LCD / LCM SPECIFICATION

WINSTAR Display Co.,Ltd.

華凌光電股份有限公司

SPECIFICATION

MODULE NO.: WO240128B2

General Specification

Item	Dimension	Unit
Number of dots	240 x 128	—
Module dimension	140.0 x 84.0 x 9.7	mm
View area	114.0 x 64.0	mm
Active area	107.98 x 57.58	mm
Dot size	0.43 x 0.43	mm
Dot pitch	0.45 x 0.45	mm
Drive Method	1/128 Duty，1/12 Bias	
Backlight Type	LED	
IC	ST7586S	

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	℃
Storage Temperature	T_{ST}	-30	—	+80	℃
Digital Power Supply Voltage	VDDI	-0.3	—	3.6	V
Analog Power supply voltage	VDDA	-0.3	—	3.6	V
LCD Power supply voltage	V0-XV0	-0.3	—	19	V
LCD Power supply voltage	VG	-0.3	—	5.5	V

Electrical Characteristics

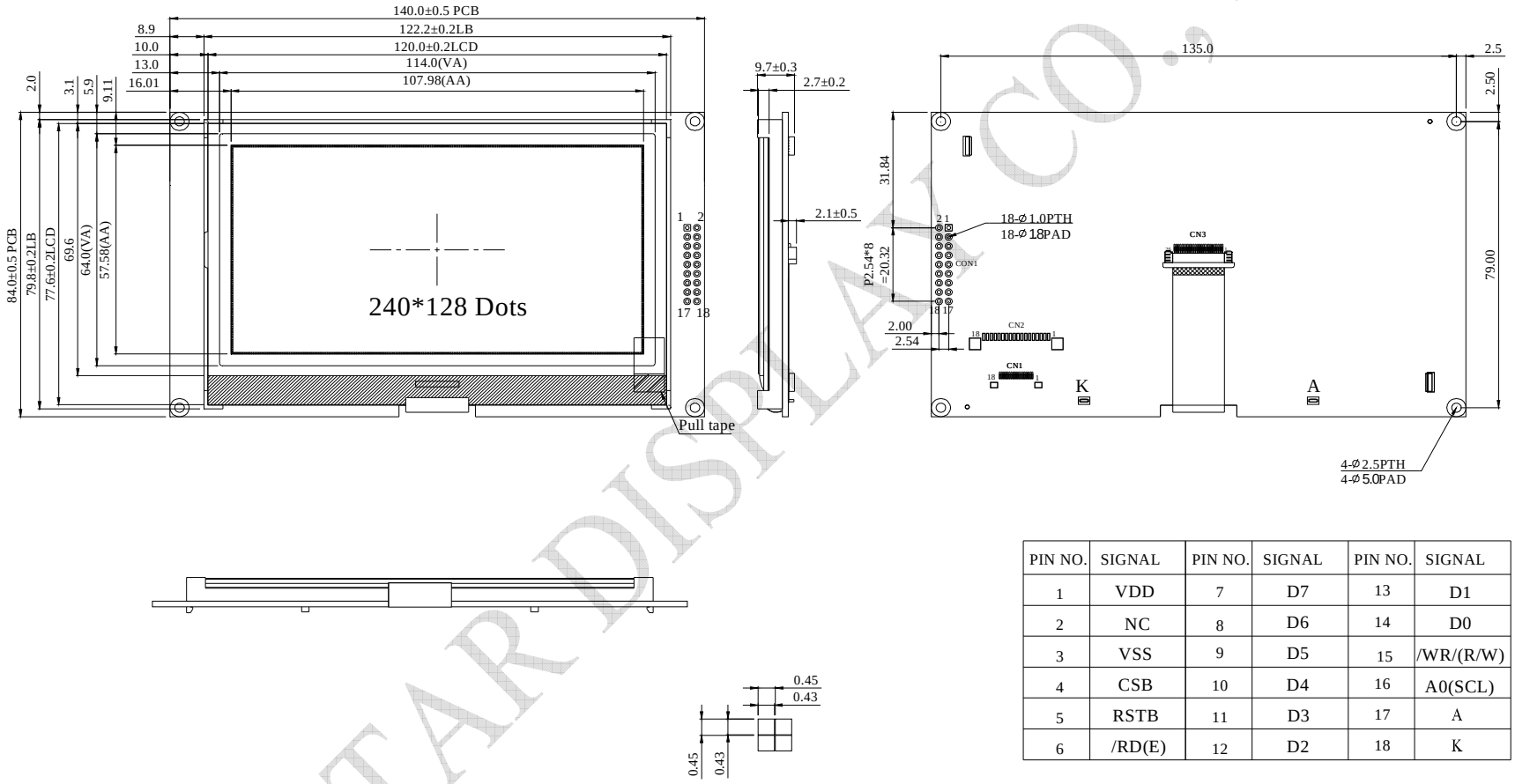
Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	—	3.0	3.3	3.6	V
Supply Voltage For LCM	VOP	Ta=-20℃	—	—	—	V
		Ta=25℃	14.8	15.0	15.2	V
		Ta=+70℃	—	—	—	V
Input High Volt.	V_{IH}	—	0.7V_{DD}	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	Vss	—	0.3 V_{DD}	V
Output High Volt.	V_{OH}	—	0.8 V_{DD}	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	Vss	—	0.2V_{DD}	V
Supply Current	I_{DD}	V_{DD}=3.3V	—	2.0	4.0	mA

