# LCD-016N002L1



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## 16 x 2 Character LCD

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### **FEATURES**

- Type: Character
- Display format: 16 x 2 characters
- Built-in controller: ST 7066 (or equivalent)
- Duty cycle: 1/16
- 5 x 8 dots includes cursor
- + 5 V power supply (also available for + 3 V)
- LED can be driven by pin 1, pin 2, pin 15, pin 16 or A and K
- 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	122.0 x 44.0						
Viewing Area	99.0 x 24.0						
Dot Size	0.92 x 1.10						
Dot Pitch	0.98 x 1.16	mm					
Mounting Hole	115.0 x 37.0						
Character Size	4.84 x 9.66						

ABSOLUTE MAXIMUM RATINGS								
ITEM			STANDARD VALUE					
	SYMBOL	MIN.	TYP.	MAX.	UNIT			
Power Supply	$V_{\text{DD}}$ to $V_{\text{SS}}$	- 0.3	-	7.0	v			
Input Voltage	VI	- 0.3	-	$V_{DD}$	v			

Note

V<sub>SS</sub> = 0 V, V<sub>DD</sub> = 5.0 V

ELECTRICAL CHARACTERISTICS									
ITEM	CYMBOL		ST						
	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT			
Input Voltage	V <sub>DD</sub>	V <sub>DD</sub> = + 5 V	4.7	5.0	5.3	V			
Supply Current	I <sub>DD</sub>	$V_{DD} = +5 V$	-	1.6	1.5	mA			
Recommended LC Driving		- 20 °C	-	-	5.2				
		0 °C	-	-	4.5				
Voltage for Normal Temperature	$V_{\text{DD}}$ to $V_0$	25 °C	4.2	4.2	-	V			
Version Module		50 °C	3.8	-	-				
		70 °C	3.5	-	-	1			
LED Forward Voltage	V <sub>F</sub>	25 °C	-	4.2	4.6	V			
LED Forward Current - Array	IF	25 °C	-	260	520	mA			
EL Power Supply Current	I <sub>EL</sub>	V <sub>EL</sub> = 110 V <sub>AC</sub> , 400 Hz	-	-	5.0	mA			

OPTIONS									
		PROCES		BACK	LIGHT				
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL
х	х	х	х	х		х	х	х	

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

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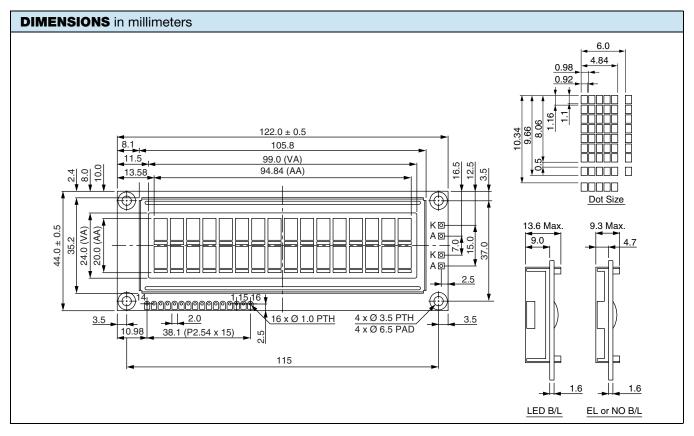


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#### **DISPLAY CHARACTER ADDRESS CODE**

Display Position																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DD RAM Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F
DD RAM Address	40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F

INTERFACE PIN FUNCTION							
PIN NO.	SYMBOL	FUNCTION					
1	V <sub>SS</sub>	Ground					
2	V <sub>DD</sub>	+ 3 V or + 5 V					
3	V <sub>0</sub>	Contrast adjustment					
4	RS	H/L register select signal					
5	R/W	H/L read/write signal					
6	E	$H \rightarrow L$ 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/V <sub>EE</sub>	+ 4.2 V for LED ( $R_A = 0 \Omega$ )/negative voltage output					
16	K	Power supply for B/L (0 V)					



2 For technical questions, contact: <u>displays@vishay.com</u>

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