LCD / LCM SPECIFICATION



WINSTAR Display Co.,Ltd.
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SPECIFICATION

MODULE NO.: WO12864-xxxU1#FC

General Specification

Item	Dimension	Unit
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	mm
Duty	1/65 duty;1/9 bias	
View direction	6 o'clock	
Backlight Type	LED	
IC	ST7567S	
Interface	6800 series/8080 series/4-Line SPI	

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Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	℃
Storage Temperature	T_{ST}	-30	—	+80	℃
Input Voltage	V_I	-0.3	—	V_{DD}+0.3	V
Digital Power Supply Voltage	V_{DD}-Vss	-0.3	—	4.0	V
LCD Power supply voltage	V0-XV0	-0.3	—	14.0	V

Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	—	3.0	3.3	3.6	V
Supply Voltage For LCD	V_{OP}	Ta=-20℃	—	—	—	V
		Ta=25℃	8.3	8.5	8.7	V
		Ta=70℃	—	—	—	V
Input High Volt.	V_{IH}	—	0.7V_{DD}	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	V_{SS}	—	0.3V_{DD}	V
Output High Volt.	V_{OH}	—	0.8V_{DD}	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	V_{DD}	—	0.2V_{DD}	V
Supply Current	I_{DD}	V_{DD}=3.3V	—	—	1.5	mA

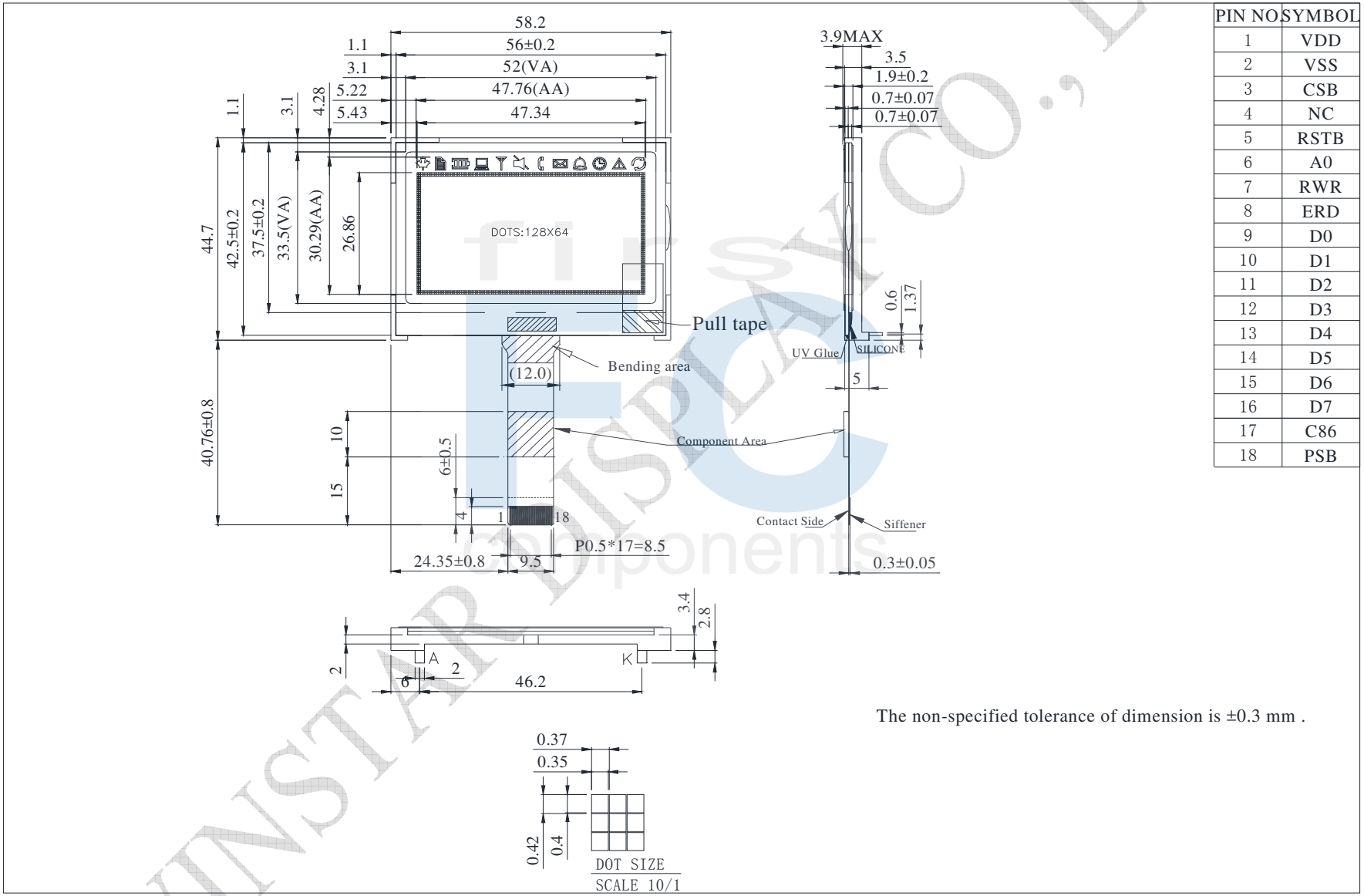
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Interface Pin Function

