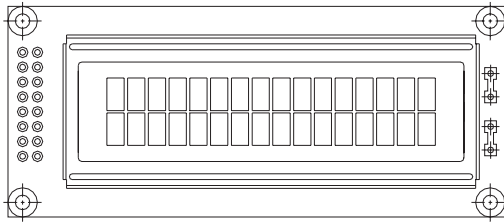


# 16 x 2 Character LCD



## FEATURES

- 5 x 8 dots with cursor
- Built-in controller (KS 0066 or Equivalent)
- + 5V power supply
- 1/16 duty cycle
- B/L to be driven by pin 1, pin 2 or pin 15, pin 16 or A.K (LED)
- N.V. optional for + 3V power supply

## MECHANICAL DATA

| ITEM             | STANDARD VALUE | UNIT |
|------------------|----------------|------|
| Module Dimension | 85.0 x 36.0    | mm   |
| Viewing Area     | 66.0 x 16.0    | mm   |
| Dot Size         | 0.56 x 0.66    | mm   |
| Character Size   | 2.96 x 5.56    | 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

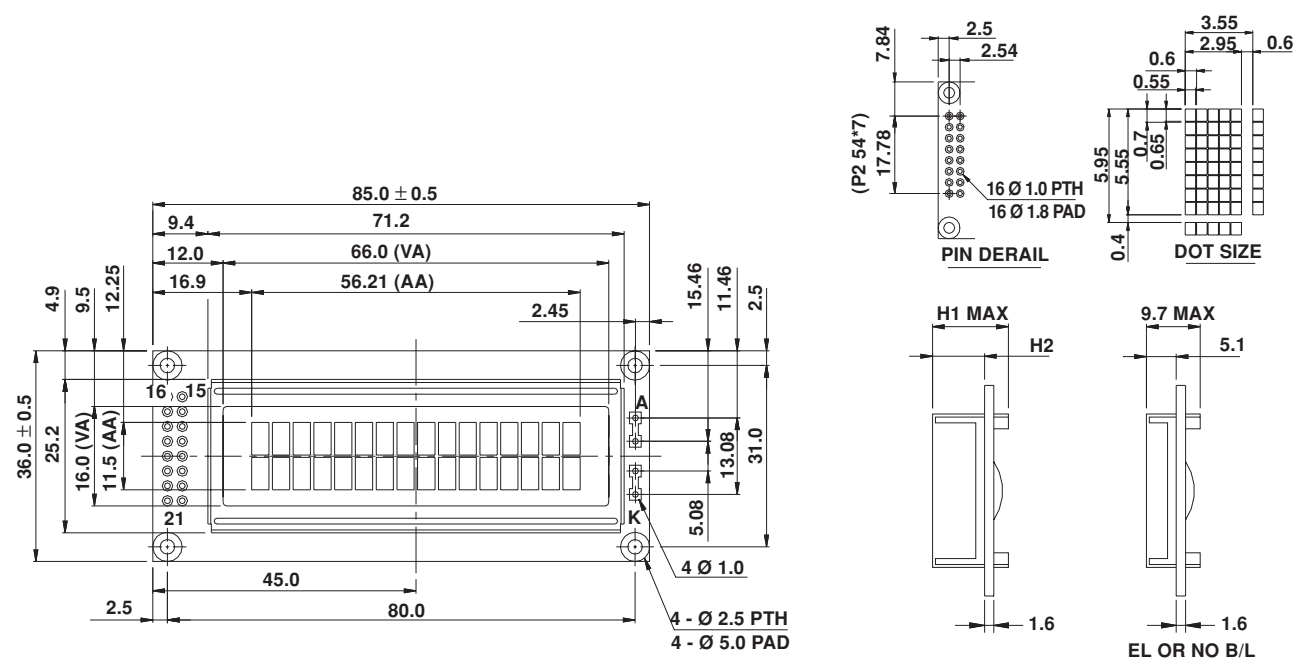
| ITEM   | SYMBOL   | CONDITION          | STANDARD VALUE |      |      | UNIT |
|--|----------|--------------------|----------------|------|------|------|
|  |          |                    | MIN.           | TYP. | MAX. |      |
| Input Voltage  | VDD      | VDD = + 5V         | 4.7            | 5.0  | 5.3  | V    |
|  |          | VDD = + 3V         | 2.7            | 3.0  | 5.3  | V    |
| Supply Current   | IDD      | VDD = 5V           | —              | 1.2  | 3.0  | mA   |
| Recommended LC Driving Voltage for Normal Temp. Version Module | VDD - V0 | - 20 °C            | —              | —    | —    | V    |
|  |          | 0°C                | 4.2            | 4.6  | 5.0  |      |
|  |          | 25°C               | 3.8            | 4.2  | 4.6  |      |
|  |          | 50°C               | 3.6            | 4.0  | 4.4  |      |
|  |          | 70°C               | 3.2            | —    | —    |      |
| LED Forward Voltage  | VF       | 25°C               | —              | 4.2  | 4.6  | V    |
| LED Forward Current  | IF       | 25°C               | Array          | —    | 130  | mA   |
|  |          | Edge               | —              | 20   | 40   |      |
| 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 | 14 | 15 | 16 |
| DD RAM Address   | 00 | 01 |   |   |   |   |   |   |   |    |    |    |    |    |    | 0F |
| DD RAM Address   | 40 | 41 |   |   |   |   |   |   |   |    |    |    |    |    |    | 4F |

| PIN NUMBER | SYMBOL            | FUNCTION                             |
|------------|-------------------|--------------------------------------|
| 1          | V <sub>ss</sub>   | GND                                  |
| 2          | V <sub>dd</sub>   | + 3V or + 5V                         |
| 3          | V <sub>o</sub>    | Contrast Adjustment                  |
| 4          | RS                | H/L Register Select Signal           |
| 5          | R/ $\overline{W}$ | 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/V <sub>ee</sub> | 4.2V for LED/Negative Voltage Output |
| 16         | K                 | Power Supply for B/L (OV)            |

**DIMENSIONS** in millimeters



| LED - H/L B/L |      |      |
|---------------|------|------|
|               | HIGH | LOW  |
| H1            | 13.2 | 12.1 |
| H2            | 8.6  | 7.5  |