

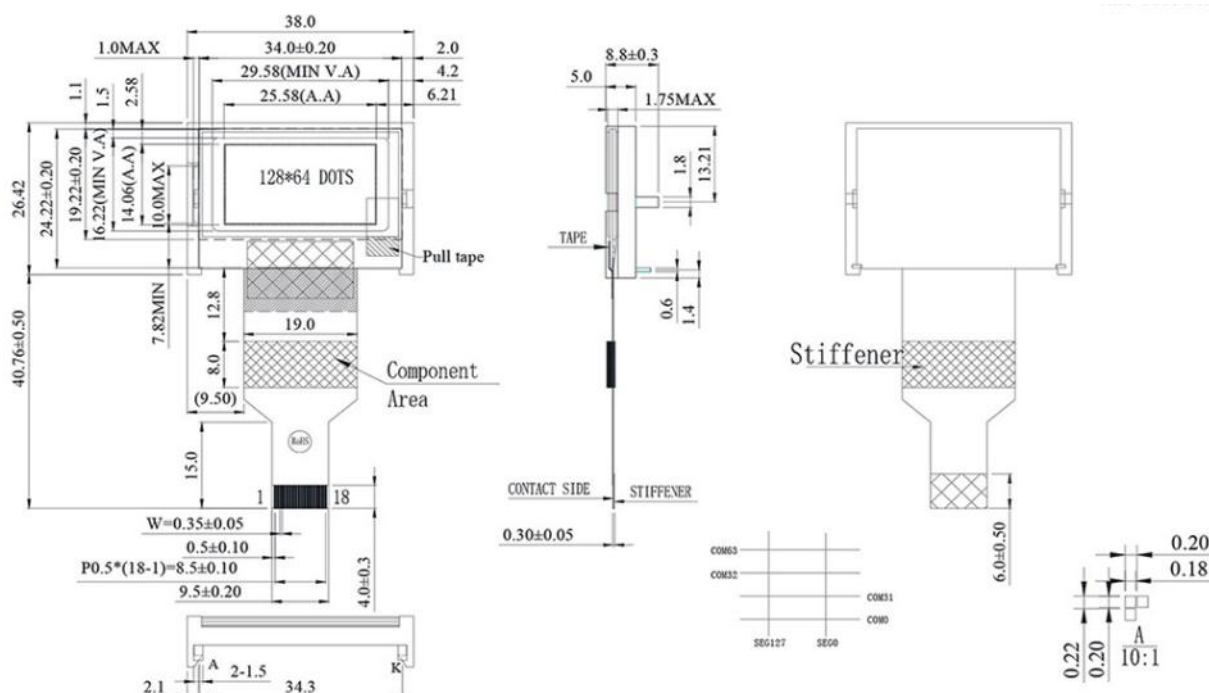
July, 2019

Introduction: STN COG Graphic WO12864T

WO12864T is a monochrome graphic LCD module made of 128x64 dot matrix format. This COG Module is built in with ST7565P IC, it supports 8-bit 6800, 8-bit 8080 parallel and 4-wire serial SPI interface. The WO12864T is having the same outline dimension as WX12864T2, but VA size and AA size are different. The power supply (VDD) of WO12864T is 3.3V, VOP 9.1V which are the same as WX12864T2. The WO12864T is an alternative item to replace WX12864T2 which TAB IC had been phased out. Comparing WO12864T and WX12864T, the outline dimension, interface, pin assignment, main electrical characteristics are all the same, just AA size and VA size are different.

This module can be operating at temperatures from -20°C to $+70^{\circ}\text{C}$; its storage temperatures range from -30°C to $+80^{\circ}\text{C}$. WO12864T is available in FSTN positive LCD and with White LED backlight; without backlight option is available as well. Please contact us if you need different LCD type and LED combination.

Item-WO12864T	Dimension
Number of dots	128 x 64
Module dimension	38.0 x 26.42 x 8.8 mm
View area	29.58 x 16.22 mm
Active area	25.58x 14.06 mm
Dot size	0.18 x 0.20
Dot pitch	0.20 x 0.22
LCD type	FSTN Positive Transflective (In LCD production, It will occur slightly color difference. We can only guarantee the same color in the same batch.)
Duty	1/65 DUTY, 1/9 BIAS
View direction	6 o'clock
Backlight Type	LED White
IC	ST7565P



