

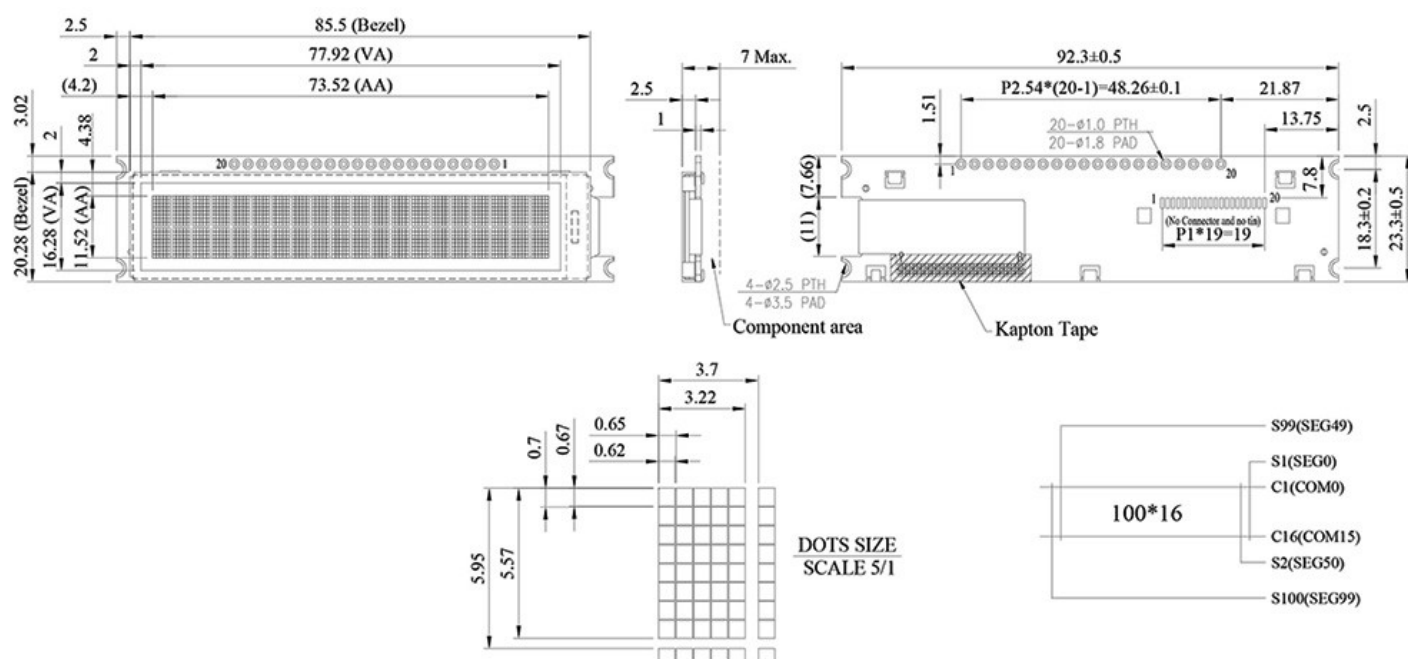
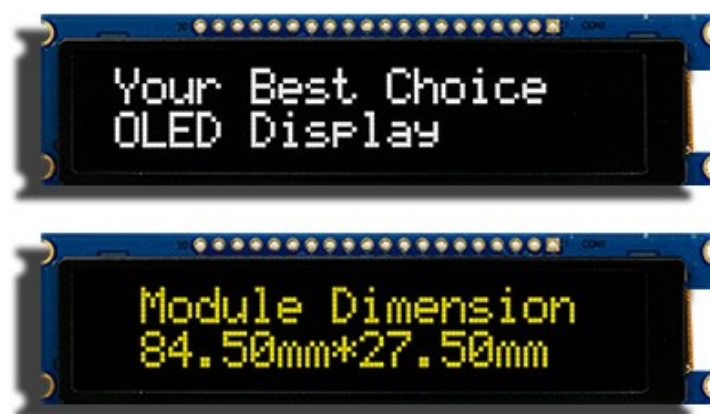
Oct 2020