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</td></tr>
<tr><td>2</td><td>NC</td><td>No connection</td></tr>
<tr><td>3</td><td>VSS</td><td>Ground</td></tr>
<tr><td>4</td><td>CSB</td><td>Chip select input pin
CSB=“L”: This chip is selected and the MPU interface is active
CSB=“H”: This chip is not selected and the MPU interface is disabled
(D[7:0] are high impedance)</td></tr>
<tr><td>5</td><td>RSTB</td><td>Reset input pin. When RSTB is “L”, internal initialization procedure is executed</td></tr>
<tr><td>6</td><td>/RD(E)</td><td>Read / Write execution control pin. (This pin is only used in parallelinterface)
<table>
<tr><th>MPU Type</th><th>ERD</th><th>Description</th></tr>
<tr><td>6800-series</td><td>E</td><td>Read / Write control input pin.
R/W = “H”: When E is “H”, data bus is in output status.
R/W = “L”: The data are latched at the falling edge of the E signal.</td></tr>
<tr><td>8080-series</td><td>/RD</td><td>Read enable input pin.
When /RD is “L”, data bus is in output status.</td></tr>
</table>
This pin is not used in serial interfaces and should be connected to VDD1</td></tr>
<tr><td>7~14</td><td>D7~D0</td><td>The bi-directional data bus of the MPU interface. When CSB is “H”, they are high impedance
If using serial interface:
D0 is the SDA signal in 4-Line & 3-Line interface
D1 is the A0 signal in 4-Line interface</td></tr>
<tr><td>15</td><td>/WR/(R/W)</td><td>Read / Write execution control pin. (This pin is only used in parallel interface)
<table>
<tr><th>MPU Type</th><th>RWR</th><th>Description</th></tr>
<tr><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>8080-series</td><td>/WR</td><td>Write enable clock input pin.
The data are latched at the rising edge of the /WR signal.</td></tr>
</table>
This pin is not used in serial interfaces and should be connected to VDD1</td></tr>
</table>

16	A0(SCL)	The function of this pin is different in parallel and serial interface In parallel interface: A0 is register selection input A0 = "H": inputs on data bus are display data A0 = "L": inputs on data bus are command In serial interface: this pad will be used as SCL (serial-clock) input
17	A	LED+
18	K	LED-

Contour Drawing



PIN NO.	SIGNAL	PIN NO.	SIGNAL	PIN NO.	SIGNAL
1	VDD	7	D7	13	D1
2	NC	8	D6	14	D0
3	VSS	9	D5	15	/WR/(R/W)
4	CSB	10	D4	16	A0(SCL)
5	RSTB	11	D3	17	A
6	/RD(E)	12	D2	18	K

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