



**WINSTAR Display Co.,Ltd.**  
**華凌光電股份有限公司**

## SPECIFICATION

**MODULE NO.: WO12864M-TFH#**

### General Specification

Item	Dimension	Unit
Number of Dots	128 x 64 dots	—
Module dimension	60.1 x 44.5 x 5.01 (MAX)	mm
View area	54.6 x 32.0	mm
Active area	49.89 x 27.49	mm
Dot size	0.36 x 0.4	mm
Dot pitch	0.39 x 0.43	mm
Duty	1/65 , 1/9 Bias	
Backlight Type	LED	
IC	ST7567	
Interface	6800/8080/4-Line SPI	

# Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T <sub>OP</sub>	-20	—	+70	°C
Storage Temperature	T <sub>ST</sub>	-30	—	+80	°C
Input Voltage	V <sub>I</sub>	-0.3	—	V <sub>DD</sub> +0.3	V
Digital Power Supply Voltage	V <sub>DD</sub> -V <sub>SS</sub>	-0.3	—	3.6	V
LCD Power supply voltage	V <sub>0</sub> -XV <sub>0</sub>	-0.3	—	16	V

# Electrical Characteristics

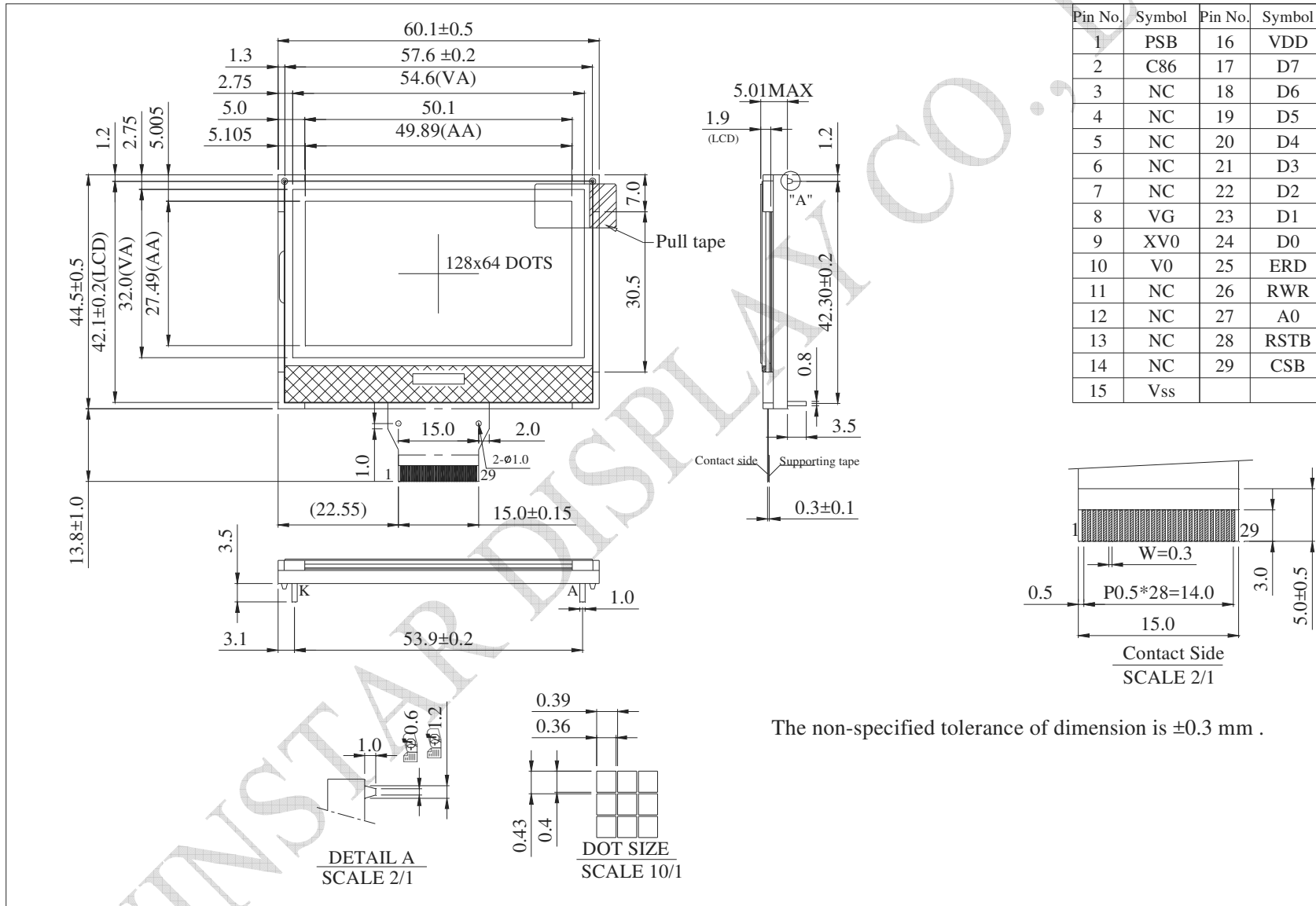
Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V <sub>DD</sub> -V <sub>SS</sub>	—	2.7	3.0	3.3	V
Supply Voltage For LCM *NOTE	V <sub>OP</sub>	T <sub>a</sub> =-20°C	—	—	—	V
		T <sub>a</sub> =25°C	9.15	9.45	9.75	V
		T <sub>a</sub> =70°C	—	—	—	V
Input High Volt.	V <sub>IH</sub>	—	0.7 V <sub>DD</sub>	—	V <sub>DD</sub>	V
Input Low Volt.	V <sub>IL</sub>	—	V <sub>SS</sub>	—	0.3V <sub>DD</sub>	V
Output High Volt.	V <sub>OH</sub>	—	0.8 V <sub>DD</sub>	—	V <sub>DD</sub>	V
Output Low Volt.	V <sub>OL</sub>	—	V <sub>SS</sub>	—	0.2 V <sub>DD</sub>	V
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> =3.0V	—	0.45	0.9	mA

# Interface Pin Function

Pin No.	Symbol	Function
1	PSB	This pin configures the interface to be parallel mode or serial mode.
2	C86	C86 selects the microprocessor type in parallel interface mode
3	NC	No connection
4	NC	No connection
5	NC	No connection
6	NC	No connection
7	NC	No connection
8	VG	LCD driving voltage for segment circuits
9	XV0	XV0 is the LCD driving voltage for common circuits at positive frame
10	V0	LCD driving voltage for common circuits at negative frame
11	NC	No connection
12	NC	No connection
13	NC	No connection
14	NC	No connection
15	Vss	Ground
16	VDD	Power
17	D7	Data bus
18	D6	Data bus
19	D5	Data bus
20	D4	Data bus
21	D3	Data bus
22	D2	Data bus
23	D1	Data bus
24	D0	Data bus
25	ERD	Read execution control pin

26	RWR	Write execution control pin
27	A0	It determines whether the access is related to data or command. A0= "H" : Indicates that signals on D[7:0] are display data. A0= "L" : Indicates that signals on D[7:0] are command.
28	RSTB	Hardware reset input pin
29	CSB	Chip select input pin

# Contour Drawing



The non-specified tolerance of dimension is  $\pm 0.3$  mm .