

TFT DISPLAY SPECIFICATION



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司



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SPECIFICATION

MODULE NO.: WF0096ATYAA3DNF10#

General Specifications

Item	Dimension	Unit
Size	0.96	inch
Dot Matrix	80 x RGB x 160(TFT)	dots
Module dimension	18.7 (W) x 31.9 (H) x 2.64 (D)	mm
Active area	10.8 x 21.696	mm
Dot pitch	0.135 x 0.1356	mm
LCD type	TFT, Normally black, Transmissive	
Viewing Angle	80/80/80/80	
Aspect Ratio	1:2	
IC	ST7735S or equivalent	
TFT Interface	SPI Interface	
Backlight Type	LED, Normally White	
PCAP Interface	I2C	
PCAP IC	FT3267 or equivalent	
PCAP FW Version	V06	
Touch Panel	Projected Capacitive Touch Panel (PCAP)	
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	°C
Storage Temperature	TST	-30	—	+80	°C

Electrical Characteristics

1. Operating conditions:

Item	Symbol	Min	Typ	Max	Unit
Supply Voltage	VCC	3.0	3.3	3.6	V
Supply LCM current	ICC	—	2	3	mA
Supply CTP	VDDT	2.8	—	3.3	V
	I _{VDDT}	—	2	3	mA

2. LED driving conditions

Parameter	Symbol	Min.	Typ.	Max.	Unit
LED current	I _{LED}	—	20	—	mA
LED voltage	V _{LED}	2.8	3.0	3.2	V
LED Life Time		50000	—	—	Hr

Interface

1. LCM PIN Definition

Pin	Symbol	Function
1	SPI4W	SPI4W='0', 3-wire SPI. SPI4W='1', 4-wire SPI.
2	NC	No connection
3	SDA	Serial interface data
4	SCL	Serial interface clock
5	RS	Data/command selection pin (4-wire SPI use)
6	RES	Reset pin (low active)
7	CS	Chip selection pin (low active)
8	GND	Ground
9	NC	No connection
10	VCC	Power supply.
11	VLED-	Back light cathode
12	VLED+	Back light anode
13	GND	Ground

2. PCAP PIN Definition

Pin	Symbol	Function
1	VDDT	Power supply
2	SCL	IIC clock signal. Must be pulled high
3	SDA	IIC data signal. Must be pulled high.
4	INT	External interrupt to the host
5	RESET	External Reset. Low is active
6	VSS	Power ground.

Four Drawing

The image displays four technical drawings of a display module assembly, likely for a mobile device. The drawings include top, side, and cross-sectional views with detailed dimensions and labels.

Top View (Left): Shows the overall dimensions of the module. Key dimensions include: 18.70 TP OD, 13.50±0.20 TFT OD, 10.80 TP VA, 10.80 TFT AA, 2.60±0.5, 3.95, (3.95), 1.83±0.5, 3.53, (3.53), 31.90 TP OD, 27.95 TFT OD, 21.696 TP VA, 21.696 AA, 3.20±0.5, 15.00±0.5, 28.00±0.5, 0.55±0.5, 12.40, 3.50, 3.13±0.5, 3.50±0.1, 13, 1, 6, (TFT PFC), (TP PFC), W0.30±0.05, P0.5*5= 2.50±0.1, 80XRGBX160, CTP zero point (0,0), R G B, Pull Tape, Black printing, Optical bonding, C0.15max, 1.54, 2.64±0.45, 1.54, 1.5MAX, 0.1±0.03, 0.30±0.05, Stiffener, Contact side.

Side View (Middle): Shows the profile of the module. Key dimensions include: 1.54, 2.64±0.45, 1.54, 1.5MAX, 0.1±0.03, 0.30±0.05, Stiffener, Contact side.

Cross-sectional View (Right): Shows the internal structure of the module. Key dimensions include: ITO FILM OD 15.40, 1.65, 4-1.20, 13.60, 2.79, 2-Ø0.80, 1.40, 1.00, 10.40, 0.40, 1.70, 4.00, 5.00, 1, 6, (TFT PFC), (TP PFC), Steel Stiffener+DST(t=0.05mm), Pull Tape, Adhesive (3M9495MP T=0.14mm), Black tape.

The non-specified tolerance of dimension is ±0.3

PIN NO.	SYMBOL
1	SP14W
2	NC
3	SDA
4	SCL
5	RS
6	RES
7	CS
8	GND
9	NC
10	VCC
11	VLED-
12	VLED+
13	GND

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

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