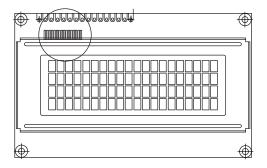




## 20 x 4 Character LCD



MECHANICAL DATA							
ITEM	STANDARD VALUE	UNIT					
Module Dimension	98.0 x 60.0	mm					
Viewing Area	77.0 x 25.2	mm					
Mounting Hole	93.0 x 55.0	mm					
Character Size	2.95 x 4.75	mm					

#### **FEATURES**

- 5 x 8 dots includes cursor
- Built in controller (KS 0066 or Equivalent)
- + 5V power supply (Also available for + 3V)
- 1/16 duty cycle
- LED can be driven by pin 1, pin 2, pin 15, pin 16 or A and K
- N.V. optional for + 3V power supply
- FFC and FFC connector is for LCD-020M004B only

ABSOLUTE MAXIMUM RATING									
ITEM	SYMBOL	STANDARD VALUE UNIT							
		MIN.	TYP.	MAX.					
Power Supply	VDD-VSS	- 0.3	_	7.0	٧				
Input Voltage	VI	- 0.3	_	VDD	V				

NOTE: VSS = 0 Volt, VDD = 5.0 Volt

ELECTRICAL SPECIFICATIONS								
ITEM	SYMBOL	CONDITION	ST	UNIT				
			MIN.	TYP.	MAX.			
Input Voltage	VDD	VDD = + 5V	4.7	5.0	5.3	V		
		VDD = + 3V	2.7	3.0	5.3	V		
Supply Current	IDD	VDD = + 5V	_	1.0	1.2	mA		
		- 20 °C	5.0	5.1	5.7			
Recommended LC Driving	VDD - V0	0°C	4.6	4.8	5.2			
Voltage for Normal Temp.		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			
LED Forward Voltage	VF	25°C	_	4.2	4.6	V		
LED Forward Current	IF	25°C	-	280	560	mA		
EL Power Supply Current	IEL	Vel = 110VAC; 400Hz	_	_	5.0	mA		

DISPLAY CHARACTER ADDRESS CODE:																
Display Position	1	2	3	4	5	6	7	8	9	10	11	12	13	_	_	20
DD RAM Address	00	01														13
DD RAM Address	40	41														53
DD RAM Address	14	15														27
DD RAM Address	54	55														67

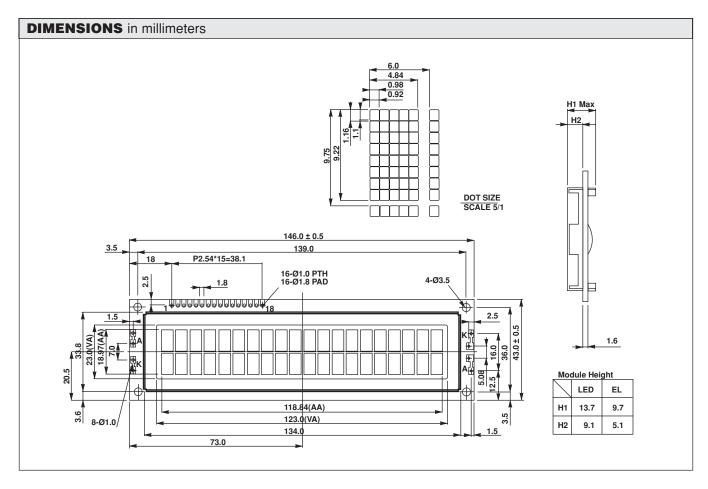
# LCD-020M004B

# Vishay

#### 20 x 4 Character LCD



PIN NUMBER	SYMBOL	FUNCTION					
1	Vss	GND					
2	Vdd	+ 3V or + 5V					
3	Vo	Contrast Adjustment					
4	RS	H/L Register Select Signal					
5	R/W	H/L Read/Write Signal					
6	E	H →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/Vee	+ 4.2V for LED (RA = 0)/Negative Voltage Output					
16	К	Power Supply for B/L (0V)					





Vishay

### **Disclaimer**

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.

Revision: 18-Jul-08

Document Number: 91000 www.vishay.com