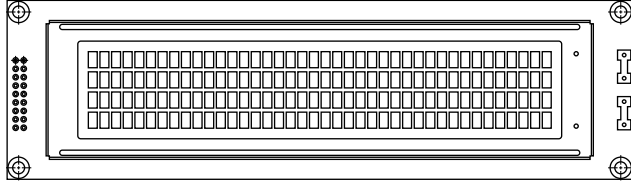


40 x 4 Character LCD



FEATURES

- Type: Character
- Display format: 40 x 4 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 17, pin 18 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


RoHS
COMPLIANT

| MECHANICAL DATA | | |
|------------------|----------------|------|
| ITEM | STANDARD VALUE | UNIT |
| Module Dimension | 190.0 x 54.0 | mm |
| Viewing Area | 147.0 x 29.5 | |
| Dot Size | 0.50 x 0.55 | |
| Dot Pitch | 0.57 x 0.62 | |
| Mounting Hole | 183.0 x 47.0 | |
| Character Size | 2.78 x 4.89 | |

| 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

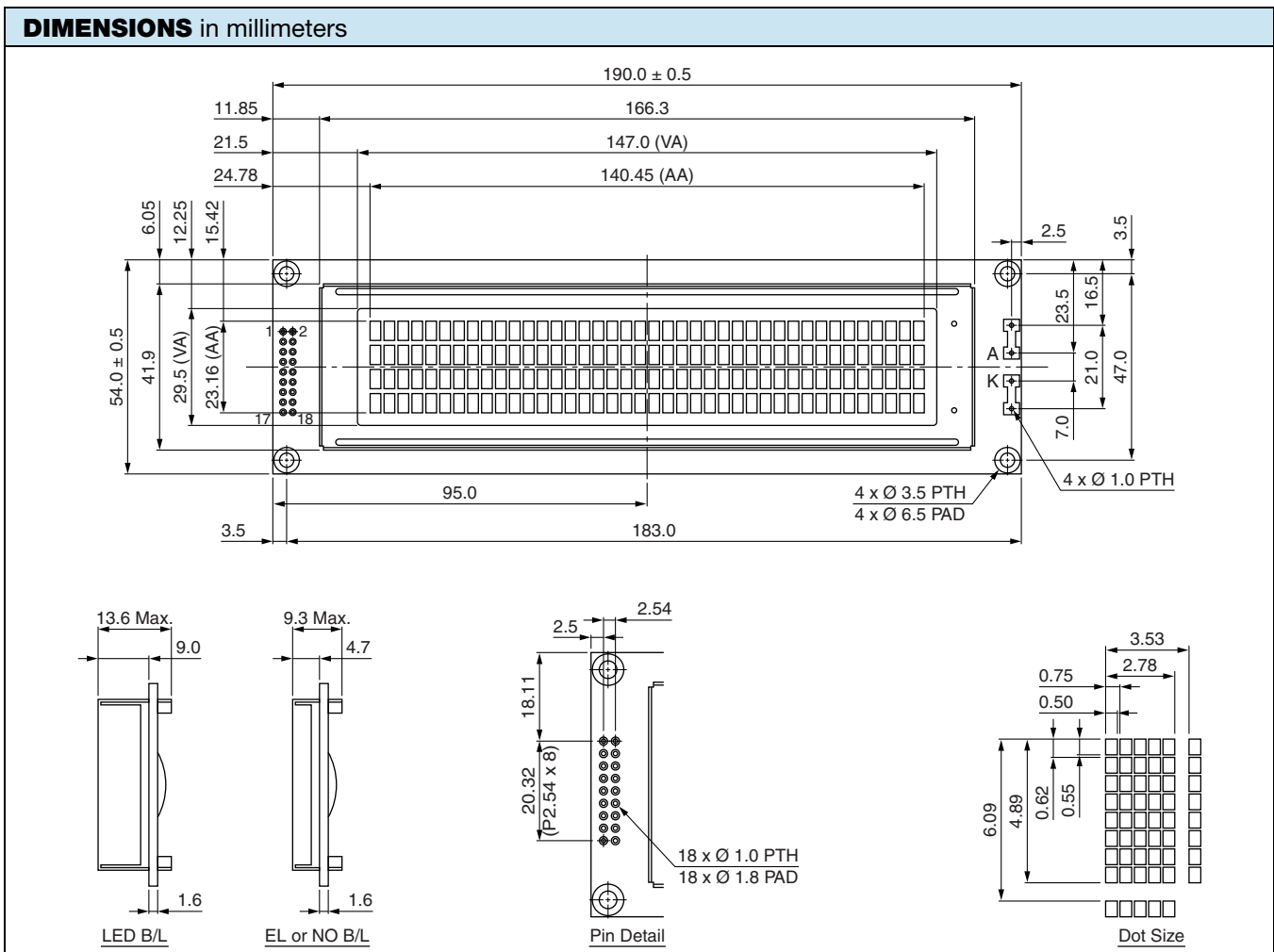
| ELECTRICAL CHARACTERISTICS | | | | | | |
|--|-------------------|---|----------------|------|------|------|
| ITEM | SYMBOL | CONDITION | STANDARD VALUE | | | UNIT |
| | | | MIN. | TYP. | MAX. | |
| Input Voltage | V_{DD} | $V_{DD} = + 5$ V | 4.7 | 5.0 | 5.3 | V |
| | | $V_{DD} = + 3$ V | 2.7 | 3.0 | 5.3 | |
| Supply Current | I_{DD} | $V_{DD} = + 5$ V | - | 2.4 | 3.0 | mA |
| Recommended LC Driving Voltage for Normal Temperature Version Module | V_{DD} to V_0 | - 20 °C | 4.9 | 5.1 | 5.5 | V |
| | | 0 °C | 4.5 | 4.8 | 5.1 | |
| | | 25 °C | 4.1 | 4.5 | 4.7 | |
| | | 50 °C | 3.8 | 4.2 | 4.4 | |
| | | 70 °C | 3.5 | 3.9 | 4.1 | |
| LED Forward Voltage | V_F | 25 °C | - | 4.2 | 4.6 | V |
| LED Forward Current | I_F | 25 °C | - | 600 | 1200 | 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.

| 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 | Line 1 |
| DD RAM Address | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 4A | 4B | 4C | 4D | ... | 63 | 64 | 65 | 66 | 67 | Line 2 |
| DD RAM Address | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | ... | 23 | 24 | 25 | 26 | 27 | Line 3 |
| DD RAM Address | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 4A | 4B | 4C | 4D | ... | 63 | 64 | 65 | 66 | 67 | Line 4 |

| INTERFACE PIN FUNCTION | | |
|------------------------|--------------------|----------------------------|
| PIN NO. | SYMBOL | FUNCTION |
| 1 | DB7 | Data bus line |
| 2 | DB6 | Data bus line |
| 3 | DB5 | Data bus line |
| 4 | DB4 | Data bus line |
| 5 | DB3 | Data bus line |
| 6 | DB2 | Data bus line |
| 7 | DB1 | Data bus line |
| 8 | DB0 | Data bus line |
| 9 | E1 | H → L enable signal IC1 |
| 10 | R/W | H/L read/write |
| 11 | RS | Register select |
| 12 | V ₀ | Contrast adjustment |
| 13 | V _{SS} | Ground |
| 14 | V _{DD} | + 5 V |
| 15 | E2 | H → L enable signal IC2 |
| 16 | NC/V _{EE} | NC/negative voltage output |
| 17 | A | |
| 18 | K | Ground |





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