TFT DISPLAY SPECIFICATION



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Represented by:

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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WF18-128160GD#0011-FC

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

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
first FC components			
ISSUED DATE: 2022/06/23			

General Specifications

Item	Dimension	Unit
Size	1.77	inch
Dot Matrix	128 x RGB x 160(TFT)	dots
Module dimension	36.5(W) x 47.0(H) x 4.27(D)	mm
Active area	28.03 x 35.04	mm
Dot pitch	0.073 x 0.219	mm
LCD type	TFT, Normally White, Transmissive	
View Direction	6 o'clock	
Gray Scale Inversion Direction	12 o'clock	
Aspect Ratio	Portrait	
IC	ST7735S or Equivalent	
Interface	SPI	
CTP IC	FT6336U or equivalent	
CTP FW Version	0x02	
CTP Resolution	128*160	
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℃, 90% RH MAX. Temp.＞60℃, Absolute humidity shall be less than 90% RH at 60℃

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Electrical Characteristics

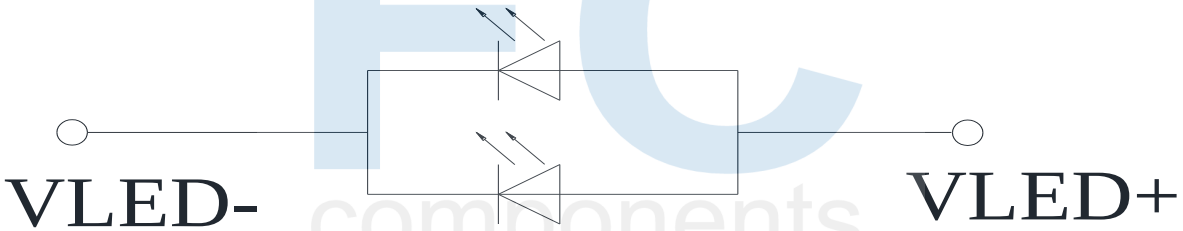
Operating conditions:

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Analog	VCC	—	2.5	2.75	3.7	V
Supply LCM current	ICC	—	-	0.9	2	mA
Supply Voltage For Touch	VDDT	—	2.8	—	3.3	V

LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit	Remark
LED current		-	40	-	mA	
Power Consumption			128	-	mW	
LED voltage	VBL+	2.9	3.1	3.4	V	Note 1
LED Life Time		-	50,000	-	Hr	Note 2,3,4

Note 1 : There are 1 Groups LED



Note 2 : Ta = 25 ℃
Note 3 : Brightness to be decreased to 50% of the initial value
Note 4 : The single LED lamp case

Optical Characteristics

Item		Symbol	Condition.	Min	Typ.	Max.	Unit	Remark
Response time		Tr	θ=0°、Φ=0°	-	2	4	.ms	Note 3,5
		Tf			6	12	.ms	
Contrast ratio		CR	At optimized viewing angle	400	500	-	-	Note 4,5
Color Chromaticity	White	Wx	θ=0°、Φ=0	0.26	0.31	0.36		Note 2,6,7
		Wy		0.28	0.33	0.38		
Viewing angle (Gray Scale Inversion Direction)	Hor.	ΘR	CR≧10	35	45		Deg.	Note 1
		ΘL		35	45			
	Ver.	ΦT		35	45			
		ΦB		10	20			
Brightness		-	-	350	400	-	Cd/m^2	Center of display
Uniformity		(U)	-	75	-	-	%	Note 5

Ta=25±2℃

Note 1: Definition of viewing angle range

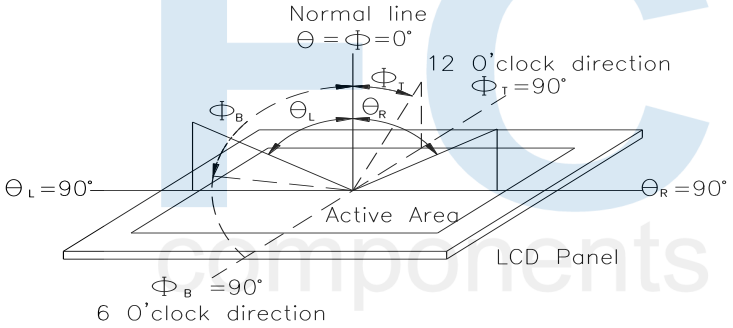


Fig.7.1. Definition of viewing angle

Note 2: Test equipment setup:

After stabilizing and leaving the panel alone at a driven temperature for 10 minutes, the measurement should be executed. Measurement should be executed in a stable, windless, and dark room. Optical specifications are measured by Topcon BM-7orBM-5 luminance meter 1.0° field of view at a distance of 50cm and normal direction.

