



# 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.:** WF70A9SWAGDNN0#

<b>APPROVED BY:</b>  ( FOR CUSTOMER USE ONLY )	PCB VERSION:	DATA:

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
			葉虹蘭
<b>ISSUED DATE: 2020/07/20</b>			

TFT Display Inspection Specification: <https://www.winstar.com.tw/technology/download.html>

Precaution in use of TFT module: <https://www.winstar.com.tw/technology/download/declaration.html>

*For reference only*

### 3. General Specifications

Item	Dimension	Unit
Size	7.0	inch
Dot Matrix	800 x RGB x 480(TFT)	dots
Module dimension	165.8 (W) x 106.61 (H) x 6.5(D)	mm
Active area	152.40 x 91.44	mm
Dot pitch	0.1905 x 0.1905	mm
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
TFT Interface	24-bit RGB	
TFT Driver IC	HX8249-A + HX8678-C or Equivalent	
Aspect Ratio	16:9	
Backlight Type	LED, Normally White	
With /Without TP	Without TP	
Surface	Anti-Glare	

\*Color tone slight changed by temperature and driving voltage.

## 4. Absolute Maximum Ratings

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

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

1. Temp.  $\leq 60^{\circ}\text{C}$ , 90% RH MAX. Temp.  $> 60^{\circ}\text{C}$ , Absolute humidity shall be less than 90% RH at  $60^{\circ}\text{C}$

# 5. Electrical Characteristics

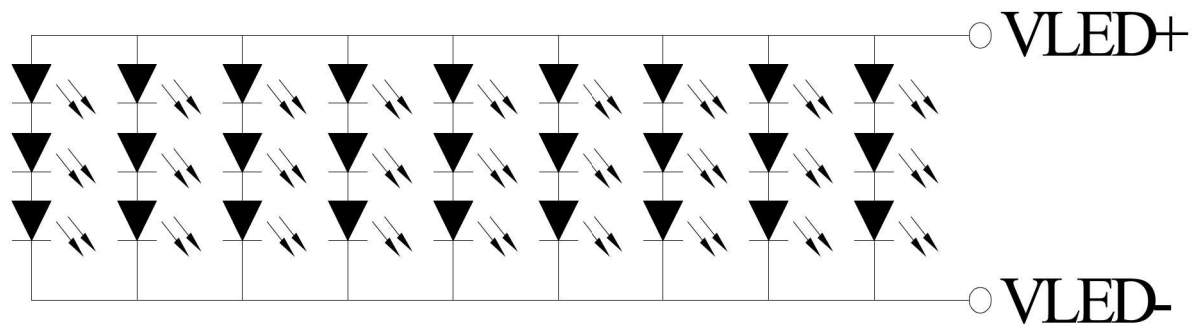
## 5.1. Operating conditions

Item	Symbol	Min	Typ	Max	Unit	Note
Supply Voltage	Vcc	2.7	3.3	3.6	V	
Current of power supply	IDD	—	101	150	mA	Vcc =3.3V

## 5.2. LED driving conditions

Parameter	Symbol	Min	Typ	Max	Unit	Remark
LED current	—	—	450	—	mA	
LED voltage	A~K	8.1	9.3	10.2	V	Note 1
LED Life Time	—	40000	—	—	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED



## CIRCUIT DIAGRAM

Note 2 : Ta = 25 °C

Note 3 : Brightness to be decreased to 50% of the initial value

Note 4 : The single LED lamp case

# 9. Interface

## 9.1. LCM PIN Definition

Pin	Symbol	Function	Remark
1-4	NC	No connection	
5	GND	Power Ground	
6	NC	No connection	
7	VCC	Power voltage	
8	NC (MODE)	Input timing mode selection. Effective when FCS=1.	
		<b>MODE</b>	<b>Function</b>
		0	DE only
		1	HS+VS
		<b>Note</b>	
		-	
		Default	
9	DE	Data enable signal for TTL mode.	
10	VS	Vertical sync input	
11	HS	Horizontal sync input	
12	B7	Blue data(MSB)	
13	B6	Blue data	
14	B5	Blue data	
15	B4	Blue data	
16	B3	Blue data	
17	B2	Blue data	
18	B1	Blue data	
19	B0	Blue data(LSB)	
20	G7	Green data(MSB)	
21	G6	Green data	
22	G5	Green data	
23	G4	Green data	
24	G3	Green data	
25	G2	Green data	
26	G1	Green data	
27	G0	Green data(LSB)	
28	R7	Red data(MSB)	
29	R6	Red data	
30	R5	Red data	
31	R4	Red data	
32	R3	Red data	

33	R2	Red data										
34	R1	Red data										
35	R0	Red data (LSB)										
36	GND	Power Ground										
37	DCLK	Sample clock										
38	GND	Power Ground										
39	NC (L/R)	Horizontal shift direction (source output) selection. Effective when FCS=1.										
		<table border="1"> <thead> <tr> <th>L/R</th> <th>Source output sequence and data order</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>SOUT1→SOUT2→ ...→ SOUT2400</td> <td>Default</td> </tr> <tr> <td>0</td> <td>SOUT2400→SOUT2399→ ...→ SOUT1</td> <td>-</td> </tr> </tbody> </table>	L/R	Source output sequence and data order	Note	1	SOUT1→SOUT2→ ...→ SOUT2400	Default	0	SOUT2400→SOUT2399→ ...→ SOUT1	-	
		L/R	Source output sequence and data order	Note								
1	SOUT1→SOUT2→ ...→ SOUT2400	Default										
0	SOUT2400→SOUT2399→ ...→ SOUT1	-										
40	NC (U/D)	Vertical shift direction (gate output) selection. Effective when FCS=1.										
		<table border="1"> <thead> <tr> <th>U/D</th> <th>Function</th> <th>Note</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Top→bottom</td> <td>Default</td> </tr> <tr> <td>0</td> <td>Bottom→top</td> <td>-</td> </tr> </tbody> </table>	U/D	Function	Note	1	Top→bottom	Default	0	Bottom→top	-	
		U/D	Function	Note								
1	Top→bottom	Default										
0	Bottom→top	-										
41	NC	No connection										
42	NC	No connection										
43	NC	No connection										
44	RESET	Reset pin. The chip is in reset state when RESETB=0.										
45	NC	No connection										
46	NC	No connection										
47	DITHB	STBYB Standby mode setting pin. The chip is in standby mode when STBYB=0.										
48	GND	Power Ground										
49	NC	No connection										
50	NC	No connection										

## 9.2. Backlight PIN Definition

Pin	Symbol	Description
1	VLED+	Red, LED_ Anode
2	VLED-	Black, LED_ Cathode



# 12. Contour Drawing