## WEP002002A Character 20x2 COG OLED with PCB

WEP002002A model is 2.93" 20 characters by 2 lines of COG Character OLED with a PCB on module. The PCB with four mounting holes is an easy fixing method for customers' applications. This module is built-in with SSD1311 IC; it supports 6800/8080 4bit/8bit parallel, I2C, and 4-wire SPI serial interface. It has ROMs for ASCII, English and European and Japanese characters, the supply voltage for logic is default 3.3V, optional 5V, display with 50% check board current is 50mA @ 3.3VDD (typical value), driving duty 1/16. WEP002002A PCB design is suitable for customers to use cable connection; customers do not need to develop extra PCB by themselves. This module integrated interface settings and VCC circuit which allows customers easily to use.

This 2.93 inch Character OLED module is suitable for smart home application, medical device, smart control, industrial control and etc. WEP002002A module can be operating at temperatures from -40°C to +80°C; its storage temperatures range from -40°C to +85°C.

WEP002002A	Dimension
Number of Characters	20 characters x 2 lines
Module dimension	92.3 x 23.3 x 7 mm Max.
Active area	73.52 x 11.52 mm
Dot size	0.62 x 0.67 mm
Dot pitch	0.65 x 0.70 mm
Character size	3.22 x 5.57 mm
Character pitch	3.70 x 5.95 mm
LCD type	OLED , White / Yellow
Duty	1/16
IC	SSD1311
Interface	6800, 8080, SPI, I2C
Size	2.93 inch