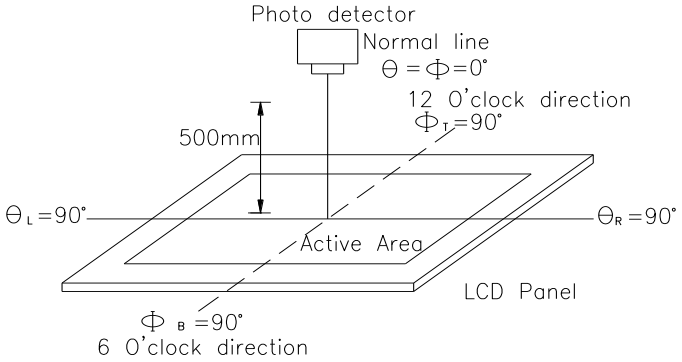


Fig. 7.2. Optical measurement system setup

Interface

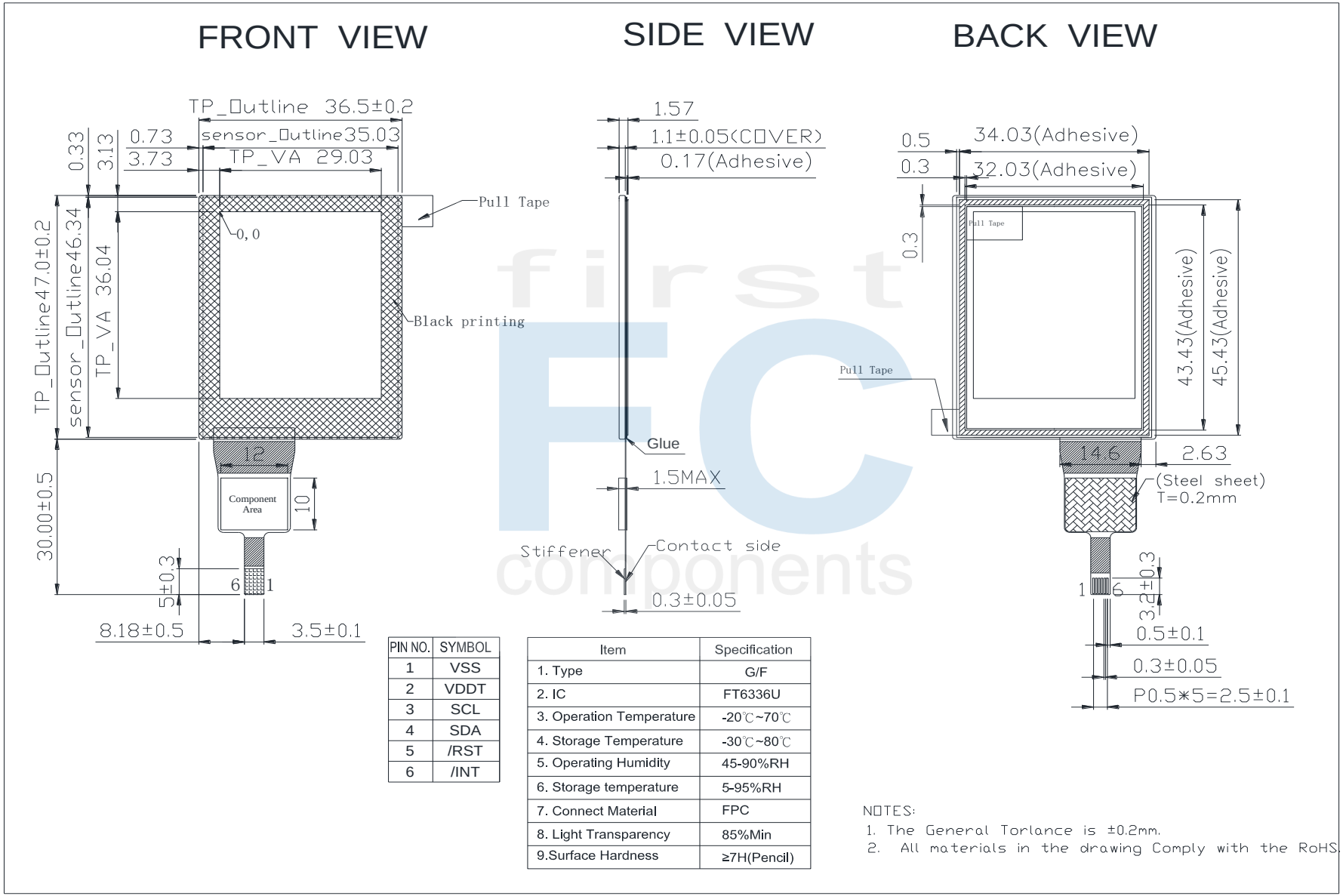
LCM PIN Definition

Pin	Symbol	I/O	Function	Remark
1	LED+	P	Back light anode	
2	LED-	P	Back light cathode	
3	SPI4W (VCC=4 WIRE)	I	- SPI4W='0', 3-line SPI Enable. - SPI4W='1', 4-line SPI Enable.	
4	VCC	P	Power Supply.	
5	GND	P	Ground	
6	CS	I	Chip enable (CSX)	
7	RST	I	Reset signal (RESX)	
8	SDA	I/O	Serial input/output signal in serial interface mode.	
9	SCL	I	In Serial Interface, this is used as SCL.	
10	D/C	I	Data/ command selection. (D/CX)	

