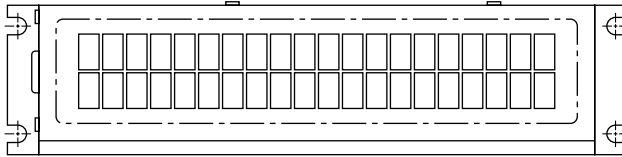


20 x 2 Character LCD



FEATURES

- Type: Character
- Display format: 20 x 2 characters
- Built-in controller: KS 0066 (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 17, pin 18
- N.V. optional for + 3 V power supply
- Compliant to RoHS directive 2002/95/EC


RoHS
COMPLIANT

| MECHANICAL DATA | | |
|------------------|----------------|------|
| ITEM | STANDARD VALUE | UNIT |
| Module Dimension | 89.0 x 21.5 | mm |
| Viewing Area | 75.0 x 15.0 | |
| Dot Size | 0.55 x 0.60 | |
| Dot Pitch | 0.60 x 0.65 | |
| Mounting Hole | 86.0 x 15.5 | |
| Character Size | 2.95 x 5.15 | |

| ABSOLUTE MAXIMUM RATINGS | | | | | |
|--------------------------|----------------------|----------------|------|----------|------|
| ITEM | SYMBOL | STANDARD VALUE | | | UNIT |
| | | MIN. | TYP. | MAX. | |
| Power Supply | V_{DD} to V_{SS} | - 0.3 | - | 6.7 | 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 | 4.75 | - | 5.25 | V |
| Supply Current | I_{DD} | $V_{DD} = + 5$ V | - | 1.2 | - | mA |
| Recommended LC Driving Voltage for Normal Temperature Version Module | V_{DD} to V_0 | - 20 °C | - | - | 5.2 | V |
| | | 0 °C | - | - | 4.5 | |
| | | 25 °C | - | 4.2 | - | |
| | | 50 °C | 3.8 | - | - | |
| | | 70 °C | 3.5 | - | - | |

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

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

DISPLAY CHARACTER ADDRESS CODE

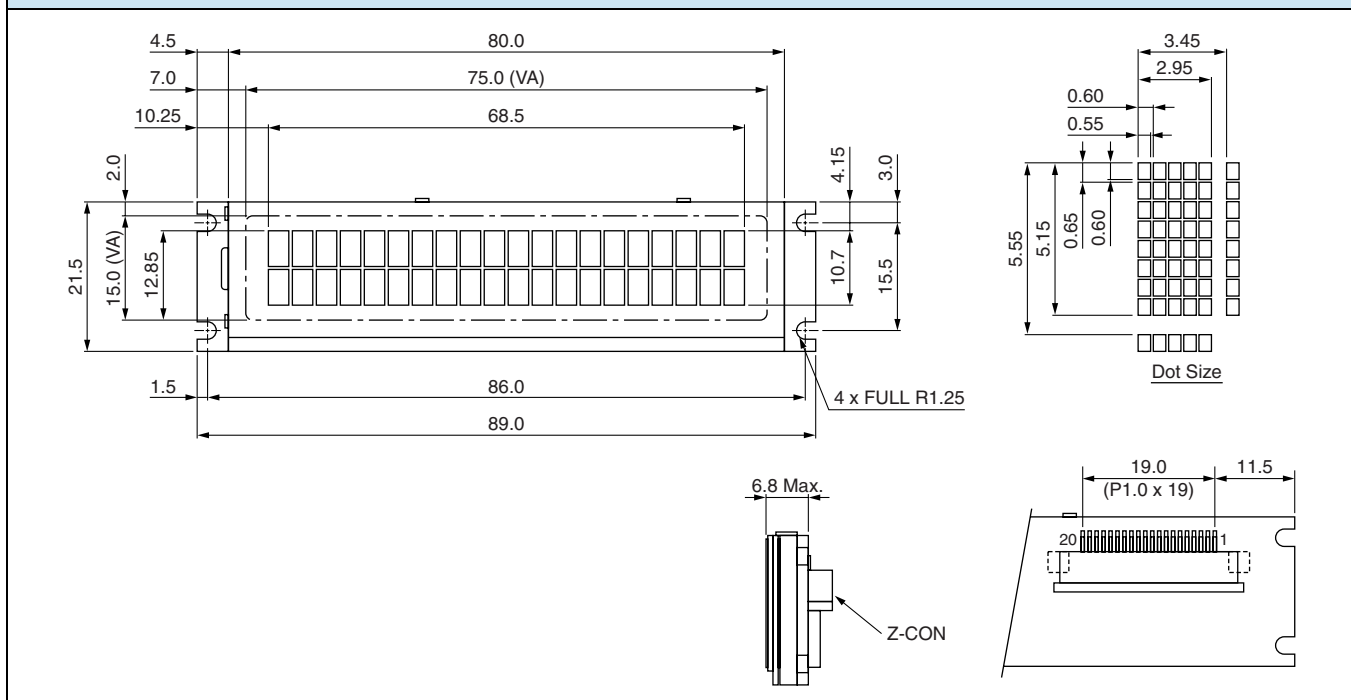
Display Position

| | | | | | | | | | | | | | | | | | | | | |
|----------------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| DD RAM Address | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 0A | 0B | 0C | 0D | 0E | 0F | 10 | 11 | 12 | 13 |
| DD RAM Address | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 4A | 4B | 4C | 4D | 4E | 4F | 50 | 51 | 52 | 53 |

INTERFACE PIN FUNCTION

| PIN NO. | SYMBOL | FUNCTION |
|---------|-------------------|----------------------------|
| 1 | NC | No connection |
| 2 | NC | No connection |
| 3 | V _{SS} | Ground |
| 4 | V _{DD} | + 3 V or + 5 V |
| 5 | V ₀ | Contrast adjustment |
| 6 | RS | H/L register select signal |
| 7 | R/ \bar{W} | Date read/write |
| 8 | E | H → L enable signal |
| 9 | DB0 | Data bit 0 |
| 10 | DB1 | Data bit 1 |
| 11 | DB2 | Data bit 2 |
| 12 | DB3 | Data bit 3 |
| 13 | DB4 | Data bit 4 |
| 14 | DB5 | Data bit 5 |
| 15 | DB6 | Data bit 6 |
| 16 | DB7 | Data bit 7 |
| 17 | V _{LED+} | Power supply for LED + |
| 18 | V _{LED-} | Power supply for LED - |
| 19 | V _{EE} | Negative voltage output |
| 20 | NC | No connection |

DIMENSIONS in millimeters





Disclaimer

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