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

CUSTOMER : _____

MODULE NO.: WG12232VGBL5-85H#FC

General Specification

Item	Dimension	Unit
Number of dots	122 x 32	—
Module dimension	84.0 x 44.0 x 13.7 (MAX)	mm
View area	60.0 x 18.0	mm
Active area	53.64 x 15.64	mm
Dot size	0.40 x 0.45	mm
Dot pitch	0.44 x 0.49	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	1/32	
View direction	6 o'clock	
Backlight Type	LED White	
IC	ST7920	

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	℃
Storage Temperature	T_{ST}	-30	—	+80	℃
Input Voltage	V_{IN}	-0.3	—	V_{DD}+0.3	V
Supply Voltage For Logic	V_{DD}-V_{SS}	-0.3	—	5.5	V
Supply Voltage For LCD	V_O-V_{SS}	0	—	10.0	V

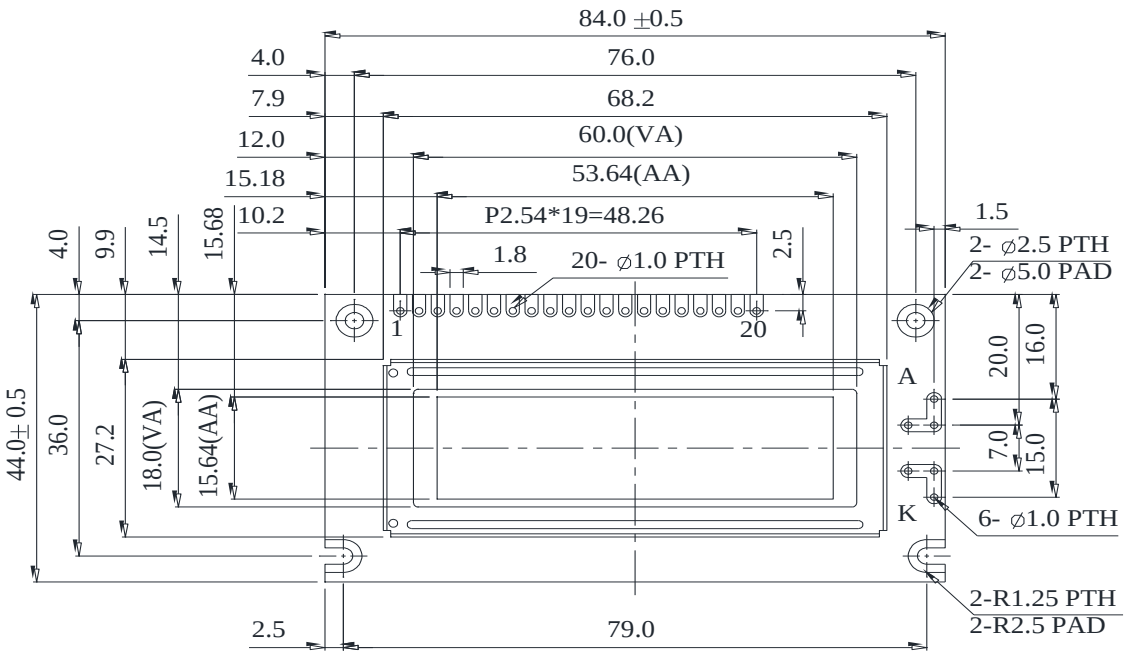
Electrical Characteristics

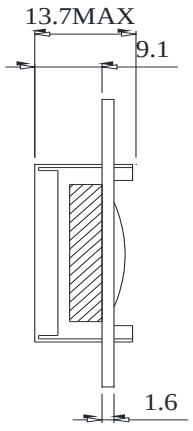
Item	Symbol	Condition	Min	Typ	Max	Unit
Supply Voltage For Logic	V_{DD}-V_{SS}	—	4.5	5.0	5.5	V
Supply Voltage For LCD * Note	V_0-V_{SS}	Ta=-20℃	—	—	5.2	V
		Ta=25℃	4.4	4.5	4.6	V
		Ta=+70℃	3.7	—	—	V
Input High Volt.	V_{IH}	—	0.7V_{DD}	—	V_{DD}	V
Input Low Volt.	V_{IL}	—	-0.3	—	0.6	V
Output High Volt.	V_{OH}	—	0.8 V_{DD}	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	—	—	0.4	V
Supply Current	I_{DD}	V_{DD}=5.0V	1.2	1.4	1.8	mA

Interface Pin Function

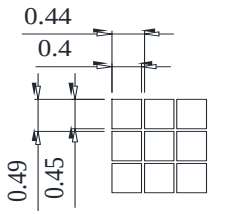
Pin No.	Symbol	Level	Description
1	V_{SS}	0V	Ground
2	V_{dd}	5.0V	Power supply for logic
3	Vo	(Variable)	Positive operating voltage for LCD
4	RS	—	H/L register select signal
5	Vout	—	Positive Voltage output
6	NC	—	No connection
7	NC	—	No connection
8	E	—	Enable signal;
9	R/W	H/L	H : Read ; L : Write
10	DB0	H/L	Data bus line
11	DB1	H/L	Data bus line
12	DB2	H/L	Data bus line
13	DB3	H/L	Data bus line
14	DB4	H/L	Data bus line
15	DB5	H/L	Data bus line
16	DB6	H/L	Data bus line
17	DB7	H/L	Data bus line
18	/RES	H/L	H -> L: The LCM be reset
19	A	—	Power supply for B/L +
20	K	—	Power supply for B/L -

Contour Drawing &Block Diagram





LED B/L



DOT SIZE
SCALE 10/1

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

PIN NO.	SYMBOL
1	Vss
2	Vdd
3	Vo
4	RS
5	Vout
6	NC
7	NC
8	E
9	R/$\overline{W}$
10	DB0
11	DB1
12	DB2
13	DB3
14	DB4
15	DB5
16	DB6
17	DB7
18	$\overline{RES}$
19	A
20	K

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