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.: WF50-800480BD#D03-FC

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

Represented by:
first FC components
FIRST Components srl Via Cavour 69, 21020 Buguggiate (VA)
T. +39 0332 1888005 web: www.first-components.com

General Specifications

Item	Dimension	Unit
Size	5.0	inch
Dot Matrix	800× 3(RGB) × 480	dots
Module dimension	120.7(W) ×75.8(H) ×4.475	mm
Active area	108(W) ×64.8 (H)	mm
Pixel pitch	0.135(W) ×0.135(H)	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	12 o'clock	
Gray Scale Inversion Direction	6 o'clock	
TFT Driver IC	ILI6122 + ILI5960 or Equivalent	
TFT Interface	24-bit RGB	
Aspect Ratio	16:9	
Backlight Type	LED ,Normally White	
CTP IC	ILI2130 or Equivalent	
CTP Interface	I2C	
CTP FW Version	0x07.0x00.0x00.0x00.0xA1.0x25.0x50.0x00	
CTP Resolution	16384*16384	
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℃, 90% RH MAX. Temp.＞60℃, Absolute humidity shall be less than 90% RH at 60℃

Electrical Characteristics

Typical Operation Conditions

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Power voltage	VDD	3.0	3.3	3.6	V	
Current for Driver(Black)	IDD	-	110	170	mA	VDD=3.3V
Input logic high voltage	VIH	0.7 VDD	-	VDD	V	Note 1
Input logic low voltage	VIL	0	-	0.3 VDD		
Supply CTP	VDDT	3.0	3.3	3.6	V	
	ICTP	—	51	77	mA	

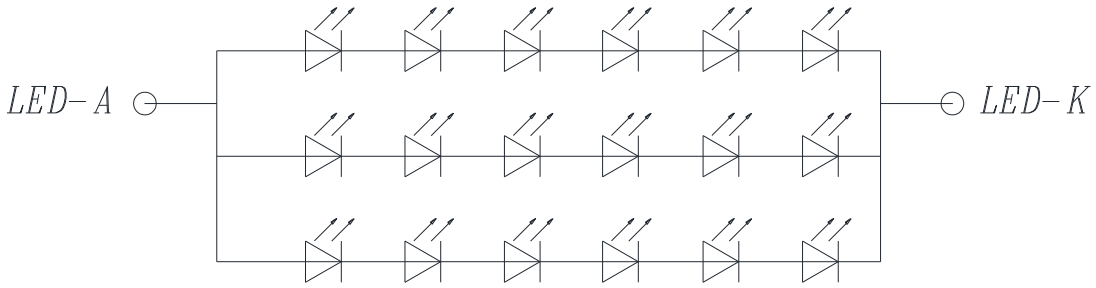
Note1: CLK,DE,R0~R7, G0~7, B0~7.

Backlight Driving Conditions

Item	Symbol	Values			Unit	Remark
		Min.	Typ.	Max.		
Voltage for LED backlight	VL	18	19.2	20	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 IL =20ma/pcs.

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



CIRCUIT DIAGRAM : 6*3 Dice

Interface

LCM PIN Definition

FPC Connector is used for the module electronics interface.

Pin	Symbol	Function	Remark
1	VLED-	Power for LED backlight (Cathode)	
2	VLED+	Power for LED backlight (Anode)	
3	GND	Power Ground	
4	VDD	Power voltage	
5	R0	Red data (LSB)	
6	R1	Red data	
7	R2	Red data	
8	R3	Red data	
9	R4	Red data	
10	R5	Red data	
11	R6	Red data	
12	R7	Red data(MSB)	
13	G0	Green data(LSB)	
14	G1	Green data	
15	G2	Green data	
16	G3	Green data	
17	G4	Green data	
18	G5	Green data	
19	G6	Green data	
20	G7	Green data(MSB)	
21	B0	Blue data(LSB)	
22	B1	Blue data	
23	B2	Blue data	
24	B3	Blue data	
25	B4	Blue data	
26	B5	Blue data	
27	B6	Blue data	
28	B7	Blue data(MSB)	
29	GND	Power Ground	
30	CLK	Sample clock	

