TFT DISPLAY SPECIFICATION

WINSTAR Display Co.,Ltd.

華凌光電股份有限公司

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	
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	℃
Storage Temperature	TST	-30	—	+85	℃

Electrical Characteristics

1. Operating conditions:

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

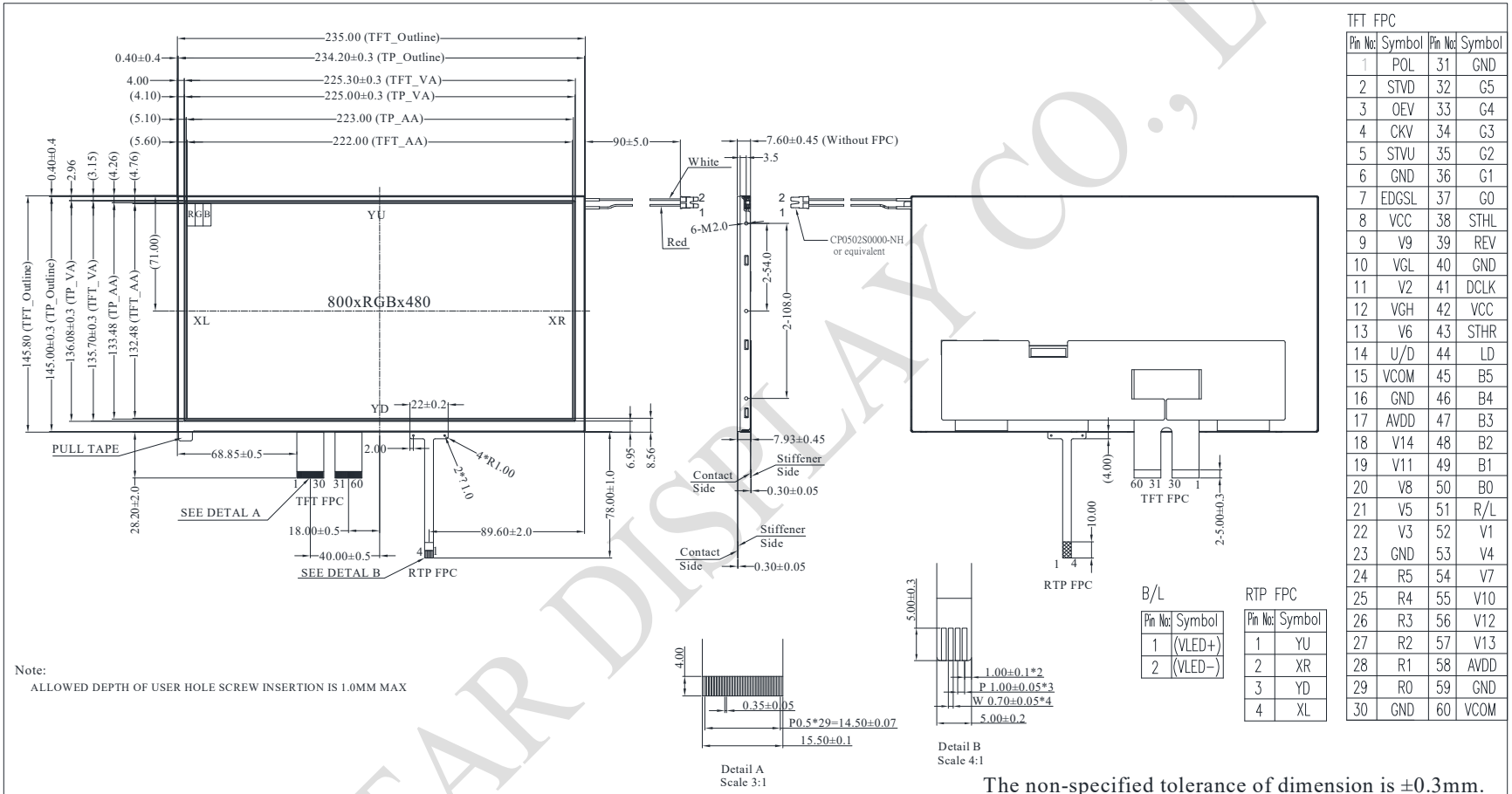
I: input, O: output, P: Power

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



Note:
ALLOWED DEPTH OF USER HOLE SCREW INSERTION IS 1.0MM MAX

TFT FPC

Pin No:	Symbol	Pin No:	Symbol
1	POL	31	GND
2	STVD	32	G5
3	OEV	33	G4
4	CKV	34	G3
5	STVU	35	G2
6	GND	36	G1
7	EDGSL	37	G0
8	VCC	38	STHL
9	V9	39	REV
10	VGL	40	GND
11	V2	41	DCLK
12	VGH	42	VCC
13	V6	43	STHR
14	U/D	44	LD
15	VCOM	45	B5
16	GND	46	B4
17	AVDD	47	B3
18	V14	48	B2
19	V11	49	B1
20	V8	50	B0
21	V5	51	R/L
22	V3	52	V1
23	GND	53	V4
24	R5	54	V7
25	R4	55	V10
26	R3	56	V12
27	R2	57	V13
28	R1	58	AVDD
29	R0	59	GND
30	GND	60	VCOM

B/L

Pin No:	Symbol
1	(VLED+)
2	(VLED−)

RTP FPC

Pin No:	Symbol
1	YU
2	XR
3	YD
4	XL

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