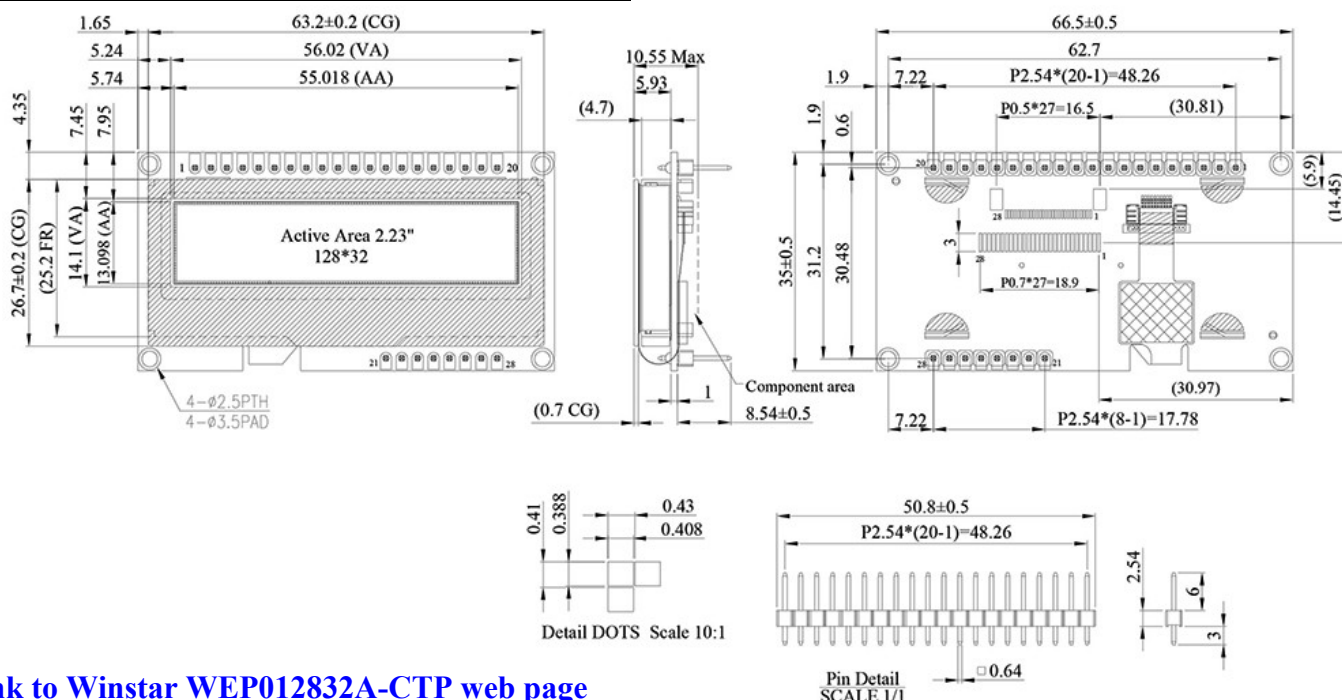
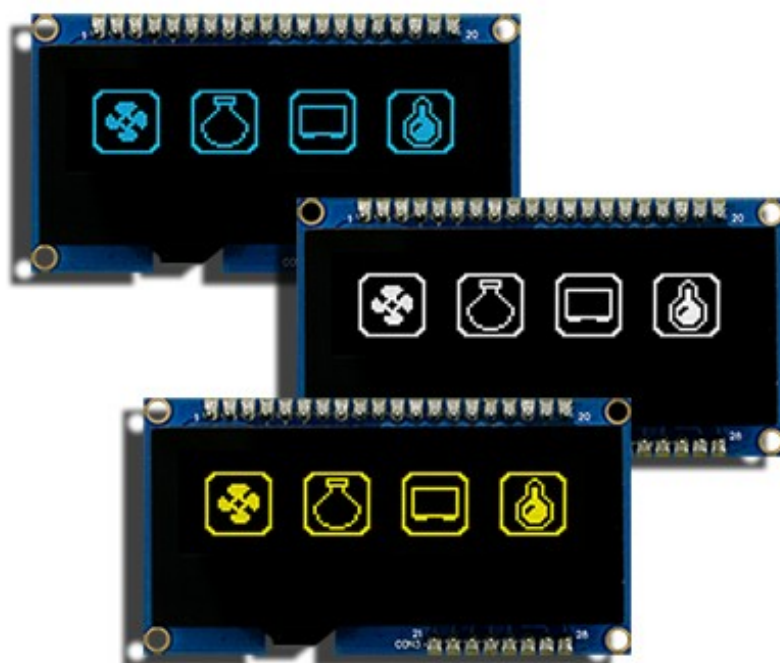
## WEP012832A: 2.23" 128x32 Capacitive Touch Screen OLED

WEP012832A model has extension item with Capacitive Touch Panel on module; it's 2.23" diagonal size, made of 128x32 dot matrix. This OLED module is built-in with SSD1305 IC; it supports 6800/8080 8-bit parallel, I2C, and 4-Wire SPI interface, supply voltage for logic 3.3V, the display with 50% Check board current is 85mA @3.3VDD (typical value), driving duty 1/32, supply voltage for logic 3.0V~5.0V (VDD). This model is having Capacitive Touch Panel on module; it is built-in with FT6336U IC which supports I2C interface, detect point on 1 finger, normal glare surface glass.

WEP012832A-CTP model is a COG OLED display with a PCB on module. There are two methods for options to fix modules on customers' applications; one is using mounting holes to fix the modules, the other one is using metal pins on PCB board. Furthermore, we provide three options of interface connection for customers to choose, hot bar soldering, metal pins or FPC with connector. We also provide a mini vibration motor and buzzer optional as well.

This OLED module is suitable for smart home application, medical device, smart control, etc. WEP012832A-CTP module can be operating at temperatures from -20°C to +70°C; its storage temperatures range from -40°C to +85°C.

