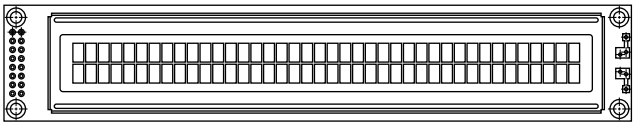
# 40 x 2 Character LCD



## FEATURES

- Type: Character
- Display format: 40 x 2 characters
- Built-in controller: ST 7066 (or equivalent)
- Duty cycle: 1/16
- 5 x 8 dots includes cursor
- + 5 V power supply (also available for + 3 V)
- LED can be driven by pin 1, pin 2, pin 15, pin 16 or A and K
- N.V. optional for + 3 V power supply
- Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

Pb-free

RoHS COMPLIANT

## MECHANICAL DATA

| ITEM | STANDARD VALUE | UNIT |
|---|---|---|
| Module Dimension | 182.0 x 33.5 | mm |
| Viewing Area | 154.4 x 16.5 | |
| Dot Size | 0.60 x 0.65 | |
| Dot Pitch | 0.65 x 0.70 | |
| Mounting Hole | 175.0 x 26.5 | |
| Character Size | 3.2 x 5.55 | |

## ABSOLUTE MAXIMUM RATINGS

| ITEM | SYMBOL | STANDARD VALUE | | | UNIT |
|---|---|---|---|---|---|
| | | MIN. | TYP. | MAX. | |
| Power Supply | $V_{DD}$ to $V_{SS}$ | - 0.3 | - | 7.0 | V |
| Input Voltage | $V_I$ | - 0.3 | - | $V_{DD}$ | |

**Note**

- $V_{SS}$ = 0 V, $V_{DD}$ = 5.0 V

## ELECTRICAL CHARACTERISTICS

| ITEM | SYMBOL | CONDITION | STANDARD VALUE | | | UNIT |
|---|---|---|---|---|---|---|
| | | | MIN. | TYP. | MAX. | |
| Input Voltage | $V_{DD}$ | $V_{DD}$ = + 5 V | 4.7 | 5.0 | 5.3 | V |
| | | $V_{DD}$ = + 3 V | 2.7 | 3.0 | 5.3 | |
| Supply Current | $I_{DD}$ | $V_{DD}$ = + 5 V | - | 6.0 | 8.0 | mA |
| Recommended LC Driving Voltage for Normal Temperature Version Module | $V_{DD}$ to $V_0$ | - 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 | $V_F$ | 25 °C | - | 4.2 | 4.6 | V |
| LED Forward Current | $I_F$ | 25 °C | - | 280 | 560 | mA |
| EL Power Supply Current | $I_{EL}$ | $V_{EL}$ = 110 $V_{AC}$, 400 Hz | - | - | 5.0 | mA |

## OPTIONS

| PROCESS COLOR | | | | | | BACKLIGHT | | | |
|---|---|---|---|---|---|---|---|---|---|
| TN | STN Gray | STN Yellow | STN Blue | FSTN B&W | STN Color | None | LED | EL | CCFL |
| x | x | x | x | x | | x | x | x | |

For detailed information, please see the “Product Numbering System” document.



For technical questions, contact: displays@vishay.com

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## DISPLAY CHARACTER ADDRESS CODE

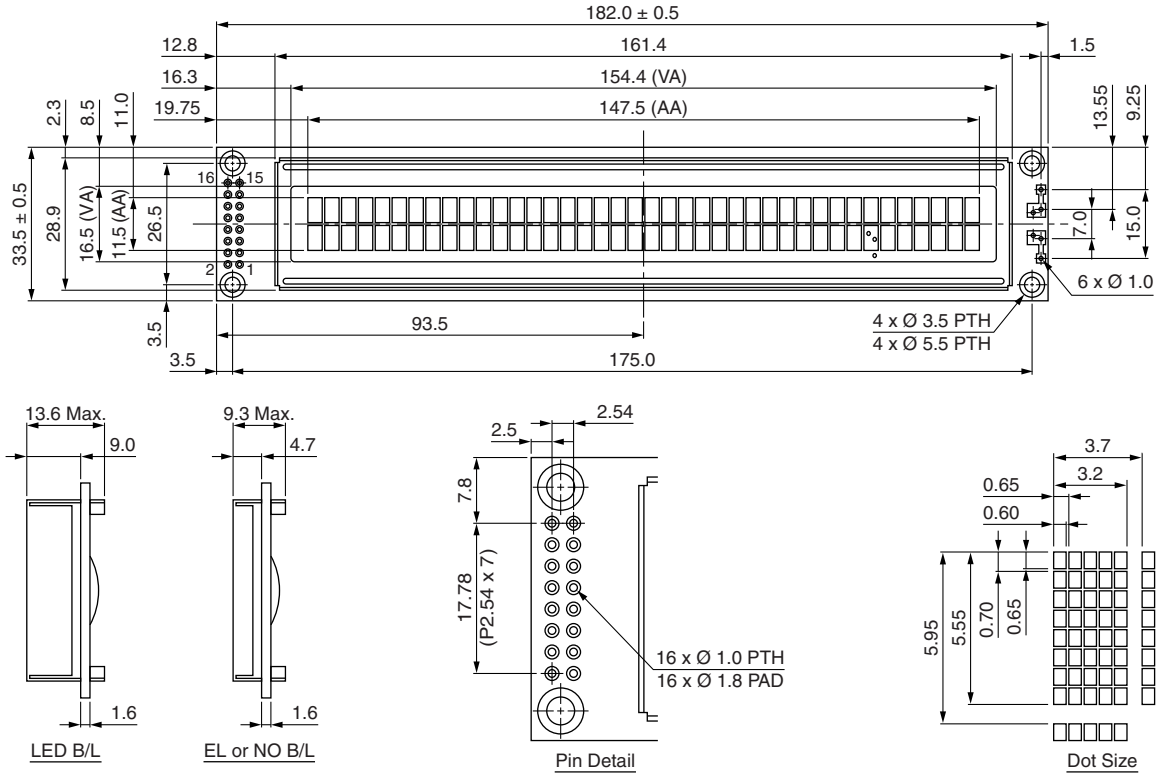
Display Position

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | ... | 36 | 37 | 38 | 39 | 40 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DD RAM Address | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | ... | 23 | 24 | 25 | 26 | 27 |
| DD RAM Address | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 4A | 4B | 4C | 4D | ... | 63 | 64 | 65 | 66 | 67 |

## INTERFACE PIN FUNCTION

| PIN NO. | SYMBOL | FUNCTION |
|---|---|---|
| 1 | $V_{SS}$ | Ground |
| 2 | $V_{DD}$ | + 3 V or + 5 V |
| 3 | $V_0$ | 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/$V_{EE}$ | + 4.2 V for LED/negative voltage output |
| 16 | K | Power supply for B/L (0 V) |

## DIMENSIONS in millimeters






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