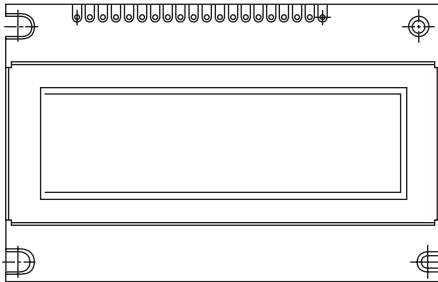


160 x 32 Dots Graphic LCD



FEATURES

- Available for external oscillation 2KHz
- Epson-SED 1520, or equivalent
- 1/32 duty cycle
- N.V. optional for + 3V power supply

| MECHANICAL DATA | | |
|------------------|----------------|------|
| ITEM | STANDARD VALUE | UNIT |
| Module Dimension | 85.2 x 55.0 | mm |
| Viewing Area | 72.0 x 22.0 | mm |
| Mounting Hole | 80.2 x 46.7 | mm |
| Dot Pitch | 0.44 x 0.61 | mm |

| ABSOLUTE MAXIMUM RATING | | | | | |
|-------------------------|---------|----------------|------|------|------|
| ITEM | SYMBOL | STANDARD VALUE | | | UNIT |
| | | MIN. | TYP. | MAX. | |
| Power Supply | VDD-VSS | 4.75 | 5.0 | 5.52 | 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 | 4.5 | 5.0 | 5.5 | V |
| Supply Current | IDD | VDD = 5V | - | 1.0 | 1.4 | mA |
| Recommended LC Driving Voltage for Normal Temp. Version Module | VDD-V0 | - 2 | 5.8 | 6.0 | 6.2 | V |
| | | 25°C | 5.3 | 5.5 | 5.7 | |
| | | + 7 | 4.8 | 5.0 | 5.2 | |
| LED Forward Voltage | VF | 25°C | - | 4.2 | 4.6 | V |
| LED Forward Current | IF | 25°C | - | 180 | 360 | mA |
| EL Power Supply Current | IEL | Vel = 110VAC; 400Hz | - | - | 5.0 | mA |

| PIN NUMBER | SYMBOL | FUNCTION |
|------------|--------|----------------------------------|
| 1 | Vss | GND |
| 2 | Vdd | (+ 5V) |
| 3 | Vo | Contrast Adjustment |
| 4 | Ao | H →Data L →Instruction |
| 5 | CS1 | CS1 = 0, CS2 = 0 Select U1 |
| 6 | CS2 | CS1 = 1, CS2 = 0 Select U2 |
| 7 | CL | CS1 = 0, CS2 = 1 Select U3 |
| 8 | E | External Clock 2KHz |
| 9 | R/W | Enable Signal |
| 10 | DB0 | H: Read Data L: Write Data |
| 11 | DB1 | Data Bus Line |
| 12 | DB2 | Data Bus Line |
| 13 | DB3 | Data Bus Line |
| 14 | DB4 | Data Bus Line |
| 15 | DB5 | Data Bus Line |
| 16 | DB6 | Data Bus Line |
| 17 | DB7 | Data Bus Line |
| 18 | RES | H →L Reset the LCM |
| 19 | A | Power Supply forLED B/L (+ 4.2V) |
| 20 | K | Power Supply forLED B/L (0V) |

DIMENSIONS in millimeters