WEP012832A	Dimension
Dot Matrix	128 x 32 Dots
Module dimension	66.5 x 35.0 x 10.55 mm
Active Area	55.018 x 13.098 mm
Pixel Size	0.408 x 0.388 mm
Pixel Pitch	0.43 x 0.41 mm
Display Mode	Passive Matrix
Display Color	White / Yellow / Blue
Drive Duty	1/32 Duty
OLED IC	SSD1305
OLED Interface	6800, 8080, 4-Wire SPI, I2C
Size	2.23 inch
CTP IC	FT6336U
Detect Point	1
CTP Interface	I2C
Surface	Normal Glare

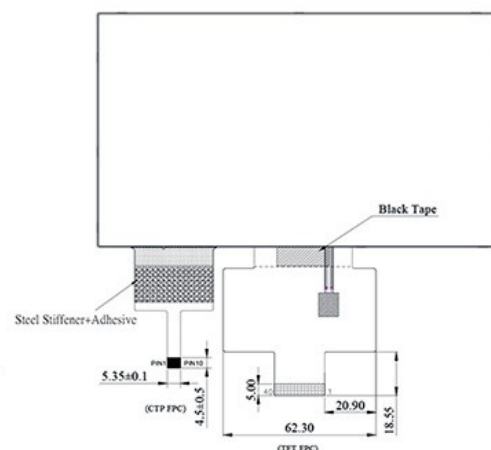
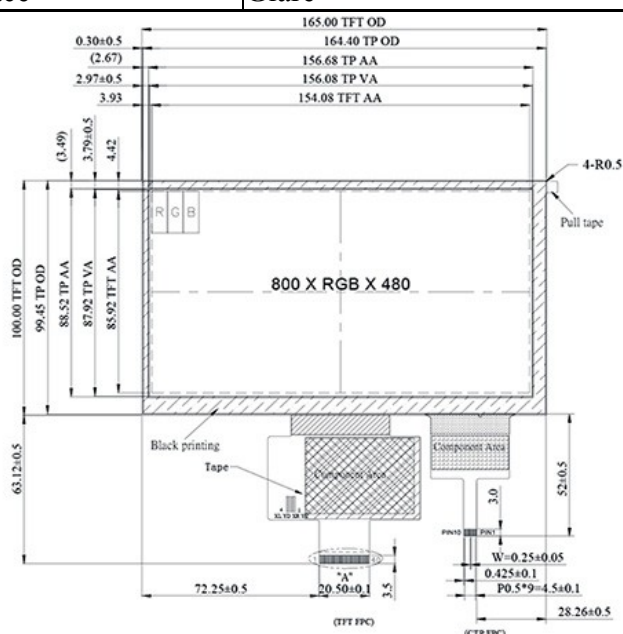
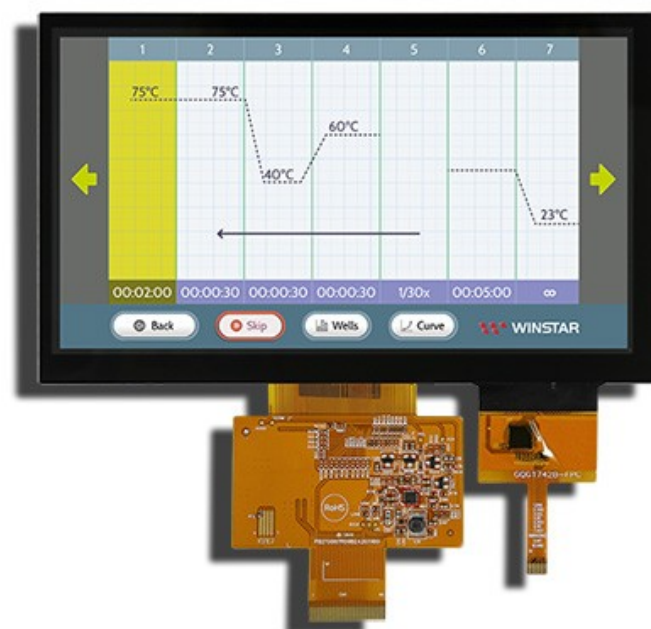


