# LCD-016N004B

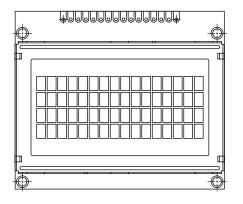


Vishay

RoHS

COMPLIANT

## 16 x 4 Character LCD



MECHANICAL DATA							
ITEM	STANDARD VALUE	UNIT					
Module Dimension	70.6 x 60.0						
Viewing Area	60.0 x 32.6						
Dot Size	0.55 x 0.55						
Dot Pitch	0.60 x 0.60	- mm					
Mounting Hole	65.6 x 50.0						
Character Size	2.95 x 4.75						

### FEATURES

- Type: Character
- Display format: 16 x 4 characters
- Built-in controller: KS 0066 (or equivalent)
- Duty cycle: 1/16
- 5 x 8 dots includes cursor
- + 5 V power supply (also available for + 3 V)
- B/L to be driven by pin 1, pin 2, pin 15, pin 16 or A and K
- N.V. optional for + 3 V power supply
- Compliant to RoHS directive 2002/95/EC

ABSOLUTE MAXIMUM RATINGS							
ITEM	SYMBOL	STAN	UNIT				
	STWDUL	MIN.	TYP.	MAX.	UNIT		
Power Supply	$V_{\text{DD}}$ to $V_{\text{SS}}$	- 0.3	-	7.0	v		
Input Voltage	VI	- 0.3	-	V <sub>DD</sub>			

Note

•  $V_{SS} = 0 V, V_{DD} = 5.0 V$ 

ELECTRICAL CHARACTERISTICS								
ITEM	SYMBOL	CONDITION	ST					
ITEM	STMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT		
Input Voltage		V <sub>DD</sub> = + 5 V	4.7	5.0	5.3	v		
input voltage	V <sub>DD</sub>	V <sub>DD</sub> = + 3 V	2.7	3.0	5.3	v		
Supply Current	I <sub>DD</sub>	$V_{DD} = +5 V$	-	1.65	-	mA		
		- 20 °C	5.0	5.1	5.7			
Recommended LC Driving	$V_{DD}$ to $V_0$	0 °C	4.6	4.8	5.2			
Voltage for Normal Temperature		25 °C	4.1	4.5	4.7	V		
Version Module		50 °C	3.9	4.2	4.5			
		70 °C	3.7	3.9	4.3			
EL Power Supply Current	I <sub>EL</sub>	V <sub>EL</sub> = 110 V <sub>AC</sub> , 400 Hz	-	-	5.0	mA		

OPTIONS									
		PROCES	S COLOR	BACKLIGHT					
TN	STN Gray	STN Yellow	STN Blue	FSTN B&W	STN Color	None	LED	EL	CCFL
х	х	х	х			х	х	х	

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

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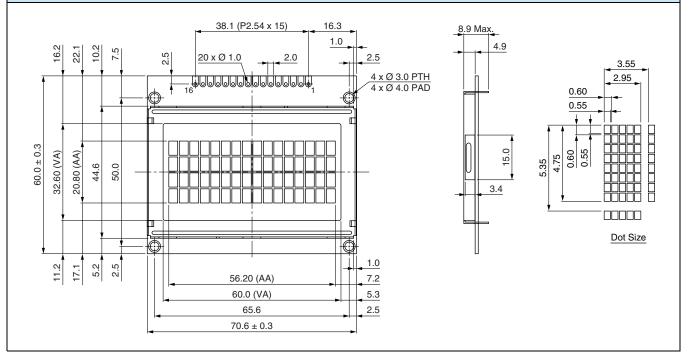


#### **DISPLAY CHARACTER ADDRESS CODE**

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
DD RAM Address	10	11	12	13	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F
DD RAM Address	50	51	52	53	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F

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)				

#### **DIMENSIONS** in millimeters





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