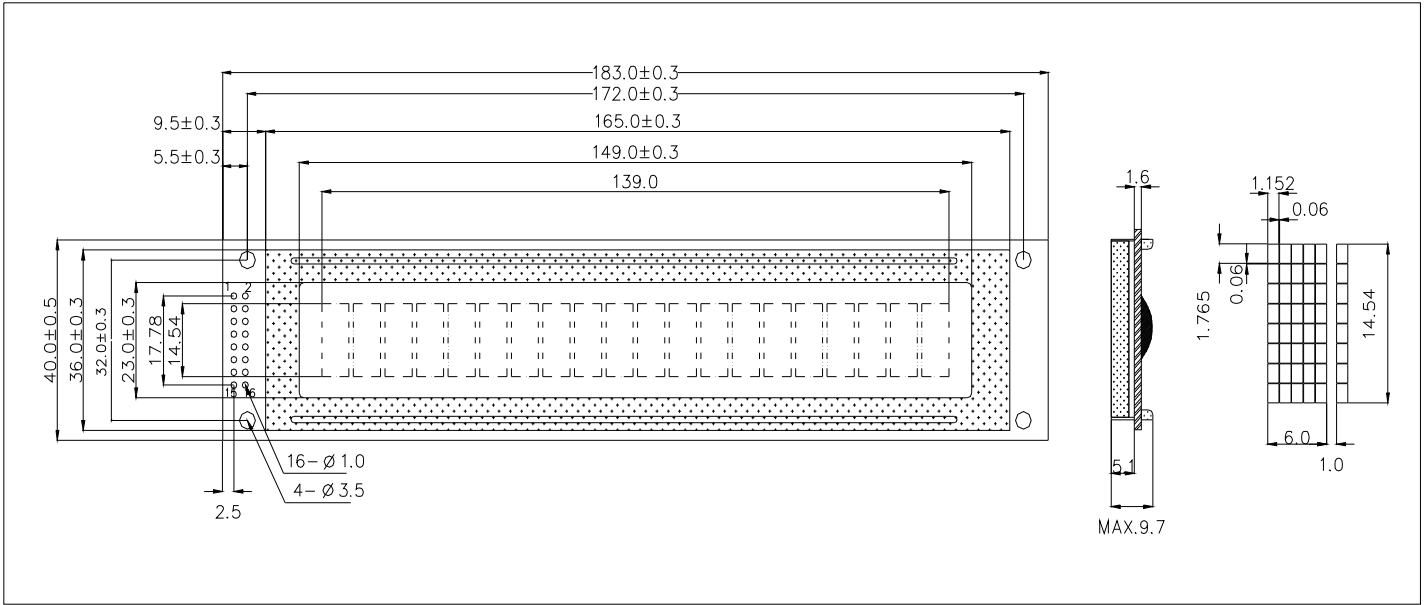
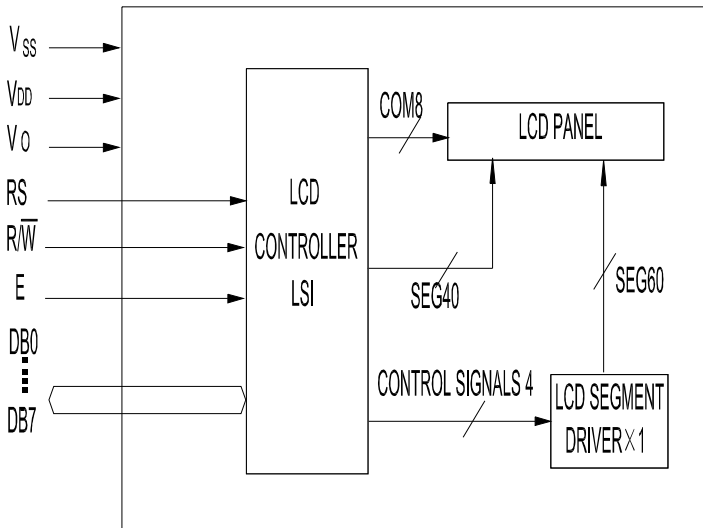




1.0 DIMENSIONAL DRAWING



2.0 BLOCK DIAGRAM



3.0 PIN ASSIGNMENT

| Pin no. | Symbol | Function |
|---------|--------------------|------------------------|
| 1 | V_{SS} | Power supply (GND) |
| 2 | V_{DD} | Power supply(+) |
| 3 | V_O | Contrast adjust |
| 4 | RS | Register select signal |
| 5 | R / \overline{W} | Data read / write |
| 6 | E | Enable signal |
| 7 | DB0 | Data bus line |
| 8 | DB1 | |
| 9 | DB2 | |
| 10 | DB3 | |
| 11 | DB4 | |
| 12 | DB5 | |
| 13 | DB6 | |
| 14 | DB7 | |
| 15 | NC | No connection |
| 16 | NC | |

4.0 ELECTRICAL CHARACTERISTICS $T_a=25^\circ\text{C}$ $V_{DD}=5.0\text{V}\pm 0.25\text{V}$

| Item | Symbol | Test Condition | Standard Value | | | |
|---------------------------|-----------------|----------------|----------------|------|------|------|
| | | | Min. | Typ. | Max. | Unit |
| Power Supply Voltage | $V_{DD}-V_{SS}$ | 25°C | 4.75 | 5.0 | 5.25 | V |
| LCD Operation Voltage | V_{OP} | 25°C | TN | - | - | V |
| | | | STN | - | 4.2 | - |
| LCM Current Consumption | I_{DD} | 25°C | - | 3.0 | 5.0 | mA |
| Backlight Forward Voltage | V_F | | - | 4.2 | 4.25 | V |

5.0 ABSOLUTE MAXIMUM RATINGS

| Item | Symbol | Test Condition | Standard Value | | |
|------------------------|-----------------|----------------|----------------|--------------|------|
| | | | Min. | Max. | Unit |
| Supply Voltage (Logic) | $V_{DD}-V_{SS}$ | 25°C | -0.3 | 7 | V |
| Supply Voltage (LCD) | $V_{DD}-V_O$ | | $V_{DD}-13.5$ | $V_{DD}+0.3$ | V |
| Input Voltage | V_{IN} | | -0.3 | $V_{DD}+0.3$ | V |
| Operating Temp. | T_{OPR} | - | -20 | 70 | °C |
| Storage Temp. | T_{STG} | - | -30 | 80 | °C |

Remark

- LCD option: TN,STN,FSTN.
- Standard module.
- other specs not available on catalog is under request.