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	SDA	I2C data input and output	
5	/RST	External reset signal, active low	
6	/INT	External interrupt to the host	

Touch Panel Information

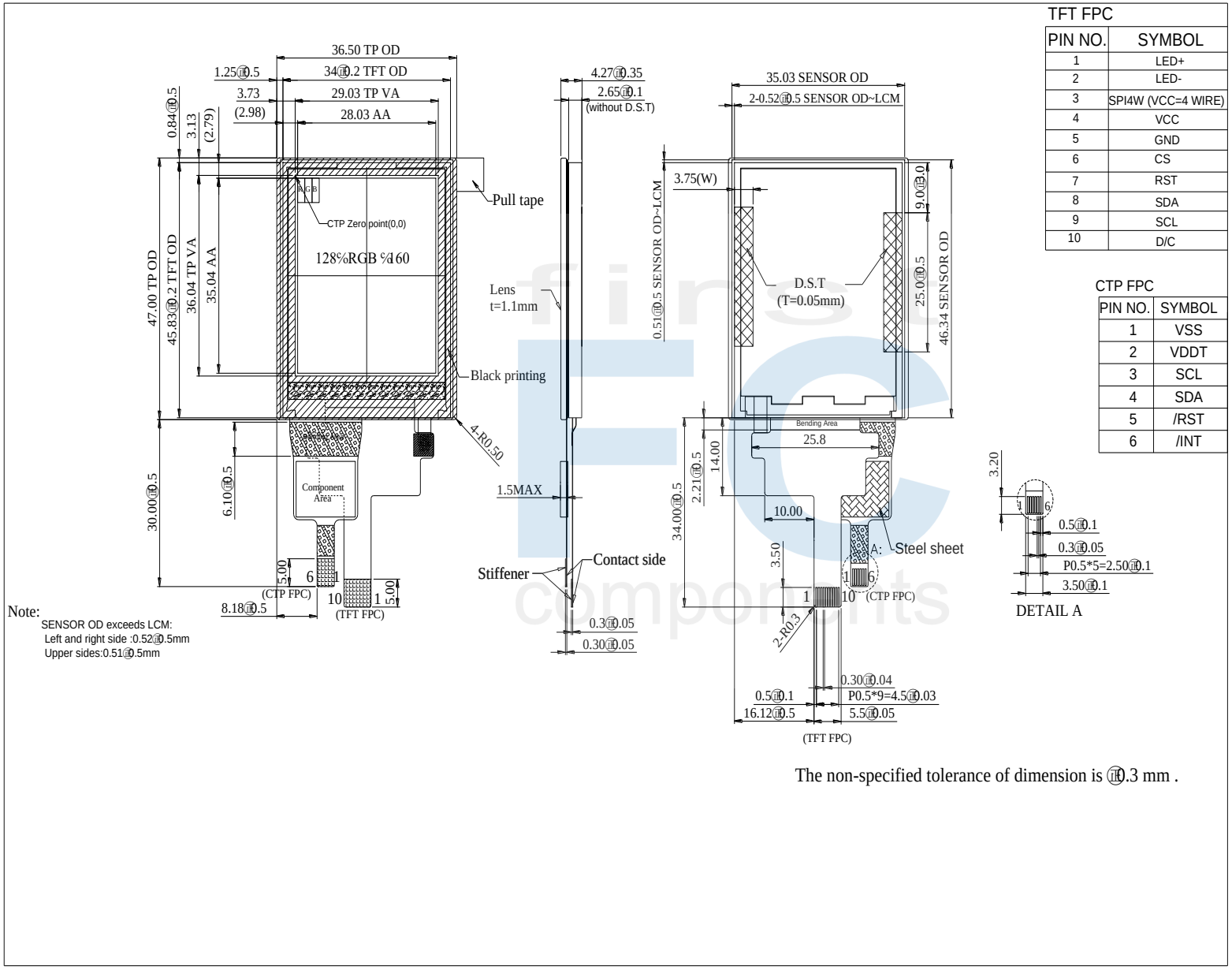


PIN NO.	SYMBOL
1	VSS
2	VDDT
3	SCL
4	SDA
5	/RST
6	/INT

Item	Specification
1. Type	G/F
2. IC	FT6336U
3. Operation Temperature	-20℃~70℃
4. Storage Temperature	-30℃~80℃
5. Operating Humidity	45-90%RH
6. Storage temperature	5-95%RH
7. Connect Material	FPC
8. Light Transparency	85%Min
9.Surface Hardness	≥7H(Pencil)

NOTES:
1. The General Torlance is ±0.2mm.
2. All materials in the drawing Comply with the RoHS.

Contour Drawing



TFT FPC

PIN NO.	SYMBOL
1	LED+
2	LED-
3	SPI4W (VCC=4 WIRE)
4	VCC
5	GND
6	CS
7	RST
8	SDA
9	SCL
10	D/C

CTP FPC

PIN NO.	SYMBOL
1	VSS
2	VDDT
3	SCL
4	SDA
5	/RST
6	/INT

Note:
SENSOR OD exceeds LCM:
Left and right side :0.52±0.5mm
Upper sides:0.51±0.5mm

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