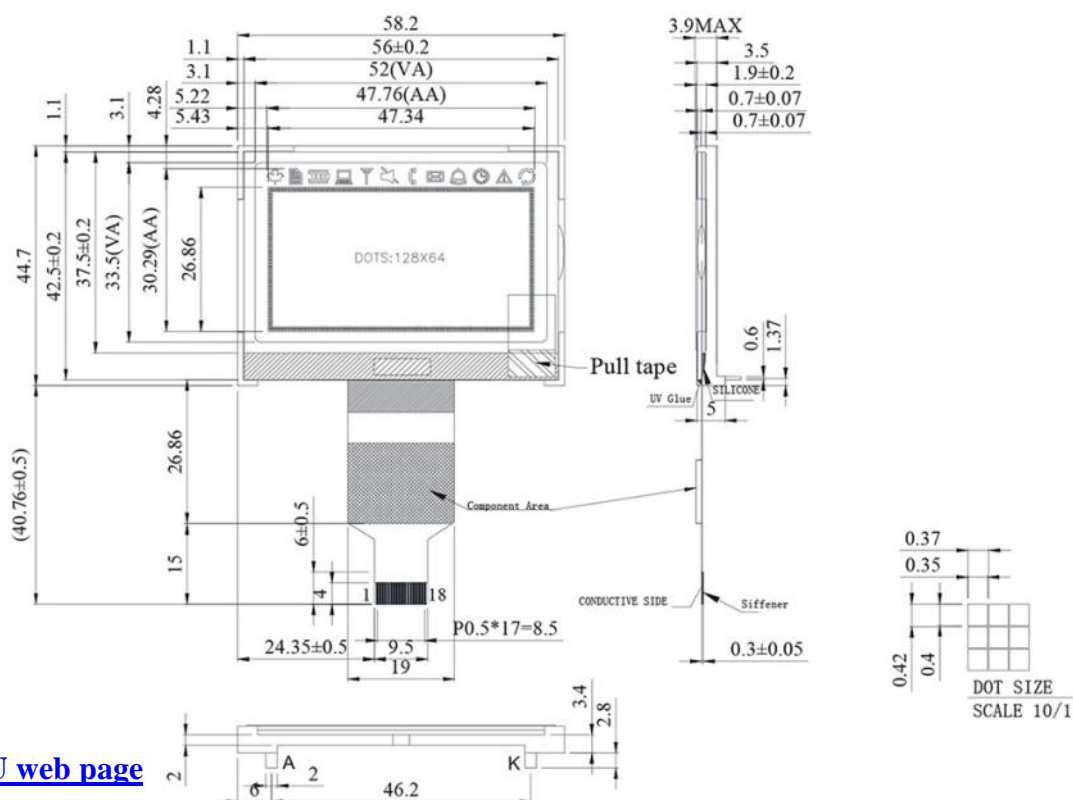
► [Link to Winstar WO12864T web page](#)

COG Graphic LCD Module WO12864U

Winstar released a new COG mono graphic LCD module WO12864U which is made of 128x64 dot matrix format. This COG module WO12864U is built in with ST7565P IC, it supports 8-bit 6800, 8-bit 8080 parallel and 4-wire serial SPI interface. The WO12864U is having the same outline dimension, AA size, VA size as WX12864U2. The power supply (VDD) of WO12864U is 3.3V, VOP 8.5V which are the same as WX12864U2. The WO12864U is an alternative item to replace WX12864U2 which TAB IC had been phased out. Comparing WO12864U and WX12864U2, the outline dimension, AA size, VA size, interface, pin assignment, main electrical characteristics are all the same.

This module can be operating at temperatures from -20°C to $+70^{\circ}\text{C}$; its storage temperatures range from -30°C to $+80^{\circ}\text{C}$. WO12864U is available in FSTN positive LCD and with White LED backlight; without backlight option is available as well. Please contact us if you need different LCD type and LED combination.

Item-WO12864U	Dimension
Number of dots	128 x 64
Module dimension	58.2 x 44.7 x 3.9(MAX) mm
View area	52.0 x 33.5 mm
Active area	47.76 x 30.29 mm
Dot size	0.40 x 0.35 mm
Dot pitch	0.42 x 0.37
LCD type	FSTN Positive Transflective (In LCD production, It will occur slightly color difference. We can only guarantee the same color in the same batch.)
Duty	1/64
View direction	6 o'clock
Backlight Type	LED, White
IC	ST7565P





Wafer Production Change Notice

Below information is just a friendly reminder that Winstar released a Change Notice regarding our OLED IC will change wafer production company on July 1st, 2019. If customers didn't receive this notice or have any questions, please contact our sales persons.

Subject: Winstar OLED IC WS0010 will Change Wafer Production Company

Issue Date: July 1st, 2019

Winstar was notified by our IC supplier that Winstar OLED IC WS0010 will move to another wafer production company since the original IC maker will discontinue 0.35um HV process production. Winstar already implemented an action to purchase forecast IC quantities in stock and our RD team is in progress of the IC design and test process from new manufacturing wafer company. We will finish comparison and test report for existing WS0010 IC and next generation IC by end of 2019 since this is a change for shifting to another wafer manufacturer and we have to open a new IC tooling. Please note the IC function of new WS0010 which made by the new wafer company will be the same as the original one. We are sorry for the unexpected change, and we appreciate your understanding in advance.

Affected Items:

All Winstar COB structure OLED modules will be affected including our standard items and COB structure customized items. Below is the list for standard COB OLED module series, as to the customize items will be notified individually by our sales persons.

