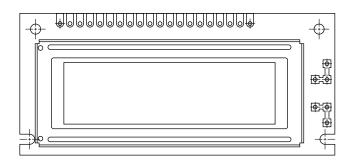


www.vishay.com

Vishay

122 x 32 Graphic LCD



FEATURES

• Type: graphic

• Display format: 122 x 32 dots

• Built-in controller: SBN1661G

• Duty cycle: 1/32

Available for external (E type), internal (J type), oscillation

2 kHz

• N.V. optional for +3 V power supply

 Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA					
ITEM	STANDARD VALUE	UNIT			
Module dimension	80.0 x 36.0				
Viewing area	60.0 x 18.0				
Dot size	0.40 x 0.45	mm			
Dot pitch	0.44 x 0.49	mm			
Mounting hole	75.0 x 28.0				
Character size	n/a				

ABSOLUTE MAXIMUM RATINGS						
ITEM	CVMPOL	STAN				
IIEWI	SYMBOL	MIN.	TYP.	MAX.	UNIT	
Power supply	V_{DD} to V_{SS}	4.75	5.0	5.25	V	
Input voltage	V_{l}	0	-	V_{DD}]	

Note

• $V_{SS} = 0 \text{ V}, V_{DD} = 5.0 \text{ V}$

ELECTRICAL CHARACTERISTICS							
ITEM	SYMBOL	COMPITION	ST	STANDARD VALUE			
	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT	
Input voltage	V_{DD}	V _{DD} = +5 V	4.5	5.0	5.5	V	
Supply current	I _{DD}	$V_{DD} = +5 \text{ V}$	-	1.0	1.4	mA	
Recommended LC driving voltage for normal temperature version module		-20 °C	4.9	5.0	5.1		
		0 °C	4.7	4.8	4.9		
	V _{DD} to V ₀	25 °C	4.6	4.7	4.8	V	
		50 °C	4.3	4.4	4.7		
		70 °C	4.1	4.2	4.5		
LED forward voltage	V _F	25 °C	-	4.2	4.6	V	
LED forward current	I _F	25 °C	-	120	240	mA	
EL power supply current	I _{EL}	V _{EL} = 110 V _{AC} , 400 Hz	-	-	5.0	mA	

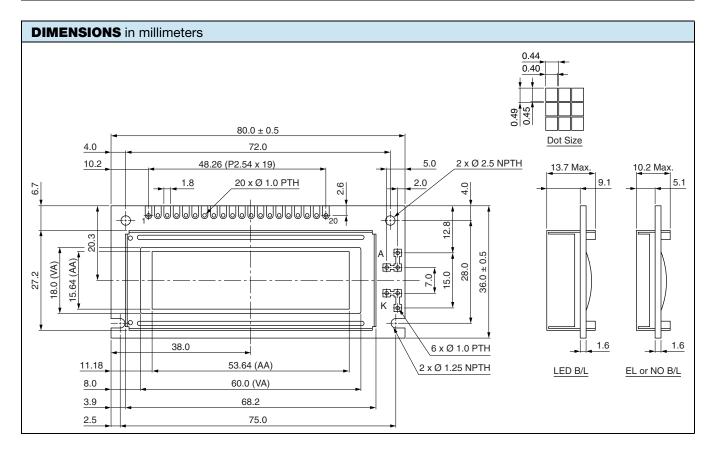
OPTIONS									
PROCESS COLOR					BACKLIGHT				
TN	STN GRAY	STN YELLOW	STN BLUE	FSTN B&W	STN COLOR	NONE	LED	EL	CCFL
-	x	x	x	x	-	x	x	x	-

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

www.vishay.com

Vishay

INTERFACE PIN FUNCTION						
PIN NO.	SYMBOL	FUNCTION				
1	V _{SS}	Ground				
2	V_{DD}	Power supply for logic				
3	V ₀	Contrast adjustment				
4	A ₀	$H \rightarrow data / L \rightarrow instruction$				
5	CS1	$L \rightarrow \text{chip 1 enable}$				
6	CS2	L → chip 2 enable				
7	CL / NV	E type: external clock 2 kHz / J type: negative voltage option				
8	E / NC	E type: enable signal / J type: no connection				
9	R/W	H: read data / L: write data				
10	DB0	Data bus line				
11	DB1	Data bus line				
12	DB2	Data bus line				
13	DB3	Data bus line				
14	DB4	Data bus line				
15	DB5	Data bus line				
16	DB6	Data bus line				
17	DB7	Data bus line				
18	RES	$H \rightarrow L$ reset the LCM				
19	A / V _{EE}	E type: +4.2 V for LED / negative voltage output / J type: A				
20	К	Power supply for backlight				





Legal Disclaimer Notice

Vishay

Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.