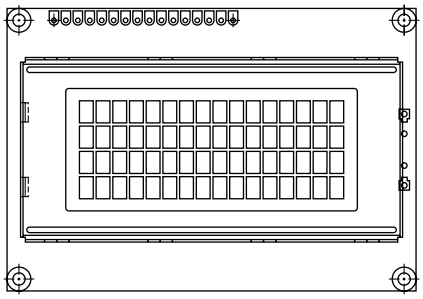
# 16 x 4 Character LCD



## FEATURES

- Type: Character
- Display format: 16 x 4 characters
- Built-in controller: RW1067
- Duty cycle: 1/16
- 5 x 8 dots includes cursor
- + 5 V power supply
- LED can be driven by pin 1, pin 2, pin 15, pin 16 or A and K
- Built English/Japanese/Europe/Cyrillic font
- Compliant to RoHS directive 2002/95/EC

Pb-free
RoHS COMPLIANT

## MECHANICAL DATA

| ITEM | STANDARD VALUE | UNIT |
|---|---|---|
| Module Dimension | 87.0 x 60.0 | mm |
| Viewing Area | 62.0 x 26.0 | |
| Dot Size | 0.55 x 0.55 | |
| Dot Pitch | 0.60 x 0.60 | |
| Mounting Hole | 82.0 x 55.0 | |
| Character Size | 2.95 x 4.75 | |

## 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 |
| Supply Current | $I_{DD}$ | $V_{DD}$ = + 5 V | - | 1.0 | 1.2 | 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 | - | 220 | 440 | 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 | |

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

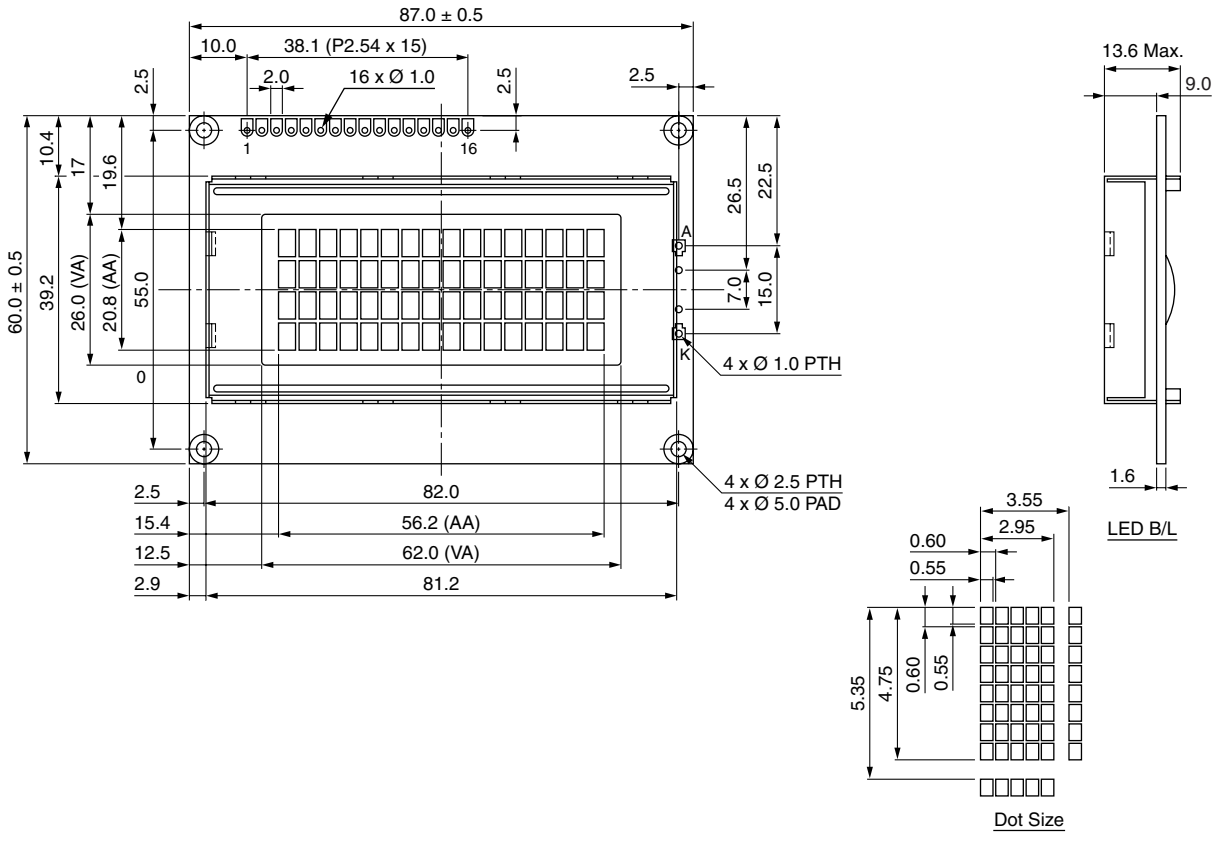
## DISPLAY CHARACTER ADDRESS CODE

| Display Position | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DD RAM Address | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F |
| DD RAM Address | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 4A | 4B | 4C | 4D | 4E | 4F |
| DD RAM Address | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 1A | 1B | 1C | 1D | 1E | 1F |
| DD RAM Address | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 5A | 5B | 5C | 5D | 5E | 5F |

## INTERFACE PIN FUNCTION

| PIN NO. | SYMBOL | FUNCTION |
|---|---|---|
| 1 | $V_{SS}$ | Ground |
| 2 | $V_{DD}$ | Supply voltage for logic |
| 3 | $V_0$ | Contrast adjustment |
| 4 | RS | H: Data/L: Instruction |
| 5 | R/$\overline{W}$ | H: Read data/L: Write data |
| 6 | E | Enable signal |
| 7 | DB0 | Data bus line |
| 8 | DB1 | Data bus line |
| 9 | DB2 | Data bus line |
| 10 | DB3 | Data bus line |
| 11 | DB4 | Data bus line |
| 12 | DB5 | Data bus line |
| 13 | DB6 | Data bus line |
| 14 | DB7 | Data bus line |
| 15 | A | Power supply for B/L (+) |
| 16 | K | Power supply for B/L (-) |

## DIMENSIONS in millimeters



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