## LCD-040N002A



Vishay

RoHS

COMPLIANT

## 40 x 2 Character LCD

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### **FEATURES**

- Type: Character
- Display format: 40 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 <u>www.vishay.com/doc?99912</u>

MECHANICAL DATA							
ITEM	STANDARD VALUE	UNIT					
Module Dimension	182.0 x 33.5						
Viewing Area	154.4 x 16.5						
Dot Size	0.60 x 0.65	mm					
Dot Pitch	0.65 x 0.70	- mm					
Mounting Hole	175.0 x 26.5						
Character Size	3.2 x 5.55						

ABSOLUTE MAXIMUM RATINGS										
ІТЕМ	SYMBOL	STAN	IDARD V	ALUE	UNIT					
	STIVIDUL	MIN.	TYP.	MAX.						
Power Supply	$V_{\text{DD}}$ to $V_{\text{SS}}$	- 0.3	-	7.0	V					
Input Voltage	VI	- 0.3	-	$V_{DD}$	V					

Note

•  $V_{SS} = 0 V, V_{DD} = 5.0 V$ 

ELECTRICAL CHARACTERISTICS									
ІТЕМ	SYMBOL	CONDITION	ST	UNIT					
	STMBOL	CONDITION	MIN.	MAX.					
Input Voltogo	V	$V_{DD} = +5 V$	4.7	5.0	5.3	v			
Input Voltage	V <sub>DD</sub>	$V_{DD} = + 3 V$	2.7	3.0	5.3	v			
Supply Current	I <sub>DD</sub>	V <sub>DD</sub> = + 5 V	-	6.0	8.0	mA			
Recommended LC Driving Voltage for Normal Temperature Version Module		- 20 °C	5.0	5.1	5.7				
		0 °C	4.6	4.8	5.2				
	$V_{DD}$ to $V_0$	25 °C	4.1	4.5	4.7	V			
		50 °C	3.9	4.2	4.5				
		70 °C	3.7	3.9	4.3				
LED Forward Voltage	V <sub>F</sub>	25 °C	-	4.2	4.6	V			
LED Forward Current	lF	25 °C	-	280	560	mA			
EL Power Supply Current	I <sub>EL</sub>	V <sub>EL</sub> = 110 V <sub>AC</sub> , 400 Hz	-	-	5.0	mA			

OPTIONS	S								
		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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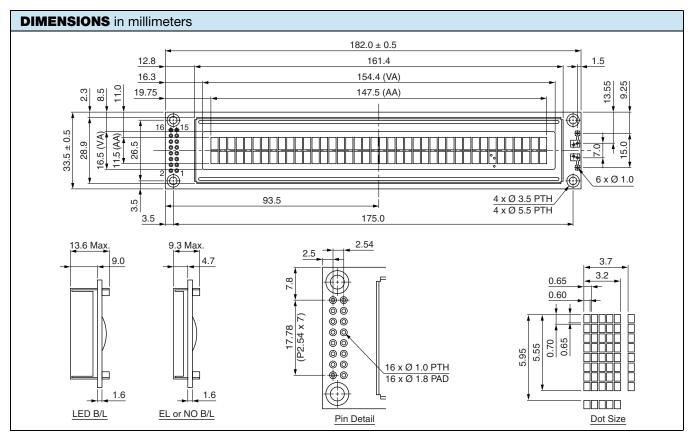
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#### **DISPLAY CHARACTER ADDRESS CODE**

Display Position																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	 36	37	38	39	40
DD RAM Address	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	 23	24	25	26	27
DD RAM Address	40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	 63	64	65	66	67

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/negative voltage output							
16	К	Power supply for B/L (0 V)							



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2 For technical questions, contact: <u>displays@vishay.com</u> Document Number: 37316

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