Winstar Display Co., LTD
華凌光電股份有限公司
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SPECIFICATION

CUSTOMER : _____

MODULE NO.: WH2001B

General Specification

Item	Dimension	Unit
Number of Characters	20 characters x 1Lines	—
Module dimension	180.0 x 40.0 x 13.9 (MAX)	mm
View area	149.0 x 23.0	mm
Active area	142.8x 14.98	mm
Dot size	1.152 x 1.765	mm
Dot pitch	1.212 x 1.825	mm
Character size	6.0 x 12.715	mm
Character pitch	7.2x 13.215	mm
Duty	1/8 Duty	
View direction	6 o'clock	
Backlight Type	LED, Yellow Green	
IC	ST7066U	

first FC components

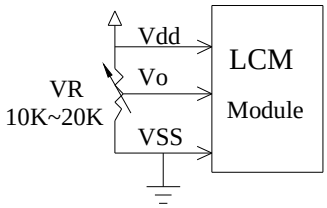
Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	℃
Storage Temperature	T_{ST}	-30	—	+80	℃
Input Voltage	V_I	V_{SS}	—	V_{DD}	V
Supply Voltage For Logic	V_{DD}-V_{SS}	-0.3	—	7	V
Supply Voltage For LCD	V_{DD}-V_o	-0.3	—	13	V

Electrical Characteristics

Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	—	4.5	5.0	5.5	V
Supply Voltage For LCD *Note	V_{DD}-V_0	Ta=-20℃	—	—	—	V
		Ta=25℃	4.3	4.4	4.5	V
		Ta=70℃	—	—	—	V
Input High Volt.	V_{IH}	—	0.7 V_{DD}	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	Vss	—	0.6	V
Output High Volt.	V_{OH}	—	3.9	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	0	—	0.4	V
Supply Current	I_{DD}	V_{DD}=5.0V	1.0	1.2	1.5	mA

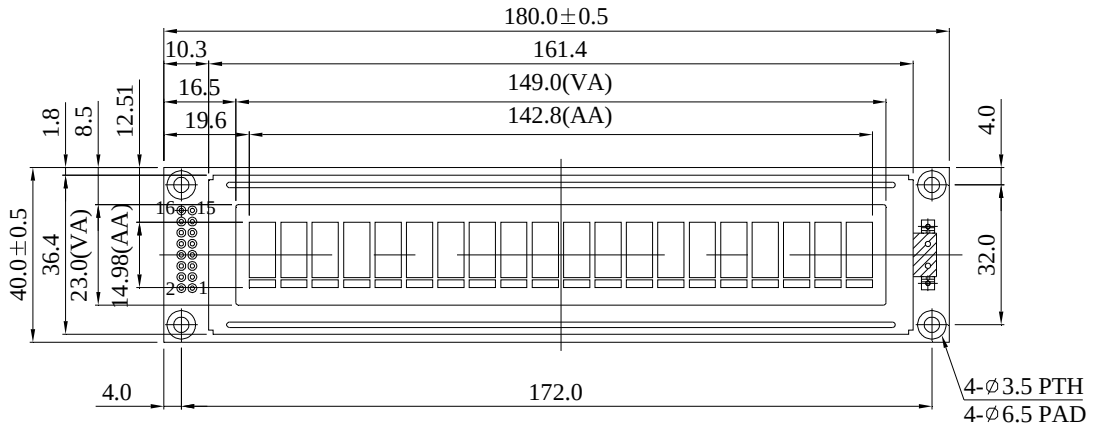
* Note: Please design the VOP adjustment circuit on customer's main board

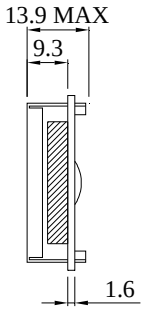


Interface Pin Function

Pin No.	Symbol	Level	Description
1	V_{SS}	0V	Ground
2	V_{DD}	5.0V	Supply Voltage for logic
3	VO	(Variable)	Contrast Adjustment
4	RS	H/L	H: DATA, L: Instruction code
5	R/W	H/L	H: Read(MPU→Module) L: Write(MPU→Module)
6	E	H,H→L	Chip enable signal
7	DB0	H/L	Data bus line
8	DB1	H/L	Data bus line
9	DB2	H/L	Data bus line
10	DB3	H/L	Data bus line
11	DB4	H/L	Data bus line
12	DB5	H/L	Data bus line
13	DB6	H/L	Data bus line
14	DB7	H/L	Data bus line
15	A	—	Power supply for B/L(+)
16	K	—	Power supply for B/L(-)

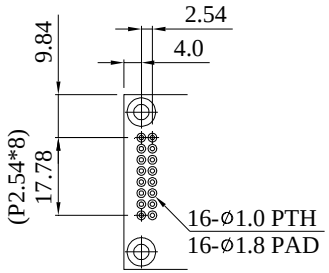
Contour Drawing &Block Diagram



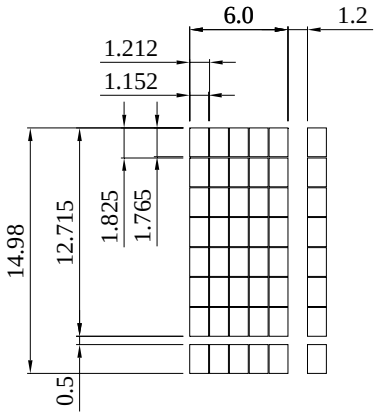


LED B/L

PIN NO.	SYMBOL
1	Vss
2	Vdd
3	Vo
4	RS
5	R/$\overline{W}$
6	E
7	DB0
8	DB1
9	DB2
10	DB3
11	DB4
12	DB5
13	DB6
14	DB7
15	A
16	K



PIN DETAIL



DOT SIZE
SCALE 2.5/1

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