Winstar Display Co., LTD
華凌光電股份有限公司
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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF70-800480G#Z03-FC

General Specifications

Item	Dimension	Unit
Size	7.0	inch
Dot Matrix	800 x RGBx480(TFT)	dots
Module dimension	165.0(W) x 100(H) x 7.475(D)	mm
Active area	154.08 x 85.92	mm
Dot pitch	0.0642 x 0.179	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	12 o'clock	
Gray Scale Inversion Direction	6 o'clock	
Backlight Type	LED, Normally White	
With /Without TP	With CTP	
Surface	Glare	

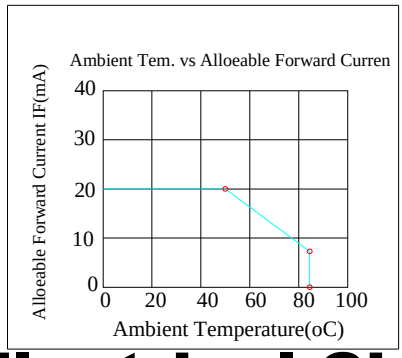
*Color tone slight changed by temperature and driving voltage.

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	TOP	-20	—	+70	℃
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℃, 85% RH MAX. Temp.＞60℃, Absolute humidity shall be less than 85% RH at 60℃



Electrical Characteristics

Operating conditions:

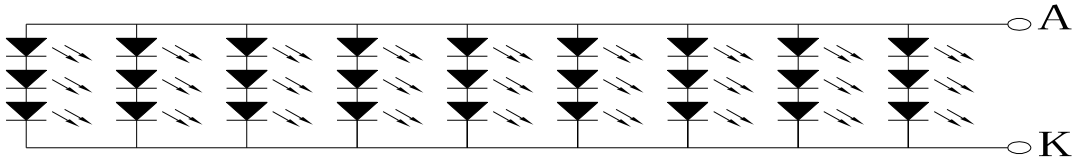
Item	Symbol	Min	Typ	Max	Unit	Remark
Digital Power Supply Voltage	VCC	3.0	3.3	3.6	V	
Supply Voltage For Touch Logic	VDDT	2.8	—	3.3	V	
Analog Power Supply Voltage	AVDD	—	10.4	10.6	V	
Gate On Power Supply Voltage	VGH	15.3	16.0	16.7	V	
Gate Off Power Supply Voltage	VGL	-7.7	-7.0	-6.3	V	
Common Power Supply Voltage	VCOM	—	(3.6)	—	V	Note1

Note1.Please adjust VCOM to make the flicker level be minimum.

LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED current	-	175	180	225	mA	-
LED voltage	A~K	8.4	9.6	10.5	V	Note 1
LED Life Time	-	20,000	-	-	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED



Backlight LED Circuit

Note 2 : Ta = 25 ℃

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

Note 4 : The single LED lamp case

Interface

LCM PIN Definition

Pin	Symbol	Function	Remark
1	A	Power supply for backlight	
2	A	Power supply for backlight	
3	K	Backlight ground	
4	K	Backlight ground	
5	GND	Power ground	
6	VCOM	Common voltage	
7	VCC	Power for Digital Circuit	
8	MODE	DE/SYNC mode select	Note 1
9	DE	Data Input Enable	
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	Note 2
19	B0	Blue data(LSB)	Note 2
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	Note 2
27	G0	Green data(LSB)	Note 2
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	Note 2
35	R0	Red data(LSB)	Note 2
36	GND	Power Ground	
37	DCLK	Sample clock	Note 3
38	GND	Power Ground	
39	L/R	Left / right selection	Note 4,5
40	U/D	Up/down selection	Note 4,5
41	VGH	Gate ON Voltage	
42	VGL	Gate OFF Voltage	
43	AVDD	Power for Analog Circuit	
44	RESET	Global reset pin.	Note 6
45	NC	No connection	

46	VCOM	Common Voltage	
47	DITHB	Dithering function	Note 7
48	GND	Power Ground	
49	NC	No connection	
50	NC	No connection	

I: input, O: output, P: Power

Note 1: DE/SYNC mode select. Normally pull high.

When select DE mode, MODE=”1”, VS and HS must pull high.

When select SYNC mode, MODE= ”0”, DE must be grounded.

Note 2: When input 18 bits RGB data, the two low bits of R,G and B data must be grounded.

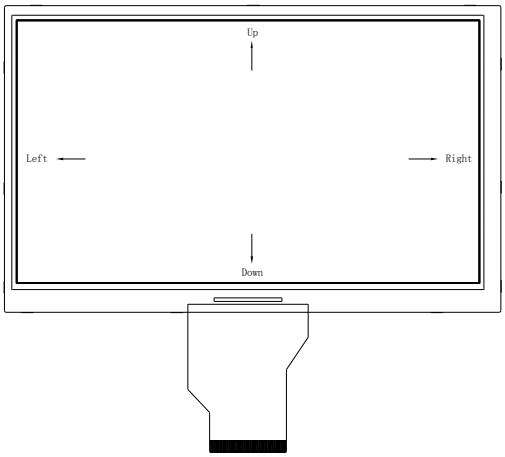
Note 3: Data shall be latched at the falling edge of DCLK.

