

# TFT DISPLAY SPECIFICATION



**WINSTAR Display Co.,Ltd.**  
**華凌光電股份有限公司**



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### SPECIFICATION

**MODULE NO.: WF102ATNAGDNTA#**

### General Specifications

Item	Dimension	Unit
Size	10.2	inch
Dot Matrix	800 x RGB x 480(TFT)	dots
Module dimension	235 x 145.8 x 7.6	mm
Active area	222 x 132.48	mm
Dot pitch	0.0925 x 0.2775	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	12 o'clock	
Gray Scale Inversion Direction	6 o'clock	
TFT IC	EK7718+EK7330BCG or Equivalent	
TFT interface	18 bit RGB	
Aspect Ratio	16:9	
Backlight Type	LED, Normally White	
Touch Panel	Resistive Touch Panel	
Surface	Glare	

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

# Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-30	—	+85	°C
Storage Temperature	TST	-30	—	+85	°C

# Electrical Characteristics

## 1. Operating conditions:

Item Item	Symbol	Values			Unit
		Min.	Typ.	Max	
Power voltage	V <sub>CC</sub>	3.0	3.3	3.6	V
	AV <sub>DD</sub>	9.0	9.2	9.4	V
	V <sub>GH</sub>	15.3	16.0	16.7	V
	V <sub>GL</sub>	-7.7	-7.7	-6.3	V
Input signal voltage	V <sub>COM</sub>	3.65	3.85	4.05	V
	V1~V7	0.4AV <sub>DD</sub>	-	AV <sub>DD</sub> -0.1	V
	V8~V14	0.1	-	0.6 AV <sub>DD</sub>	V
Ripple voltage	VRP	-	-	150	mV
Input logic high voltage	V <sub>IH</sub>	0.7 V <sub>CC</sub>	-	V <sub>CC</sub>	V
Input logic low voltage	V <sub>IL</sub>	0	-	0.3 V <sub>CC</sub>	V

## 2. Current consumption

Item Item	Symbol	Values			Unit
		Min.	Typ.	Max	
Current for Drive	IGH	-	0.3	0.5	mA
	IGL	-	0.2	1.0	mA
	ICC	-	4	10	mA
	IAVDD	-	25	50	mA

### 3. LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
LED current	-	180	200	220	mA
Power Consumption	-	1512	1860	2310	mW
LED voltage	LEDA	8.4	9.3	10.5	V
LED Life Time	-	20,000	-	-	Hr

# Interface

## 1. TFT LCD Panel Driving Section

FPC connector is used for the module electronics interface. The recommended model is "AF 730L-A2G1T" manufactured by P-TWO.

Pin No.	Symbol	I/O	Function
1	POL	I	Polarity selection
2	STVD	I/O	Vertical start pulse input when U/D= H
3	OEV	I	Output enable
4	CKV	I	Vertical clock
5	STVU	I/O	Vertical start pulse input when U/D= L
6	GND	P	Power ground
7	EDGSL	I	Select rising edge or rising/falling edge
8	V <sub>CC</sub>	P	Power supply for digital circuit
9	V9	I	Gamma voltage level 9
10	VGL	P	Gate OFF voltage
11	V2	I	Gamma voltage level 2
12	VGH	P	Gate ON voltage
13	V6	I	Gamma voltage level 6
14	U/D	I	Up/down selection
15	VCOM	I	Common voltage
16	GND	P	Power ground
17	AVDD	P	Power supply for analog circuit
18	V14	I	Gamma voltage level 14
19	V11	I	Gamma voltage level 11
20	V8	I	Gamma voltage level 8
21	V5	I	Gamma voltage level 5
22	V3	I	Gamma voltage level 3
23	GND	P	Power ground
24	R5	I	Red data(MSB)
25	R4	I	Red data
26	R3	I	Red data
27	R2	I	Red data
28	R1	I	Red data
29	R0	I	Red data(LSB)
30	GND	P	Power ground

31	GND	P	Power ground
32	G5	I	Green data(MSB)
33	G4	I	Green data
34	G3	I	Green data
35	G2	I	Green data
36	G1	I	Green data
37	G0	I	Green data(LSB)
38	STHL	I/O	Horizontal start pulse input when R/L = L
39	REV	P	Control signal are inverted or not
40	GND	I	Power ground
41	DCLK	I	Sample clock
42	V <sub>CC</sub>	P	Power supply for digital circuit
43	STHR	I/O	Horizontal start pulse input when R/L = H
44	LD	I	Latches the polarity of outputs and switches the new data to outputs
45	B5	I	Blue data (MSB)
46	B4	I	Blue data
47	B3	I	Blue data
48	B2	I	Blue data
49	B1	I	Blue data
50	B0	I	Blue data (LSB)
51	R/L	I	Right/ left selection
52	V1	I	Gamma voltage level 1
53	V4	I	Gamma voltage level 4
54	V7	I	Gamma voltage level 7
55	V10	I	Gamma voltage level 10
56	V12	I	Gamma voltage level 12
57	V13	I	Gamma voltage level 13
58	AVDD	P	Voltage for analog circuit
59	GND	P	Power ground
60	VCOM	I	Common voltage

I: input, O: output, P: Power

## 2. Backlight Unit Section

LED Light Bar connector is used for the integral backlight system. The recommended model is "CP0502S0000-NH" manufactured by CviLux.

Pin No.	Symbol	I/O	Function	Remark
1	VLED+	P	Power for LED backlight anode	Red
2	VLED-	P	Power for LED backlight cathode	White

# Contour Drawing

