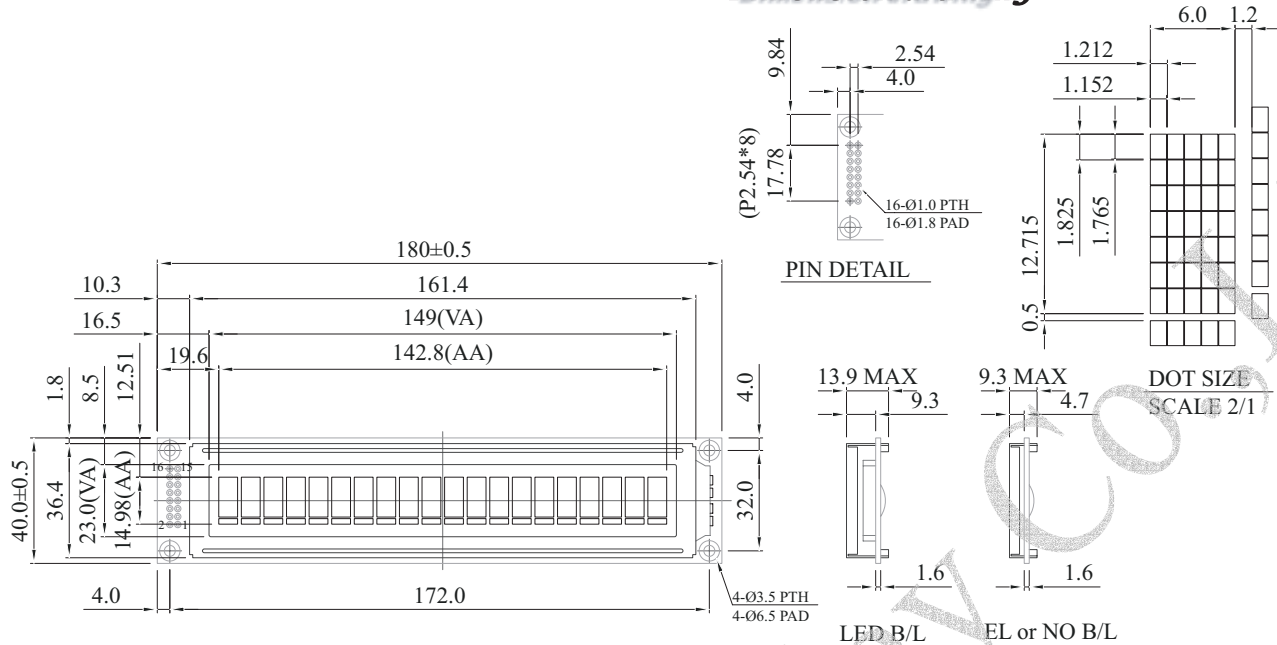




# WH2001B Character 20x1

## Dimension drawing



### Feature

1. 5x7 dots includes cursor
2. Built-in controller (KS 0066 or Equivalent)
3. 1/16 duty cycle
4. +5V power supply

### Mechanical Data

Item	Standard Value	Unit
Module Dimension	180.0X40.0	mm
Viewing Area	149.0X23.0	mm
Mounting hole	172.0X32.0	mm
Character Size	1.152x1.765	mm

Character type

Pin NO.	Symbol	Function
1	Vss	Ground
2	Vdd	Supply voltage for logic
3	Vo	Operating voltage for LCD
4	RS	H: Data L: Instruction
5	R/W	H: read data L: write data
6	E	Chip enable signal
7	DB0	Data bit 0
8	DB1	Data bit 1
9	DB2	Data bit 2
10	DB3	Data bit 3
11	DB4	Data bit 4
12	DB5	Data bit 5
13	DB6	Data bit 6
14	DB7	Data bit 7
15	A	LED+
16	K	LED-

### Absolute Maximum Rating

Item	Symbol	Standard Value			Unit
		min.	typ.	max.	
Power Supply	VDD-VSS	-0.3	---	7.0	V
Input Voltage	VI	Vss	---	VDD	V

Note: VSS=0 Volt, VDD=5.0 Volt.

### Electrical Characteristics

Item	Symbol	Condition	Standard Value			Unit
			min.	typ.	max.	
Input Voltage	VDD	---	4.5	5.0	5.5	V
Supply Current	IDD	VDD=5V	1.0	1.2	1.5	mA
Recommended LC Driving Voltage for Normal Temp. Version module	VDD-VO	-20°C	---	---	5.7	V
		0°C	---	---	---	
		25°C	---	4.2	---	
		50°C	---	---	---	
LED Forward Voltage	VF	25°C	3.4	3.5	3.6	V
		25°C	---	---	---	mA
LED Forward Current	IF	Array	50	60	75	
		Edge	50	60	75	
EL Power Supply Current	IEF	Vel=110VAC,400Hz	---	---	5.0	mA

### Display Character Address Code :

Display position 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20  
 DD RAM Address 00|01|02| | | | | | | | | | | | | | 0E|0F|10|11|12|13

	<b>2</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>10</b>						
<b>W</b>	<b>H</b>	<b>16</b>	<b>02</b>	<b>B</b>	<b>—</b>	<b>Y</b>	<b>G</b>	<b>B</b>	<b>—</b>	<b>JP</b>	<b>**</b>
<b>1</b>		<b>3</b>		<b>5</b>		<b>7</b>				<b>9</b>	

NO	Code value	Description	Remark							
1	W	WINSTAR products	Winstar Display							
2	H,G,X,O	H:Character ; G: Graphic ; X:TAB;O:COG	LCM type							
3	08,16,20,24. ...	Words per line	Character							
	122,128,240...	Row dots	Graphic							
4	01,02,04,...	Lines	Character							
	32,64,128...	Column dots	Graphic							
5	A~Z	Serials number	Model name							
6	N	Without backlight	Backlight type							
	B	EL backlight , Blue								
	D	EL backlight , Green								
	W	EL backlight , White								
	Y	LED backlight , Yellow-Green								
	A	LED backlight , Amber								
	R	LED backlight , Red								
	G	LED backlight , Green								
	T	LED backlight , White								
	P	LED backlight , Blue								
	F	CCFL backlight , White								
7	B	STN positive , Gray	LCD type							
	N	TN negative , Black								
	G	STN positive , Gray								
	Y	STN positive Yellow-Green								
	M	STN negative , Blue								
	F	FSTN positive White								
	T	FSTN negative , Black								
	E	ISTN negative								
8	Temperature	Normal temp,				Wide temp,				Polarizer type/ Temperature range/ View direction
	View angle	6:00	12:00	3:00	9:00	6:00	12:00	3:00	9:00	
	Reflective	A	D	M	P	G	J	S	V	
	Transflective	B	E	N	Q	H	K	T	W	
	Transmissive	C	F	O	R	I	L	U	X	
9	Character						Graphic			
	English/ Japanese European	English/ Japanese	English/ Europe	English/ Europe	English/ Cyrillic	English/ Hebrew	Negative Voltage	Without Negative Voltage	Temperature Compensation	
	JW	JP, JT	EP,ET	EC,ES	CP,CT	H2	V	N	T	
10	**	Special Code							Touch panel, Backlight	