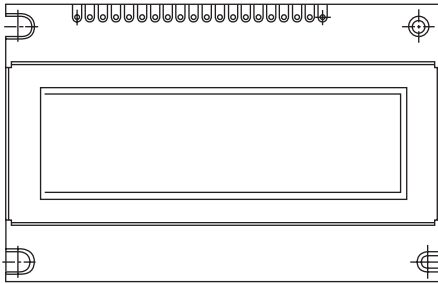


## 160 x 32 Dots Graphic LCD



### FEATURES

- Available for external oscillation 2KHz
- Epson-SED 1520, or equivalent
- 1/32 duty cycle
- N.V. optional for + 3V power supply

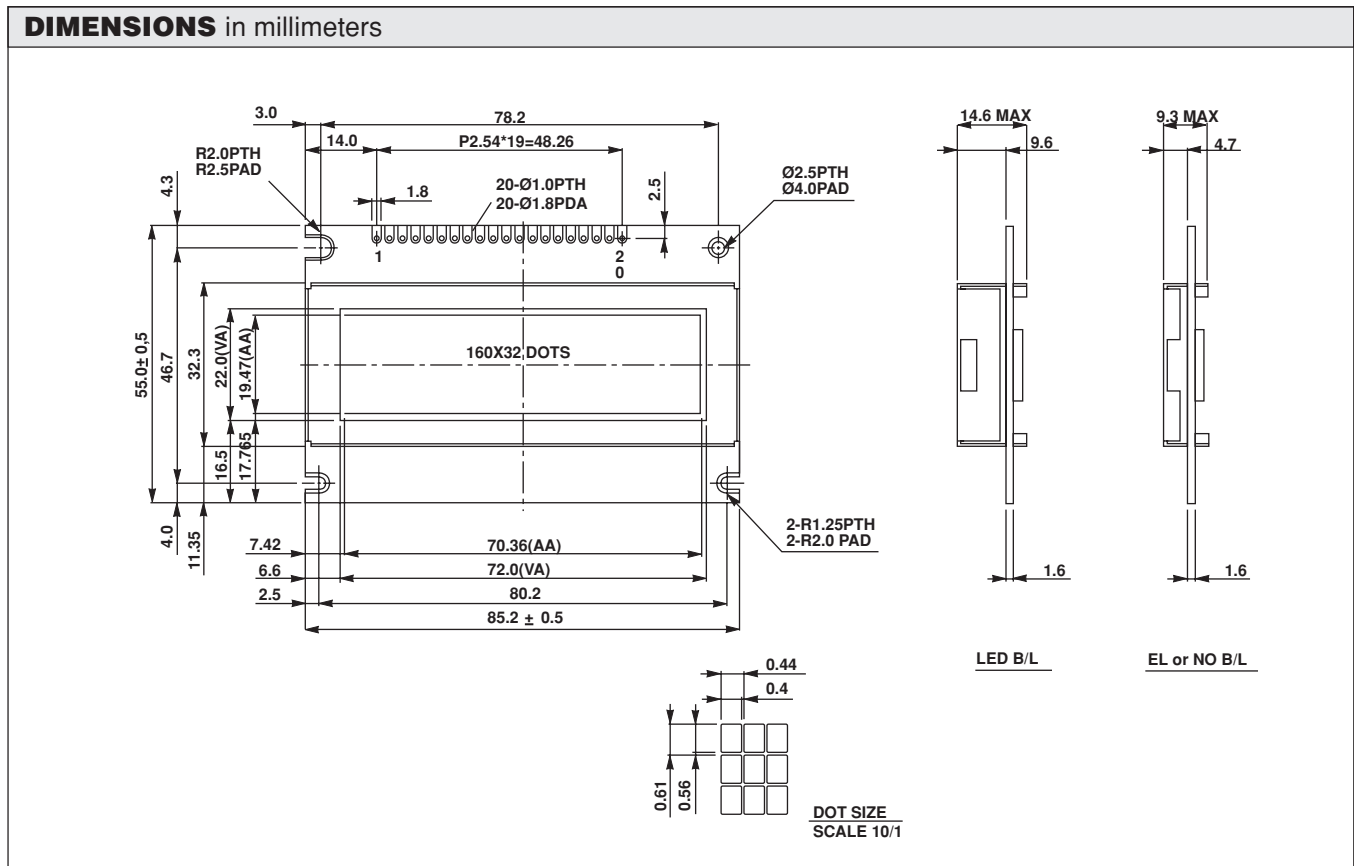
MECHANICAL DATA		
ITEM	STANDARD VALUE	UNIT
Module Dimension	85.2 x 55.0	mm
Viewing Area	72.0 x 22.0	mm
Mounting Hole	80.2 x 46.7	mm
Dot Pitch	0.44 x 0.61	mm

ABSOLUTE MAXIMUM RATING					
ITEM	SYMBOL	STANDARD VALUE			UNIT
		MIN.	TYP.	MAX.	
Power Supply	VDD-VSS	4.75	5.0	5.52	V
Input Voltage	VI	- 0.3	-	VDD	V

**NOTE:** VSS = 0 Volt, VDD = 5.0 Volt

ELECTRICAL SPECIFICATIONS						
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
Input Voltage	VDD	VDD = + 5V	4.5	5.0	5.5	V
Supply Current	IDD	VDD = 5V	-	1.0	1.4	mA
Recommended LC Driving Voltage for Normal Temp. Version Module	VDD-V0	- 2	5.8	6.0	6.2	V
		25°C	5.3	5.5	5.7	
		+ 7	4.8	5.0	5.2	
LED Forward Voltage	VF	25°C	-	4.2	4.6	V
LED Forward Current	IF	25°C	-	180	360	mA
EL Power Supply Current	IEL	Vel = 110VAC; 400Hz	-	-	5.0	mA

PIN NUMBER	SYMBOL	FUNCTION
1	Vss	GND
2	Vdd	(+ 5V)
3	Vo	Contrast Adjustment
4	Ao	H →Data L →Instruction
5	CS1	CS1 = 0, CS2 = 0 Select U1
6	CS2	CS1 = 1, CS2 = 0 Select U2
7	CL	CS1 = 0, CS2 = 1 Select U3
8	E	External Clock 2KHz
9	R/W	Enable Signal
10	DB0	H: Read Data L: Write Data
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 →L Reset the LCM
19	A	Power Supply forLED B/L (+ 4.2V)
20	K	Power Supply forLED B/L (0V)





## Notice

Specifications of the products displayed herein are subject to change without notice. Vishay Intertechnology, Inc., or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Vishay's terms and conditions of sale for such products, Vishay assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of Vishay products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Vishay for any damages resulting from such improper use or sale.