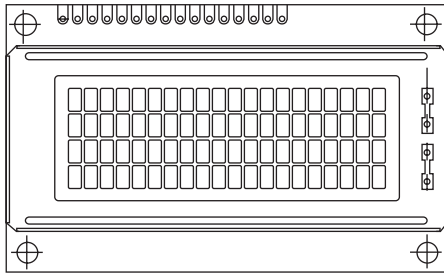


## 20 x 4 Character LCD



### 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

| MECHANICAL DATA  |                |      |
|------------------|----------------|------|
| ITEM             | STANDARD VALUE | UNIT |
| Module Dimension | 77.0 x 47.0    | mm   |
| Viewing Area     | 60.0 x 22.0    | mm   |
| Mounting Hole    | 70.0 x 40.0    | mm   |
| Character Size   | 2.30 x 4.03    | mm   |

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

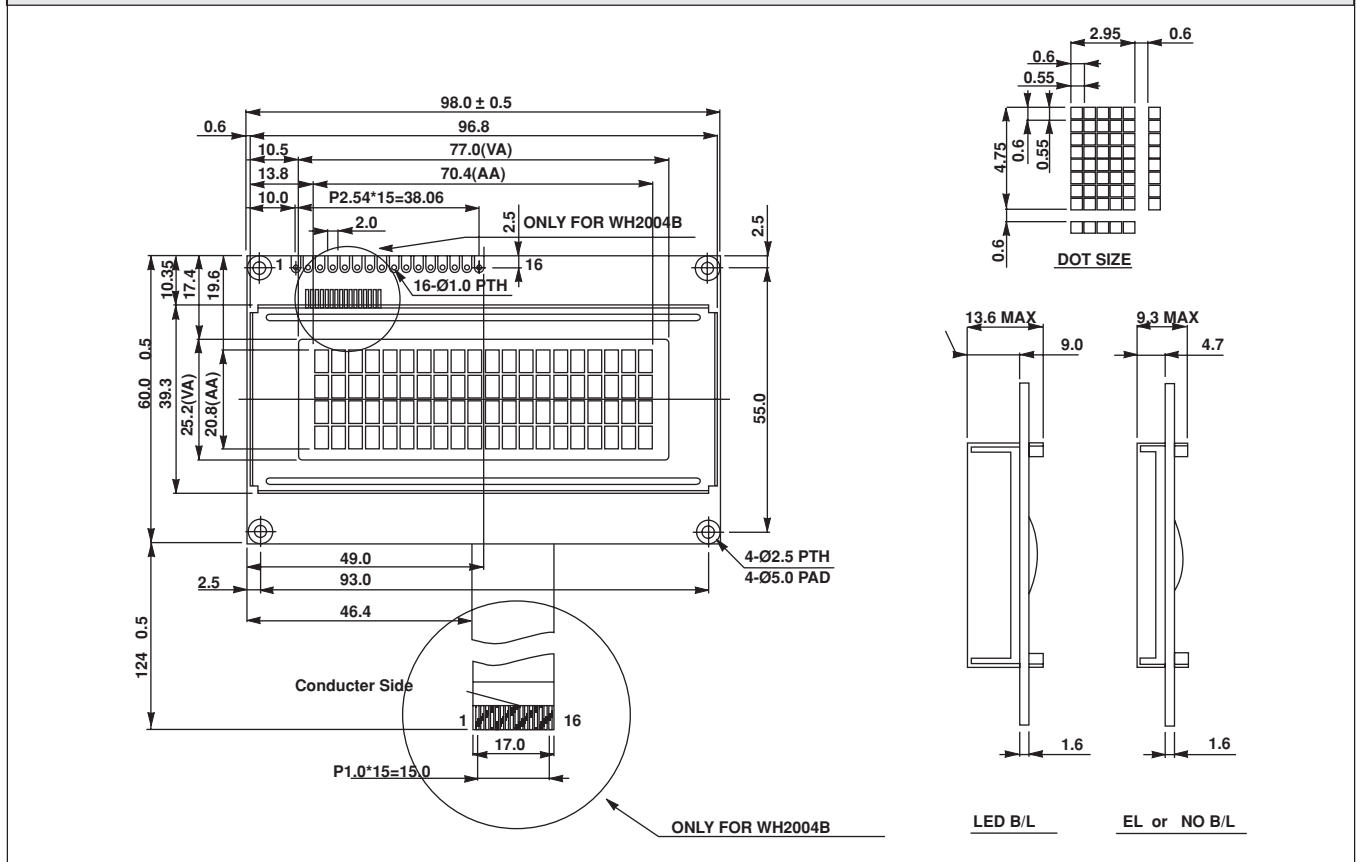
NOTE: VSS = 0 Volt, VDD = 5.0 Volt

| ELECTRICAL SPECIFICATIONS                                      |          |                     |                |      |      |      |
|--|----------|---------------------|----------------|------|------|------|
| ITEM   | SYMBOL   | CONDITION           | STANDARD VALUE |      |      | UNIT |
|  |          |                     | MIN.           | TYP. | MAX. |      |
| Input Voltage  | VDD      | VDD = + 5V          | 4.7            | 5.0  | 5.3  | V    |
|  |          | VDD = + 3V          | 2.7            | 3.0  | 5.3  | V    |
| Supply Current   | IDD      | VDD = + 5V          | -              | 8.0  | 10.0 | mA   |
| Recommended LC Driving Voltage for Normal Temp. Version Module | VDD - V0 | - 20 °C             | 5.0            | 5.1  | 5.7  | V    |
|  |          | 0 °C                | 4.6            | 4.8  | 5.2  |      |
|  |          | 25 °C               | 4.1            | 4.5  | 4.7  |      |
|  |          | 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               | -              | 540  | 1080 | mA   |
| EL Power Supply Current  | IEL      | VeI = 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 |

| 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      | Power Supply for LED 4.2V  |
| 16         | K      | Power Supply for B/L (0V)  |

**DIMENSIONS** in millimeters





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