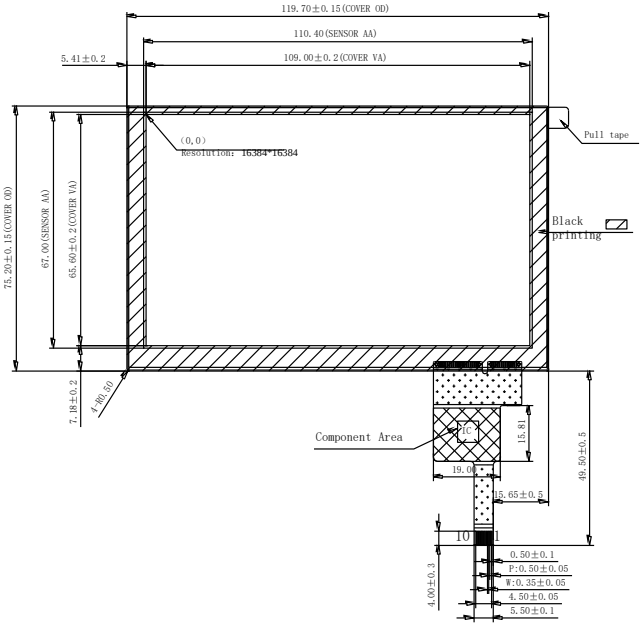
31	DISP	Display on/off	
32	NC/HSync	No connection /Horizontal sync input	(Note)
33	NC/VSync	No connection /Vertical sync input	(Note)
34	DE	Data input enable	
35	NC	No connection	
36	GND	Power Ground	
37	NC	No connection	
38	NC	No connection	
39	NC	No connection	
40	NC	No connection	

Note : This module default function is for DE mode, if this module want change to use SYNC mode , the FPC have to modify resistive jumper .

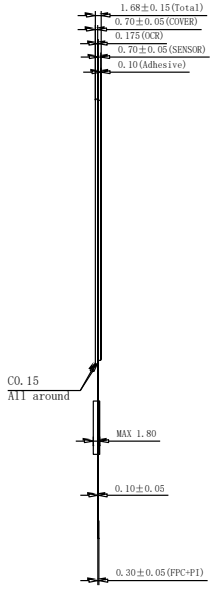
CTP PIN Definition

Pin	Symbol	Function	Remark
1	VSS	Ground for analog circuit	
2	VDDT	Power Supply : +3.3V	
3	SCL	I2C clock inputI2C 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	NC	No connect	
9	/INT	External interrupt to the host	
10	VSS	Ground for analog circuit	