Note 4: Selection of scanning mode

Setting of scan control		Scanning direction
U/D	L/R	
GND	VCC	Up to down, left to right
VCC	GND	Down to up, right to left
GND	GND	Up to down, right to left
VCC	VCC	Down to up, left to right

Note 5: Definition of scanning direction.

Refer to the figure as below:



Note 6: Global reset pin. Active low to enter reset state . Suggest to connect with an RC reset circuit for stability. Normally pull high.

Note 7: Dithering function enable control, normally pull high.

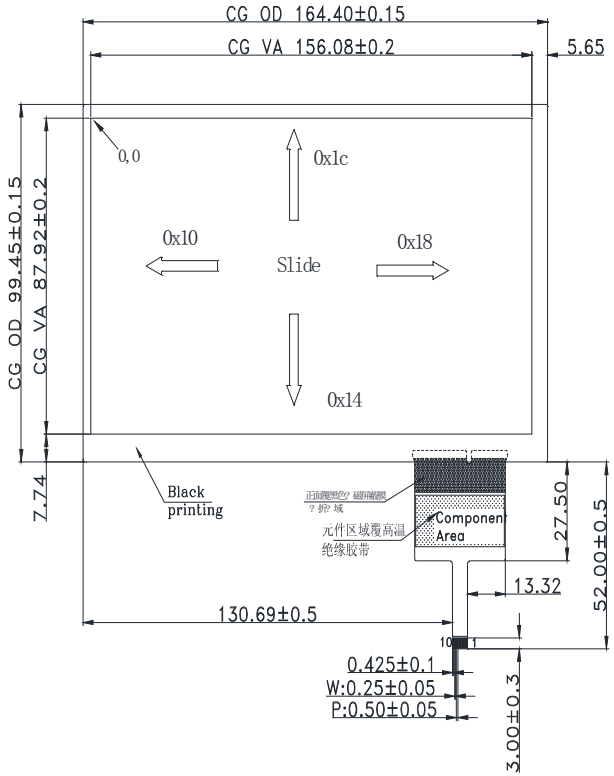
When DITHB=”1”, Disable internal dithering function,

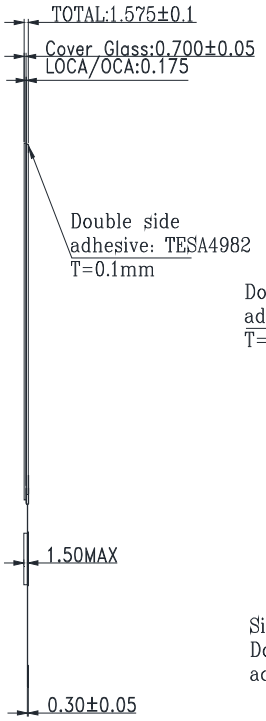
When DITHB=”0”, Enable internal dithering function,