<table>
<tr><th>Pin No.</th><th>Symbol</th><th>Description</th></tr>
<tr><td>1</td><td>VDD</td><td>Power supply pin for logic.</td></tr>
<tr><td>2</td><td>VSS</td><td>Ground pin, connected to 0V</td></tr>
<tr><td>3</td><td>CSB</td><td>Chip select input pin.</td></tr>
<tr><td>4</td><td>NC</td><td>NC</td></tr>
<tr><td>5</td><td>RSTB</td><td>Hardware reset input pin</td></tr>
<tr><td>6</td><td>A0</td><td>It determines whether the access is related to data or command.</td></tr>
<tr><td>7</td><td>RWR</td><td>
<table>
<tr><th>C86</th><th>MPU Type</th><th>RWR</th><th>Description</th></tr>
<tr><td>H</td><td>6800 series</td><td>R/W</td><td>Read/Write control input pin.
R/W="H": read.
R/W="L": write.</td></tr>
<tr><td>L</td><td>8080 series</td><td>/WR</td><td>Write enable input pin.
Signals on D[7:0] will be latched at the rising edge of /WR signal.</td></tr>
</table>
</td></tr>
<tr><td>8</td><td>ERD</td><td>
<table>
<tr><th>C86</th><th>MPU Type</th><th>ERD</th><th>Description</th></tr>
<tr><td>H</td><td>6800 series</td><td>E</td><td>Read/Write control input pin.
R/W="H": When E is "H", D[7:0] are in output mode.
R/W="L": Signals on D[7:0] are latched at the falling edge of E signal.</td></tr>
<tr><td>L</td><td>8080 series</td><td>/RD</td><td>Read enable input pin.
When /RD is "L", D[7:0] are in output mode.</td></tr>
</table>
</td></tr>
<tr><td>9~16</td><td>D0~D7</td><td>8-bit bi-directional data bus. Connect to the data bus of 8-bit microprocessor. When CSB is non-active (CSB="H"), D[7:0] pins are high impedance.</td></tr>
<tr><td>17</td><td>C86</td><td>C86 selects the microprocessor type in parallel interface mode</td></tr>
<tr><td>18</td><td>PSB</td><td>Interface selection</td></tr>
</table>

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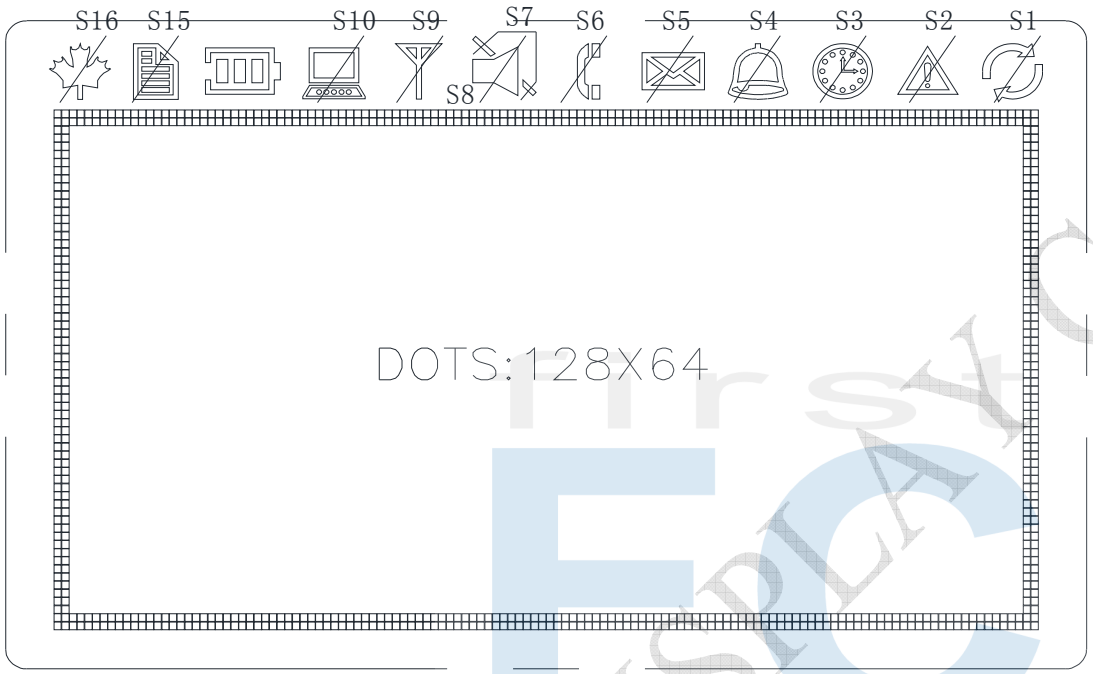
Contour Drawing

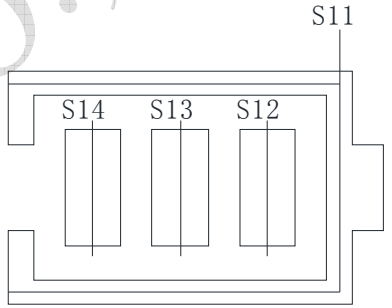


PIN NO.	SYMBOL
1	VDD
2	VSS
3	CSB
4	NC
5	RSTB
6	A0
7	RWR
8	ERD
9	D0
10	D1
11	D2
12	D3
13	D4
14	D5
15	D6
16	D7
17	C86
18	PSB

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

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DOT SIZE
SCALE 10/1

	SEG4	SEG14	SEG25	SEG36	SEG47	SEG57	SEG66	SEG69	SEG80	SEG95	SEG107	SEG108	SEG109	SEG110	SEG117	SEG124
COMS	S1	S2	S3	S4	S5	S6	S7	S8	S9	S10	S11	S12	S13	S14	S15	S16

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

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