Model No.	Model No.
WEH000802A	WEG005016A
WEH001602A/C/D/E	WEG010016A/C/D/E
WEH001602H	WEG010016J
WEH002002A	WEG010016F
WEH002004A/B	WEG010032A/B
WEH004002A	WEG020016A

Winstar Processing Schedule :

The replaced IC test report will be finished around December 2019.

This is an unexpected issue to Winstar Display, we are forced to make this change (IC manufacturer change). We'd appreciate our customers' understanding and cooperation to the above captioned issue. Thank you in advance. For further information or questions, please feel free to contact our sales persons or via sales@winstar.com.tw. Thank you.

Best regards,

John Lin
Vice President of Winstar Sales Dept.
WINSTAR Display Co., Ltd.

► [Link to Winstar change notice web page](#)

Winstar IPS TFT-LCD Series

Winstar TFT LCD product portfolio come with IPS (In-Plane Switching) TFT LCD modules, we offer a full range of modules; available sizes are including 0.96", 2.4", 3.5", 3.97", 5", 7", 8.8", 10.1", 12.1" and 12.3 inch, to deliver better performance in a range of demanding situations, we also offer higher brightness version (750~1100 cd/m²) as options for some models, such as WF35W, WF50D, WF50E, WF70A4 and WF12.3B. We offer Resistive Touch Panel (RTP) or Projected Capacitive Touch Panel (PCAP) for optional as well. These wider view IPS TFT modules can be operating at temperature range from -20°C to +70°C or up to +85°C; and storage temperatures from -30°C to +85°C or +90°C. The IPS TFT Panel is becoming very popular because of featuring super wider viewing angle. It also improves the aperture ratio to produce higher brightness with improved color reproducibility.

Please see below quick selection chart for the brief specification including panel size, driver or controller IC for each module, interface, brightness, as well as resolution. Welcome to contact our sales persons or via sales@winstar.com.tw for more details.

Display Format	Picture	Model No.	Size (inch)	View Direction	Interface	IC No.	Brightness	Touch screen	OP Temp. (°C)
80×160		WF0096ATYAA3DNN0	0.96	IPS	SPI	ST7735S	500	No	-20~+ 70
240×320		WF24LTYAJDNN0	2.4	IPS	SPI,MCU	ILI9341	500	No	-20~+ 70
320×480		WF35UTYAIDNN0	3.5	IPS	MCU	ILI9488	600	No	-20~+ 70
240×320		WF35WSWAJDNN0	3.5	IPS	MCU	HX8347-A	1000	No	-30~+ 80
800×480		WF40CTYAQMNN0	3.97	IPS	MIPI DSI	ST7701S	600	No	-20~+ 70
720×1280		WF50DTYA3MNN0	5	IPS	MIPI DSI	ILI9881C	300	No	-20~+ 70
720×1280		WF50DTYA3MNG10	5	IPS	MIPI DSI	ILI9881C	250	PCAP	-20~+ 70
720×1280		WF50DSYA3MNN0	5	IPS	MIPI DSI	ILI9881C	1100	No	-20~+ 70
800×480		WF50ETWAGDNN0	5	IPS	RGB	HX8249A +HX8678-C	500	No	-30~+ 80
800×480		WF50ESWAGDNN0	5	IPS	RGB	HX8249A +HX8678-C	1000	No	-30~+ 80

Display Format	Picture	Model No.	Size (inch)	View Direction	Interface	IC No.	Brightness	Touch screen	OP Temp. (°C)
800×480		WF70A4SWAGDNN0	7	IPS	RGB	NT51632T+ NT52601TT	1000	No	-30~+ 80
480×1920		WF88BTYA8MNN0	8.8	IPS	MIPI DSI	--	600	No	-20~+ 70
1280×800		WF101FSYFPLHTV	10.1	IPS	HDMI	TFP401	750	RTP	-20~+ 70
1280×800		WF101FSYFPLHGV	10.1	IPS	HDMI	TFP401	900	PCAP	-20~+ 70
1280×800		WF101FSYAPLNN0	10.1	IPS	LVDS	--	1100	No	-20~+ 70
1280×800		WF101FSYAPLNG0	10.1	IPS	LVDS	--	900	PCAP	-20~+ 70
1280×800		WF101FSYAPLNT0	10.1	IPS	LVDS	--	750	RTP	-20~+ 70
1280×800		WF101FSYAPLNB0	10.1	IPS	LVDS	--	900	PCAP	-20~+ 70
1280×800		WF101GTYAPLNN0	10.1	IPS	LVDS	--	350	No	-20~+ 70
1280×800		WF101GTYAPLNG0	10.1	IPS	LVDS	--	300	PCAP	-20~+ 70
1280×800		WF101GTYAPLNT0	10.1	IPS	LVDS	--	250	RTP	-20~+ 70
1024×768		WF121ETWAMLNN0	12.1	IPS	LVDS	--	600	No	-30~+ 85
1920×720		WF123BSWAYLNN0	12.3	IPS	LVDS	--	800	No	-30~+ 85