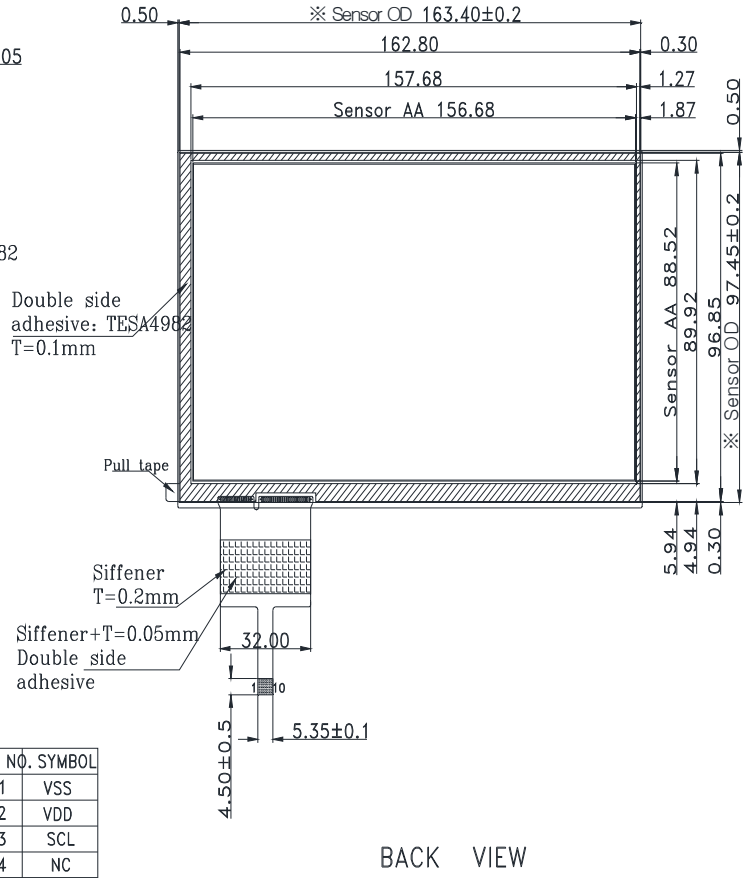
CTP PIN Definition

Pin	Symbol	Function	Remark
1	VSS	Ground for analog circuit	
2	VDDT	Power Supply : +3.0V	
3	SCL	I2C clock input	
4	NC	No connect	
5	SDA	I2C data input and output	
6	NC	No connect	
7	/RST	External Reset, Low is active	
8	/WAKE	External interrupt from the host	
9	/INT	External interrupt to the host	
10	VSS	Ground for analog circuit	