## 7" 800x480 PCPA TFT Module WF70B2SIAGDNG0

WF70B2SIAGDNG0 is a 7 inch TFT LCD module with Projected Capacitive Touch Panel, resolution 800x480 pixels. WF70B2SIAGDNG0 model is built-in with HX8264-E and HX8664-B driver ICs, it supports 24 bit RGB interface, featured with DC to DC function; contrast ratio 800:1 (typical value), brightness 700 nits (typical value), aspect ratio 16:9, normally white, transmissive LCD type, view direction 12H, gray scale inversion direction 6H. The Projected Capacitive Touch Panel of WF70B2 is built-in with FT5426 IC which supports I2C interface. WF70B2 series is compatible with WF70Y series but featured with different driver ICs, it is a new 7" TFT option for customers to choose.

The supply voltage for logic (VCC) of WF70B2SIAGDNG0 is from 3.0V to 3.6V, typical value 3.3V. It can be operating at temperatures from -20°C to +70°C and storage temperatures from -30°C to +80°C.

WF70B2SIAGDNG0	Dimension
Size	7 inch
Dot Matrix	800 x RGB x 480 (TFT)
Module dimension	165 x 100.0 x 7.42 mm
Active area	154.08 x 85.92 mm
Pixel Pitch	0.1926 x 0.179 mm
LCD type	TFT, Normally White, Transmissive
View Direction	12 o'clock
Gray Scale Inversion Direction	6 o'clock
Aspect Ratio	16:9
Backlight Type	LED, Normally White
TFT Interface	24 bit RGB
Color arrangement	RGB-STRIPE
Driver IC	HX8264-E&HX8664-B or Equivalent
PCAP IC	FT5426 or Equivalent
PCAP Interface	I2C
PCAP FW Version:	V03
Touch Panel	With PCAP/RTP optional
Surface	Glare



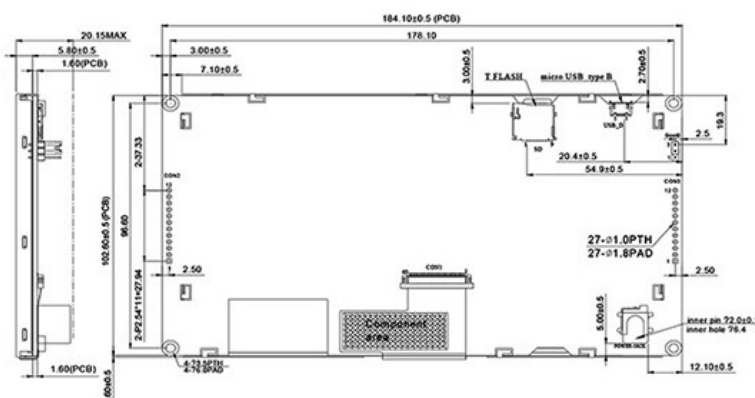
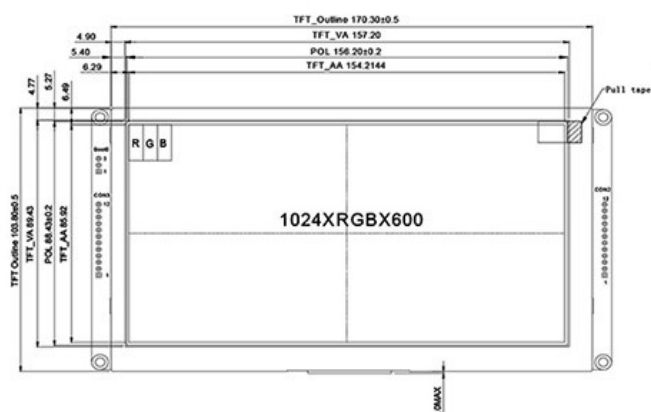


