TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

Represented by:

first FC components
FIRST Components s.r.l.
www.first-components.com
technical@first-components.com
+39 0332 1888005

SPECIFICATION

MODULE NO.: WF40-480480ED#0SPW3-FC

General Specifications

Item	Dimension	
Size	4.0	inch
Dot Matrix	480 × 3(RGB) × 480	dots
Module dimension	78.8(H) × 82.95 (W) × 7.17	mm
Active area	71.856(H) × 70.176 (V)	mm
Pixel pitch	0.1497(H) × 0.1462(V)	mm
LCD type	TFT, Normally Black, Transmissive	
View Direction	80/80/80/80	
Aspect Ratio	1:1	
Interface	24-bit RGB	
Driver IC	ST7701S or Equivalent	
Backlight Type	LED, Normally White	
PCAP IC	ST1633I or equivalent	
PCAP Interface	I2C	
PCAP FW Version:	V01	
Touch Panel	With PCAP	
Surface	Anti-glare	

*Color tone slight changed by temperature and driving voltage.

Absolute Maximum Ratings

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

Electrical Characteristics

Typical Operation Conditions

Item	Symbol	Values			Unit
		Min.	Typ.	Max.	
Interface Supply Voltage	VCC	2.5	2.8	3.6	V
Current for Driver(White)	I_{VCC}	-	27	40.5	mA
Supply PCAP	VDDT	2.8	-	3.3	V
	I_{CTP}(mA)	-	12.4	18.6	mA

2. Backlight Driving Conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
LED current	ILED	-	120	-	mA
LED voltage	VLED+	13.5	15	17	V
LED Life Time		50,000	-	-	Hr

first components

Interface

1. LCM PIN Definition

Pin	Symbol	Function
1	VLED-	Power for LED backlight cathode
2	VLED+	Power for LED backlight anode
3	GND	Power ground
4	VCC	Power supply
5	R0	Data bus
6	R1	
7	R2	
8	R3	
9	R4	
10	R5	
11	R6	
12	R7	
13	G0	Data bus
14	G1	
15	G2	
16	G3	
17	G4	
18	G5	
19	G6	
20	G7	
21	B0	Data bus
22	B1	
23	B2	
24	B3	
25	B4	
26	B5	
27	B6	
28	B7	
29	SCL	SCL: Serial clock input for SPI interface.
30	PCLK	Dot clock signal for RGB interface operation

first FC components

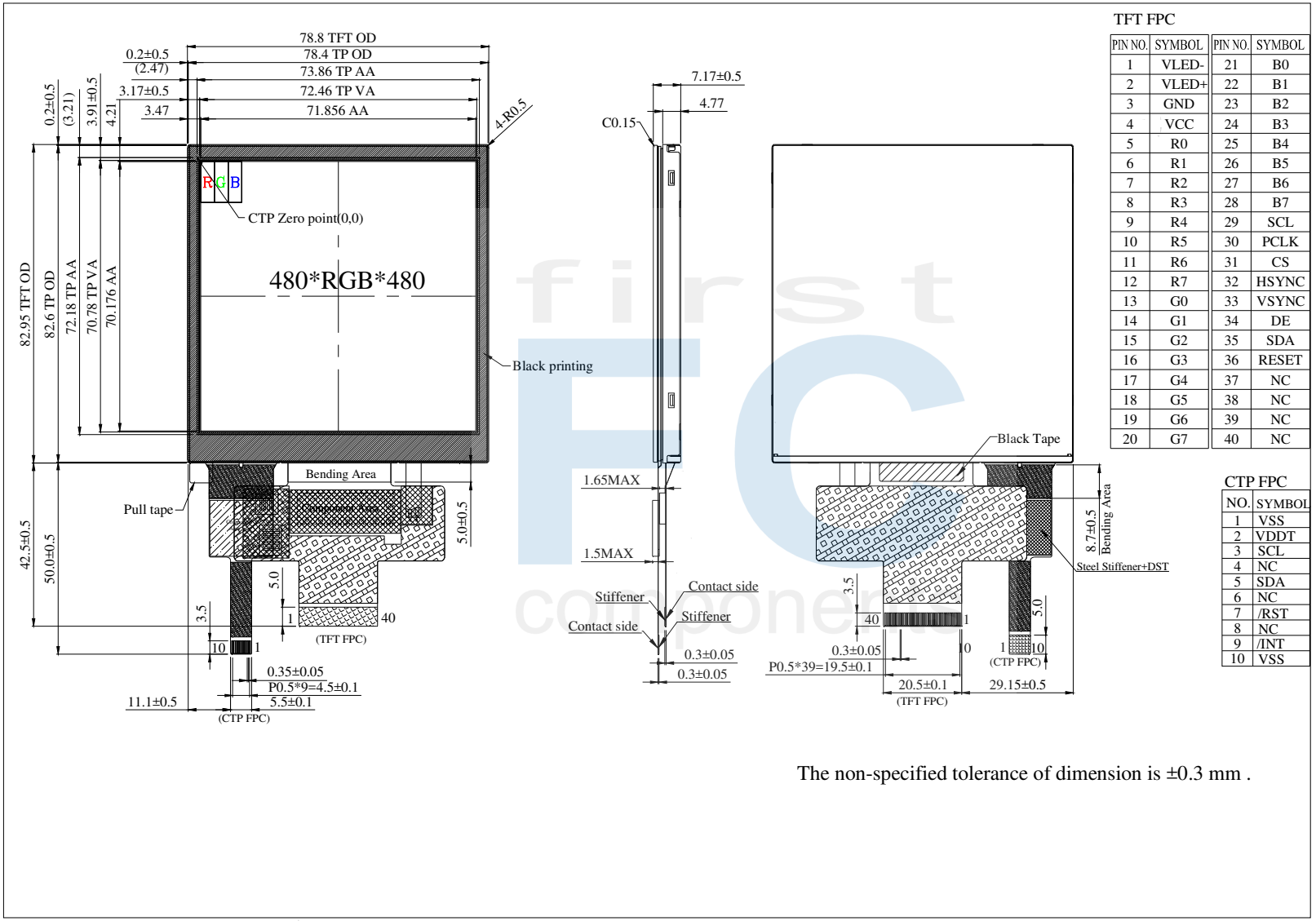
31	CS	- A chip select signal Low: the chip is selected and accessible High: the chip is not selected and not accessible
32	HSYNC	Line synchronizing signal for RGB interface operation
33	VSYNC	Frame synchronizing signal for RGB interface operation
34	DE	Data enable signal for RGB interface operation Low: access enabled High: access inhibited
35	SDA	SDA: Serial data input/output bidirectional pin for SPI Interface.
36	RESET	- The external reset input - Initializes the chip with a low input. Be sure to execute a power-on reset after supplying power.
37-40	NC	No connect

2. PCAP PIN Definition

Pin	Symbol	Function
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	NC	No connect
9	/INT	External interrupt to the host
10	VSS	Ground for analog circuit

first components

Contour Drawing



TFT FPC

PIN NO.	SYMBOL	PIN NO.	SYMBOL
1	VLED-	21	B0
2	VLED+	22	B1
3	GND	23	B2
4	VCC	24	B3
5	R0	25	B4
6	R1	26	B5
7	R2	27	B6
8	R3	28	B7
9	R4	29	SCL
10	R5	30	PCLK
11	R6	31	CS
12	R7	32	HSYNC
13	G0	33	VSYNC
14	G1	34	DE
15	G2	35	SDA
16	G3	36	RESET
17	G4	37	NC
18	G5	38	NC
19	G6	39	NC
20	G7	40	NC

CTP FPC

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

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

first FC components