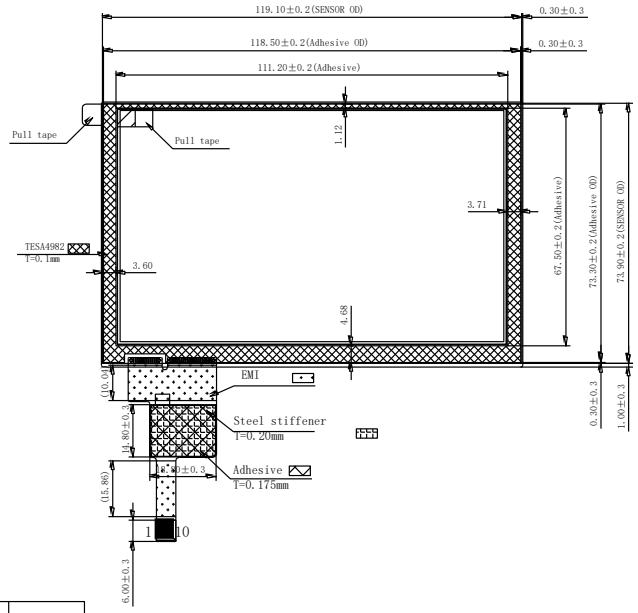
Touch Panel Information



Front view



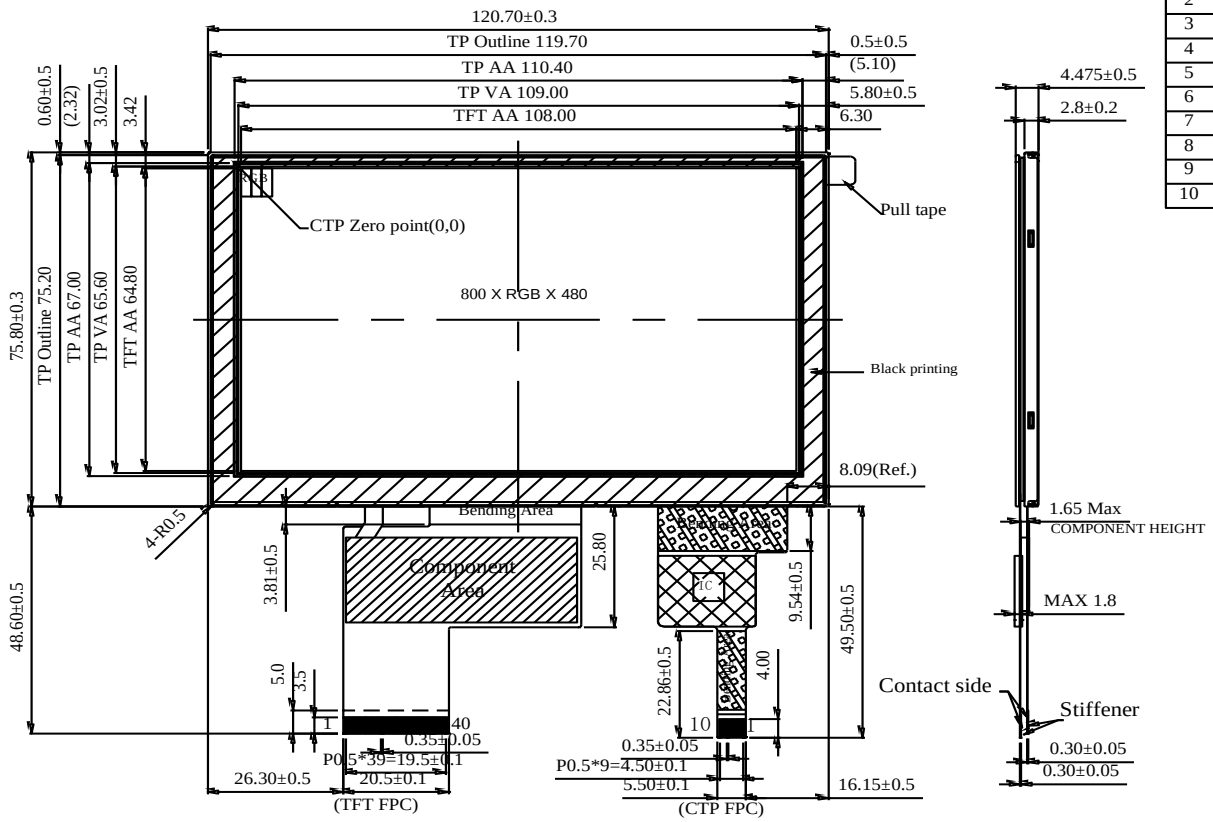
Side view



Back view

PIN No.	Pin Name
1	VSS
2	VDDT
3	SCL
4	NC
5	SDA
6	NC
7	RST
8	NC
9	INT
10	VSS

Contour Drawing



CTP FPC

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

TFT FPC

PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	V_{LED-}	21	B0
2	V_{LED+}	22	B1
3	GND	23	B2
4	V_{DD}	24	B3
5	R0	25	B4
6	R1	26	B5
7	R2	27	B6
8	R3	28	B7
9	R4	29	GND
10	R5	30	CLK
11	R6	31	DISP
12	R7	32	NC/H_{Sync}
13	G0	33	NC/V_{Sync}
14	G1	34	DE
15	G2	35	NC
16	G3	36	GND
17	G4	37	NC
18	G5	38	NC
19	G6	39	NC
20	G7	40	NC

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