Touch Panel Information

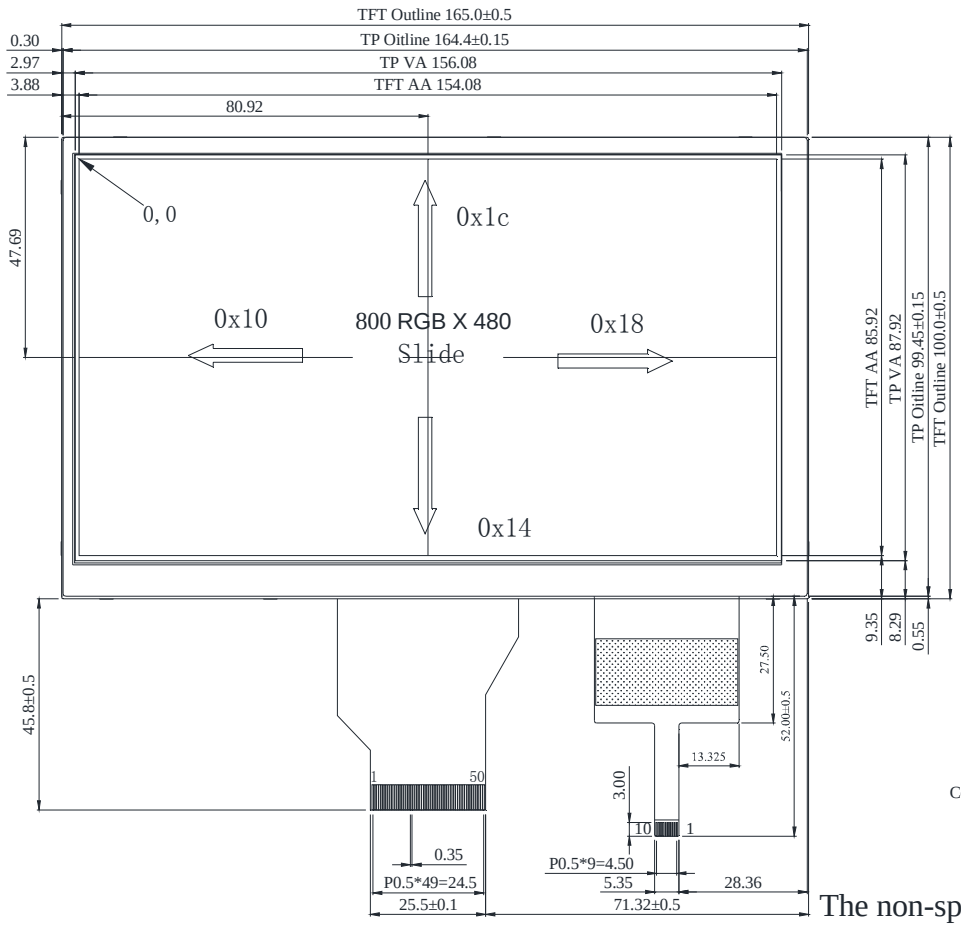


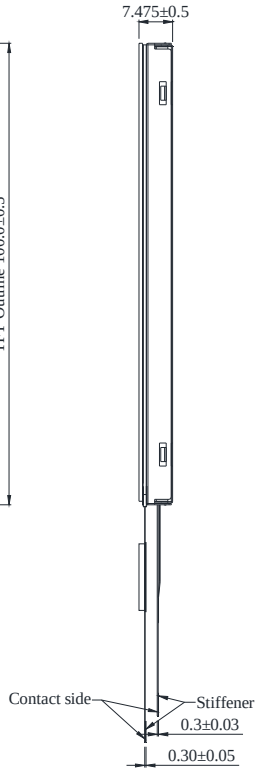




PIN NO.	SYMBOL
1	VSS
2	VDD
3	SCL
4	NC
5	SDA
6	NC
7	/RST
8	/WAKE
9	/INT
10	VSS

Contour Drawing

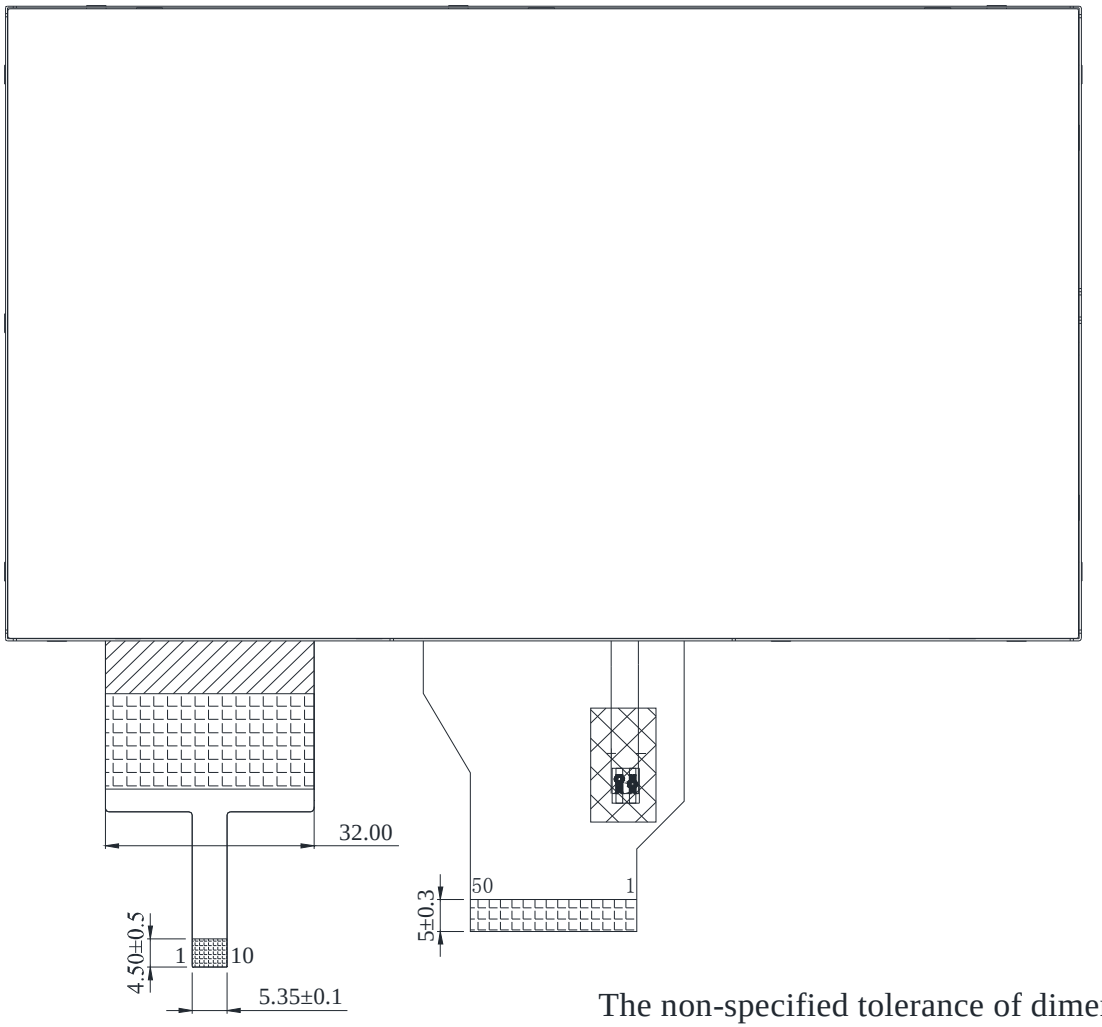




PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	A	26	G1
2	A	27	G0
3	K	28	R7
4	K	29	R6
5	GND	30	R5
6	V_{COM}	31	R4
7	V_{CC}	32	R3
8	MODE	33	R2
9	DE	34	R1
10	VS	35	R0
11	HS	36	GND
12	B7	37	DCLK
13	B6	38	GND
14	B5	39	L/R
15	B4	40	U/D
16	B3	41	V_{GH}
17	B2	42	V_{GL}
18	B1	43	AV_{DD}
19	B0	44	RESET
20	G7	45	NC
21	G6	46	V_{COM}
22	G5	47	DITHB
23	G4	48	GND
24	G3	49	NC
25	G2	50	NC

PIN NO.	SYMBOL
1	VSS
2	VDDT
3	SCL
4	NC
5	SDA
6	NC
7	/RST
8	/WAKE
9	/INT
10	VSS

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



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