Winstar Display Co., LTD
華凌光電股份有限公司
WEB: https://www.winstar.com.tw E-mail: sales@winstar.com.tw

SPECIFICATION

CUSTOMER : _____

MODULE NO.: WO12864-05HT1#FC

APPROVED BY: (FOR CUSTOMER USE ONLY)	**PCB VERSION:** **DATA:**

SALES BY	APPROVED BY	CHECKED BY	PREPARED BY
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VERSION	DATE	REVISED PAGE NO.	SUMMARY
0	2021/10/01		First issue

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3.General Specification

Item	Dimension	Unit
Number of dots	128 x 64	—
Module dimension	34.0 x 24.22 x 1.75	mm
View area	29.58 x 16.22	mm
Active area	25.58x 14.06	mm
Dot size	0.18 x 0.20	mm
Dot pitch	0.20 x 0.22	mm
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	Without backlight	
IC	ST7567S	
Interface	6800/8080/4-Line SPI	

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4.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

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5.Electrical Characteristics

Item	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	—	2.7	3.0	3.3	V
Supply Voltage For LCD	V_{OP}	Ta=-20℃	—	—	—	V
		Ta=25℃	8.9	9.1	9.3	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}=3.0V	—	—	1.5	mA

Please kindly consider to design the Vop to be adjustable while programing the software to match LCD contrast tolerance.

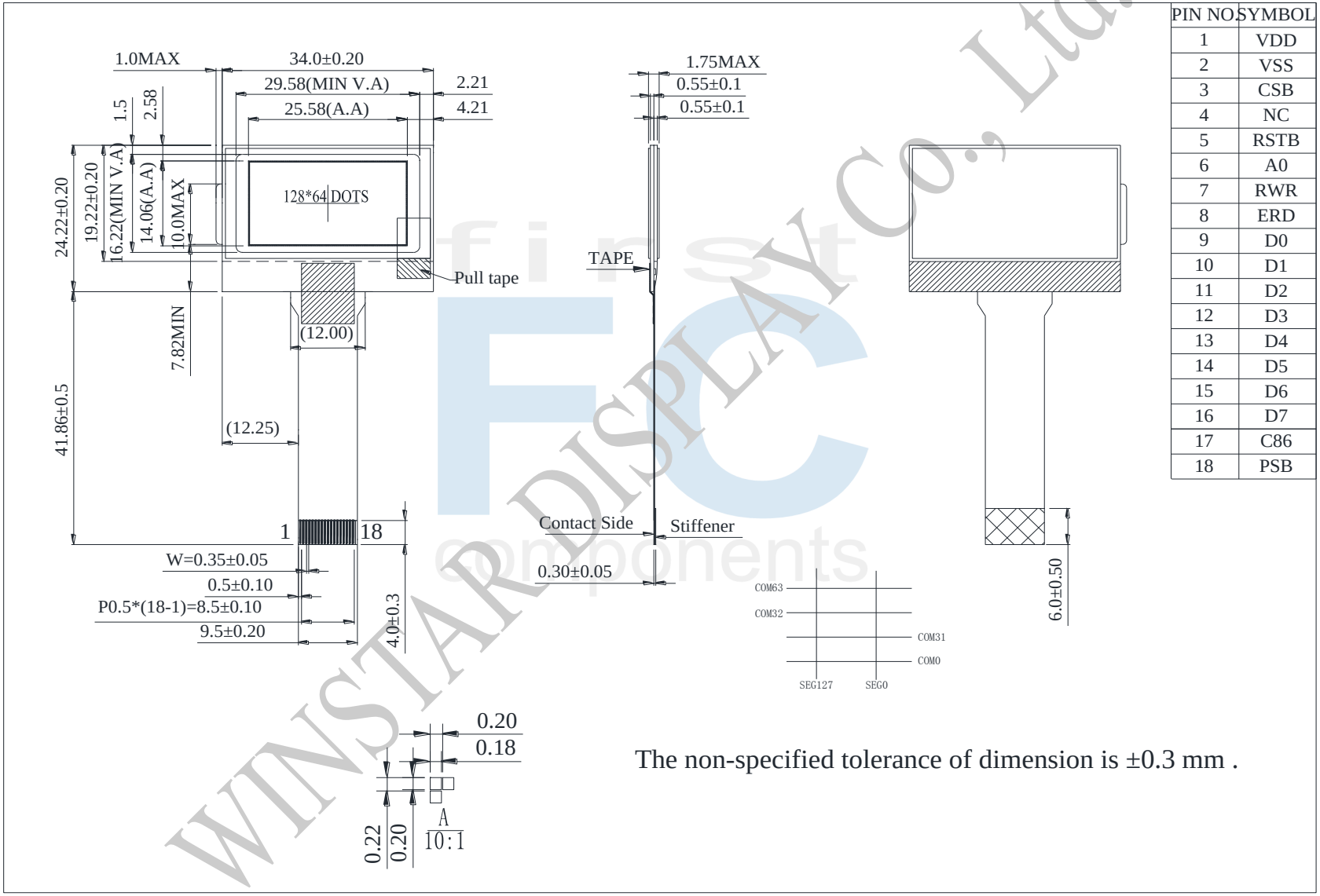
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7.Interface Pin Function

<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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8.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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