN+		
19	GND	Power Ground	
20	RXIN3-	LVDS input lane: RX3-/ RX3+	
21	RXIN3+		
22	GND	Power Ground	
23-24	NC	No connection	
25	FMT	LVDS_FMT sets LVDS data format. LVDS_FMT: L = VESA Mode (Default); H = JEIDA Mode LVDS_FMT is not used in RGB interface and should be connected to “L”.	
26-27	NC	No connection	

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<table>
<tr><td>28</td><td>SELB</td><td>SELB sets VSYNC polarity in RGB interface and sets LVDS 3- / 4- lane in LVDS interface.
<table>
<tr><th>MCU Type</th><th>VDPOL</th><th>Function Description</th></tr>
<tr><td rowspan="2">RGB interface</td><td>L</td><td>VSYNC polarity: positive</td></tr>
<tr><td>H</td><td>VSYNC polarity: negative(Default)</td></tr>
<tr><td rowspan="2">LVDS interface</td><td>L</td><td>LVDS 3 lane</td></tr>
<tr><td>H</td><td>LVDS 4 lane(Default)</td></tr>
</table></td><td></td></tr>
<tr><td>29</td><td>NC</td><td>No connection</td><td></td></tr>
<tr><td>30</td><td>GND</td><td>Power Ground</td><td></td></tr>
<tr><td>31-32</td><td>VLED-</td><td>Power for LED backlight (Cathode)</td><td></td></tr>
<tr><td>33</td><td>L/R</td><td>Horizontal scan direction control pin. This pin must be connected to “H” or “L” according to system application
<table>
<tr><th>HDIR</th><th>Function Description</th></tr>
<tr><td>L</td><td>From right to left</td></tr>
<tr><td>H</td><td>From left to right(Default)</td></tr>
</table></td><td></td></tr>
<tr><td>34</td><td>U/D</td><td>Vertical scan direction control pin. This pin must be connected to “H” or “L” according to system application.
<table>
<tr><th>VDIR</th><th>Function Description</th></tr>
<tr><td>L</td><td>From down to up.</td></tr>
<tr><td>H</td><td>From up to down. (Default)</td></tr>
</table></td><td></td></tr>
<tr><td>35</td><td>NC</td><td>No connection</td><td></td></tr>
<tr><td>36-37</td><td>GND</td><td>Power Ground</td><td></td></tr>
<tr><td>38</td><td>NC</td><td>No connection</td><td></td></tr>
<tr><td>39-40</td><td>VLED+</td><td>Power for LED backlight (Anode)</td><td></td></tr>
</table>

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Contour Drawing



PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	NC	21	RXIN3+
2	VCC	22	GND
3	VCCI	23	NC
4	NC	24	NC
5	GRB	25	FMT
6	DISP	26	NC
7	GND	27	NC
8	RXIN0-	28	SELB
9	RXIN0+	29	NC
10	GND	30	GND
11	RXIN1-	31	VLED-
12	RXIN1+	32	VLED-
13	GND	33	L/R
14	RXIN2-	34	U/D
15	RXIN2+	35	NC
16	GND	36	GND
17	RXCLKIN-	37	GND
18	RXCLKIN+	38	NC
19	GND	39	VLED+
20	RXIN3-	40	VLED+

The non-specified tolerance of dimension is ±0.3 mm .

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