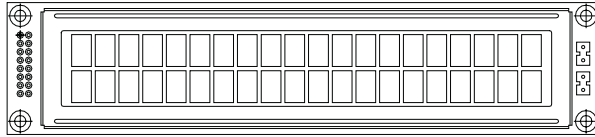


20 x 2 Character LCD



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
- B/L to be driven by pin 1, pin 2 or pin 15, pin 16 or A and K (LED)
- N.V. optional for + 3V power supply

MECHANICAL DATA

| ITEM | STANDARD VALUE | UNIT |
|------------------|----------------|------|
| Module Dimension | 180.0 x 40.0 | mm |
| Viewing Area | 149.0 x 23.0 | mm |
| Mounting Hole | 172.0 x 32.0 | mm |
| Character Size | 6.0 x 9.66 | 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

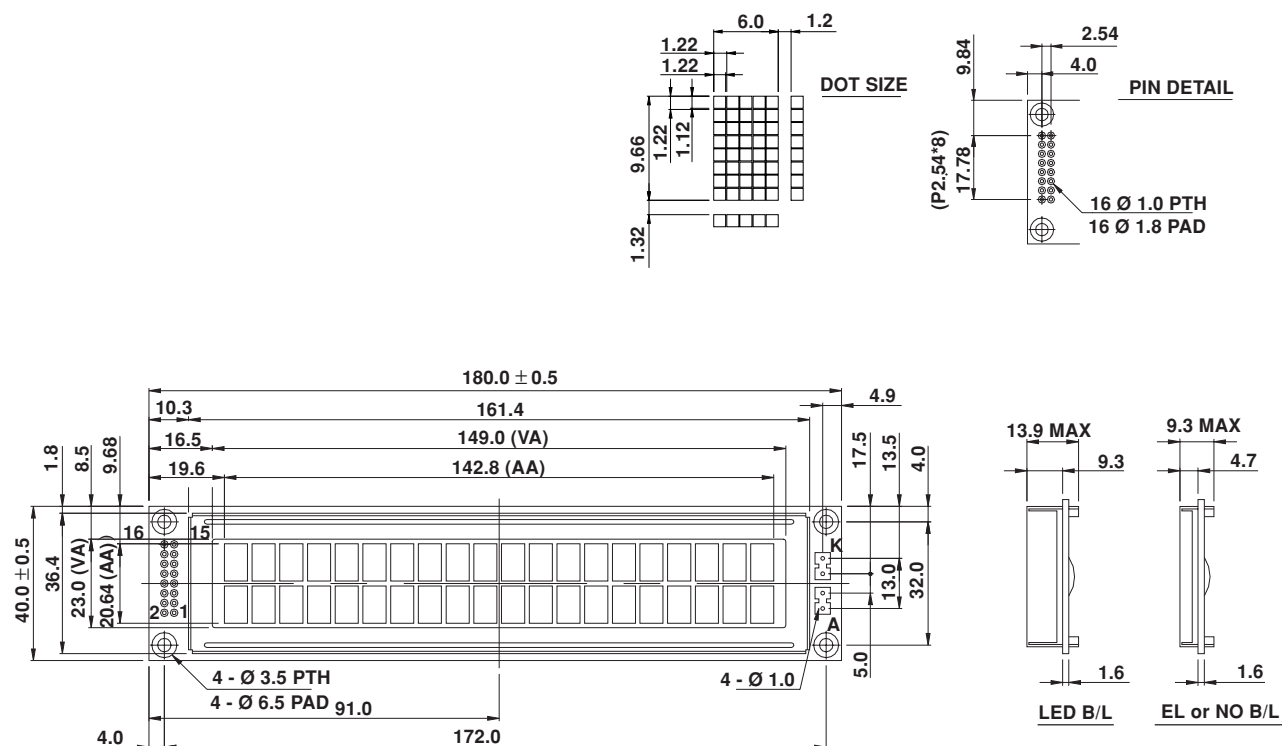
| ITEM | SYMBOL | CONDITION | STANDARD VALUE | | | UNIT |
|--|----------|--------------------|----------------|------|------|------|
| | | | MIN. | TYP. | MAX. | |
| Input Voltage | VDD | VDD = + 5V | 4.7 | 5.0 | 5.3 | V |
| | | VDD = + 3V | 2.7 | 3.0 | 5.3 | V |
| Supply Current | IDD | VDD = + 5V | — | 1.5 | 1.8 | 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 | — | — | — | |
| LED Forward Voltage | VF | 25°C | — | 4.2 | 4.6 | V |
| LED Forward Current | IF | 25°C | — | 360 | 720 | 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 |

| PIN NUMBER | SYMBOL | FUNCTION |
|------------|-------------------|--|
| 1 | V _{ss} | GND |
| 2 | V _{dd} | + 3V or + 5V |
| 3 | V _o | 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 _{ee} | + 4.2V for LED/Negative Voltage Output |
| 16 | K | Power Supply for B/L (0V) |

DIMENSIONS in millimeters





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