



WINSTAR Display Co.,Ltd.
華凌光電股份有限公司

SPECIFICATION

MODULE NO.: WG12232BP1

General Specification

Item	Dimension	Unit
Number of dots	122 x 32	—
Module dimension	65.4 x 28.2 x 10.5 (MAX)	mm
View area	54.8 x 19.0	mm
Active area	48.76 x 14.36	mm
Dot size	0.36 x 0.41	mm
Dot pitch	0.40 x 0.45	mm
Duty	1/32	
Backlight Type	LED	
IC	SBN1661G	
Interface	6800	

Absolute Maximum Ratings

Item	Symbol	Min	Typ	Max	Unit
Operating Temperature	T_{OP}	-20	—	+70	°C
Storage Temperature	T_{ST}	-30	—	+80	°C
Input Voltage	V_I	-0.3	—	$V_{DD}+0.3$	V
Supply Voltage For Logic	$V_{DD}-V_{SS}$	-0.3	—	+6.0	V
LCD bias voltage	V_{LCD}	3.5	—	13	V

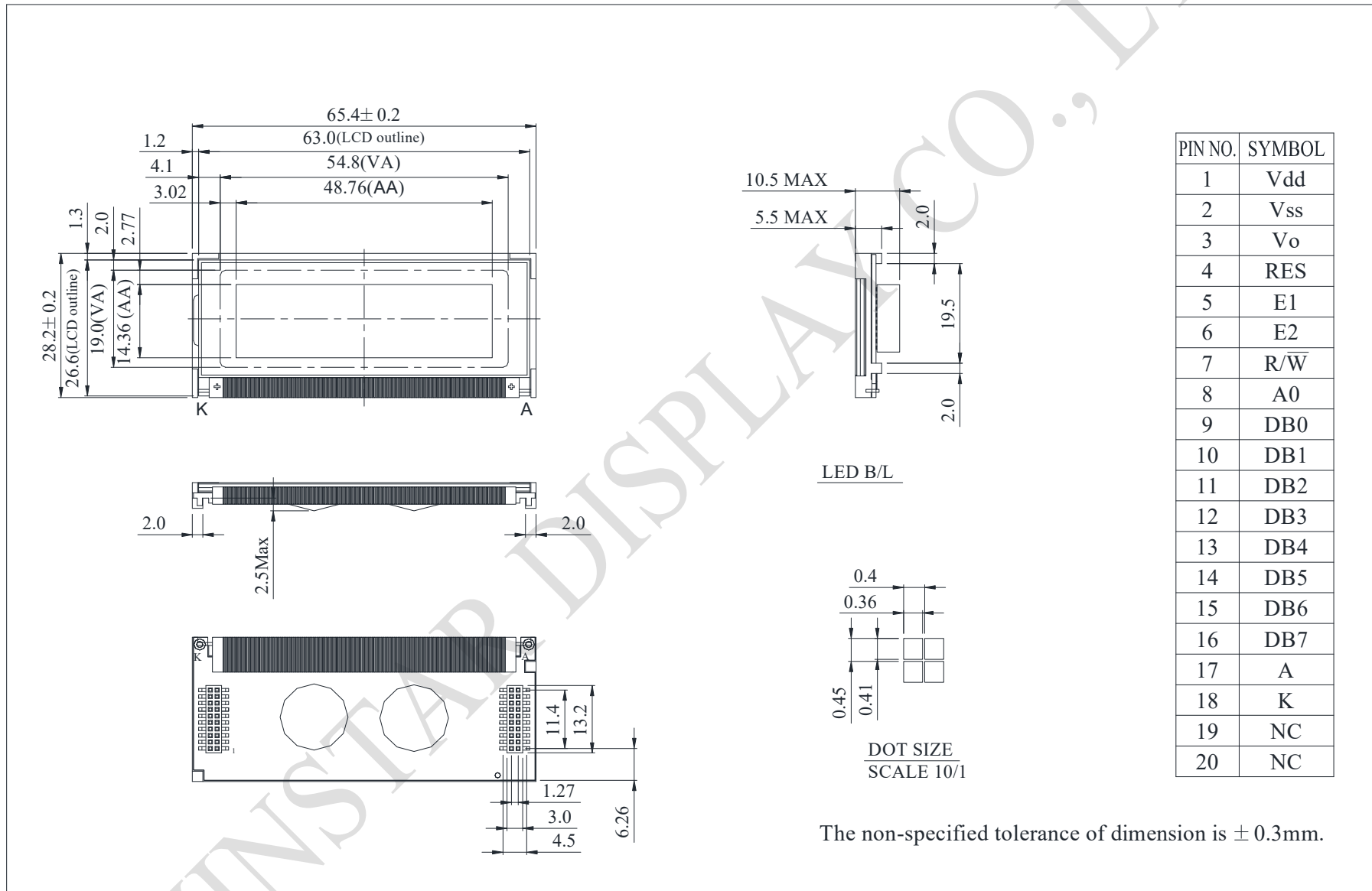
Electrical Characteristics

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	$V_{DD}-V_0$	$T_a=-20^{\circ}C$	—	—	5.3	V
		$T_a=25^{\circ}C$	4.6	4.7	4.8	V
		$T_a=+70^{\circ}C$	4.2	—	—	V
Input High Volt.	V_{IH}	$V_{DD}=5.0$	3.0	5.0	$V_{DD}+0.5$	V
Input Low Volt.	V_{IL}	—	0	0.7	1.1	V
Output High Volt.	V_{OH}	—	$V_{DD}-0.3$	—	V_{DD}	V
Output Low Volt.	V_{OL}	—	0	—	0.3	V
Supply Current	I_{DD}	$V_{DD}=5.0V$	—	1.0	1.4	mA

Interface Pin Function

Pin No.	Symbol	Level	Description
1	Vdd	5.0V	Supply voltage for logic
2	Vss	0V	Ground
3	V _o	(Variable)	Operating voltage for LCD
4	RES	H/L	Reset the LCD display , active “ L “
5	E1	H/L	Chip select signal for IC1 , active “ H “
6	E2	H/L	Chip select signal for IC2 , active “ H “
7	R/W	H/L	H : Read ; L : Write
8	A0	H/L	H : Data L : Instruction
9	DB0	H/L	Data bus line
10	DB1	H/L	Data bus line
11	DB2	H/L	Data bus line
12	DB3	H/L	Data bus line
13	DB4	H/L	Data bus line
14	DB5	H/L	Data bus line
15	DB6	H/L	Data bus line
16	DB7	H/L	Data bus line
17	A	—	LED+
18	K	—	LED-
19	NC	—	No Connection
20	NC	—	No Connection

Contour Drawing



The non-specified tolerance of dimension is $\pm 0.3\text{mm}$.