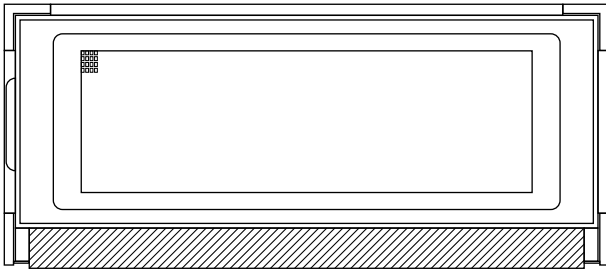


## 122 x 32 Graphic LCD



### FEATURES

- Type: graphic
- Display format: 122 x 32 dots
- Built-in controller: SBN1661G
- Duty cycle: 1/32
- Available for internal oscillation 2 kHz
- +2.85 V to +5 V power supply
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module dimension	65.4 x 28.2 x 10.5	mm
Viewing area	54.8 x 19.0	
Dot size	0.36 x 0.41	
Dot pitch	0.40 x 0.45	
Mounting hole	n/a	
Character size	n/a	

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power supply	$V_{DD}$ to $V_{SS}$	4.75	5.0	5.25	V
Input voltage	$V_I$	0	-	$V_{DD}$	

#### Note

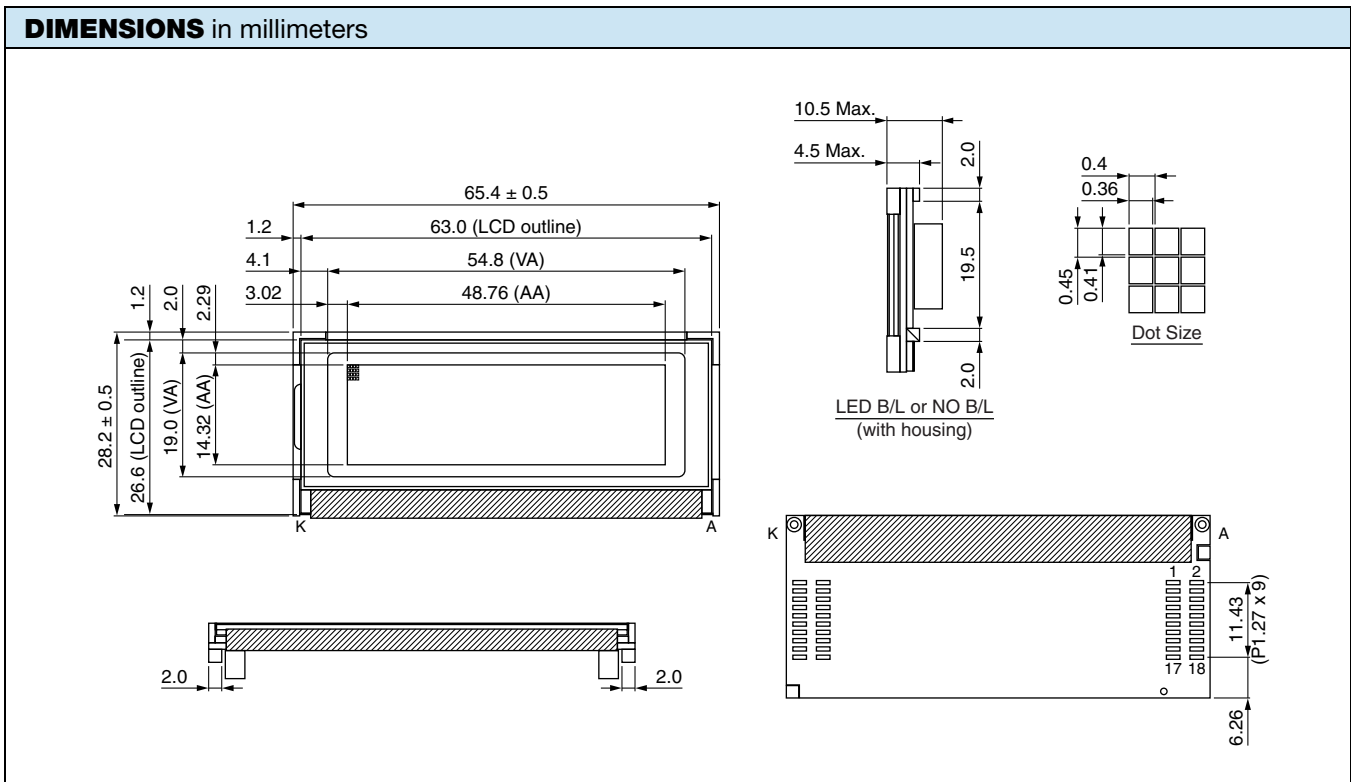
- $V_{SS} = 0$  V,  $V_{DD} = 5.0$  V

ELECTRICAL CHARACTERISTICS						
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input voltage	$V_{DD}$	$V_{DD} = +5$ V $\pm$ 1 V	4.5	5.0	5.5	V
Supply current	$I_{DD}$	$V_{DD} = +5$ V	-	1.0	1.4	mA
Recommended LC driving voltage for normal temperature version module	$V_{DD}$ to $V_0$	-20 °C	4.7	4.9	5.5	V
		0 °C	4.5	4.7	4.9	
		25 °C	4.3	4.5	4.7	
		50 °C	4.2	4.3	4.5	
		70 °C	4.0	4.1	4.3	
LED forward voltage	$V_F$	25 °C	1.7	2.1	2.5	V
LED forward current	$I_F$	25 °C	-	100	200	mA
EL power supply current	$I_{EL}$	$V_{EL} = 110$ V <sub>AC</sub> , 400 Hz	-	-	5.0	mA

OPTIONS									
PROCESS COLOR						BACKLIGHT			
TN	STN GRAY	STN YELLOW	STN BLUE	FSTN B&W	STN COLOR	NONE	LED	EL	CCFL
-	X	X	-	-	-	-	X	-	-

For detailed information, please see the "Product Numbering System" document.

INTERFACE PIN FUNCTION		
PIN NO.	SYMBOL	FUNCTION
1	$V_{DD}$	Supply voltage for logic ground
2	$V_{SS}$	Ground
3	$V_0$	Operating voltage for LCD
4	$\overline{RES}$	L: reset the LCM
5	E1	Enable chip 1
6	E2	Enable chip 2
7	R / $\overline{W}$	H / L read / write data
8	$A_0$	H / L data / instruction
9	DB0	Data bus line
10	DB1	Data bus line
11	DB2	Data bus line
12	DB3	Data bus line
13	DB4	Data bus line
14	DB5	Data bus line
15	DB6	Data bus line
16	DB7	Data bus line
17	A	+2.1 V for LED
18	K	Power supply for backlight (0 V)





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