**7" 1024x600 IPS TFT M Series WF70MTABHLRN0**

WF70MTABHLRN0 is a 7 inch IPS M Series TFT-LCD display, made of resolution 1024x600 pixels. The M Series TFT is an "all in one system" which supports two kinds of user interfaces; the UART and SPI interface. WF70MTABHLRN0 module is featured with IPS panel which is having the advantage of wider viewing angle of Left:85 / Right:85 / Up:85 / Down:85 degree (typical), contrast ratio 800:1 (typical value), high brightness 600 nits (typical value), anti-glare surface panel, aspect Ratio 16:9. The power voltage of LCM is 5V (1.5A at least). It can be operating at temperatures from -10°C to +70°C and storage temperatures from -30°C to +80°C. This 7" IPS M series have Resistive Touch Panel and Projected Capacitive Touch Panel for options.

WF70MTABHLRN0 module is built-in with microcontroller STM32F429 (CPU Frequency 180MHZ) on control board. Winstar designed an UI (user interface). By using Winstar TFT UI editing program and firmware, users can accelerate the project development. More detailed information of this IPS 7" M Series TFT series, please find in the following content.

<b>WF70MTABHLRN0</b>	<b>Dimension</b>
Size	7 inch
Dot Matrix	1024 x RGB x 600 (TFT)
Module dimension	170.3(W) x 103.8(H) x 20.15(D) mm
Active area	154.2144 x 85.92 mm
Dot pitch	0.1506 x 0.1432 mm
LCD type	TFT, Normally Black, Transmissive
Viewing Angle	85/85/85/85
Aspect Ratio	16:9
Backlight Type	LED, Normally White
Interface	<u>Uart 19200 Baud rate/SPI</u>
Touch Panel	PCAP /RTP options
Surface	Anti-Glare
Operating mode	Slave mode
Flash Memory Size	32M bits (4M Byte)
SD card format	FAT, exFAT
Control IC	STM32F429
Power	5V, 1.5A(at least)



### Comparison: Functions of WF70MTABHLRN0

Below is the functions comparison of WF70MTIBGDRN0 and WF70MTABHLRN0:

Function	WF70MTIBGDRN0# (WF70G TN panel)	WF70MTABHLRN0# (WF70A8 IPS panel)
Text Mode (ASCII)	V	
Unicode Text Mode		V
Flash File System		V
Save Image		V
Save Font	V	V
QR code Generator		V
Clean Block	V	V
Storage Image In Flash		V
Paint SD Card Image	V	V
Paint Geometry	V	V
Sleep Mode	V	V
PWM output	V	V
Setting Backlight	V	V
PTP Calibration	V	V
Erase Flash	V	V

**Please note:**

1. UART commands are incompatible with the other M-Series TFT modules.
2. SPI Commands are incompatible with the other M-Series TFT modules.

## More Functions of WF70MTABHLRN0

### 1. Flash File System:

- ▶ More convenient to manage flash space.
- ▶ Delete or add file more easily.
- ▶ It is available to check flash file list.

### 2. Unicode Text Mode (Multi-Font):

- ▶ Support Unicode character.
- ▶ Selectable Unicode font range to load into flash.
- ▶ Support to modify font and size.
- ▶ Build-in font (ASCII, 0x20-0x7E).

### 3. Storage Image In Flash:

- ▶ Protect the image data is not easy to modified
- ▶ Support multiple image formats:  
BMP, PNG, JPG, GIF, TIFF

### 4. QR code Generator:

- ▶ Generate QR codes dynamically.
- ▶ Can modify the size and color.

### 5. Virtual Layer:

- ▶ One more virtual layer can be edit.
- ▶ Show image by change layer.
- ▶ Improve the display performance.

### 6. More Geometry function:

- ▶ Circle
- ▶ Ellipse

### 7. Show Image from SD Card:

- ▶ The command to show image depend file name .  
(WF70MTIBGDRN0 version: by image order)

### 8. Single color matting:

- ▶ New command to set a color transparent.  
Not only for image in SD card but also flash.



QR code Generator



Virtual Layer