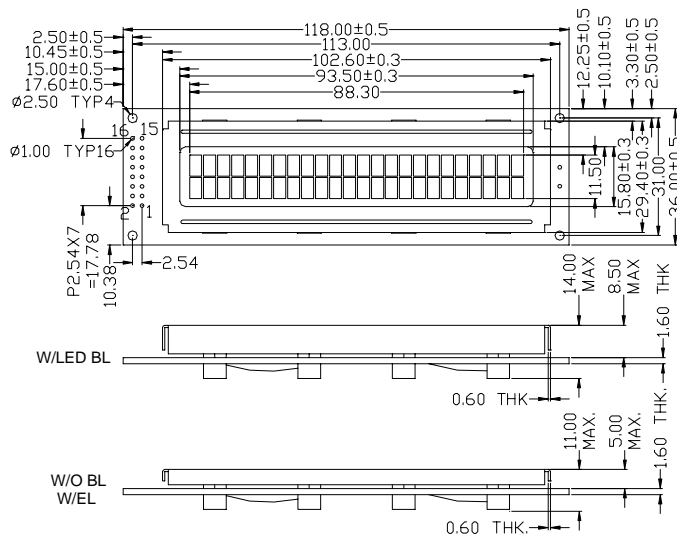


## Standard LCD module

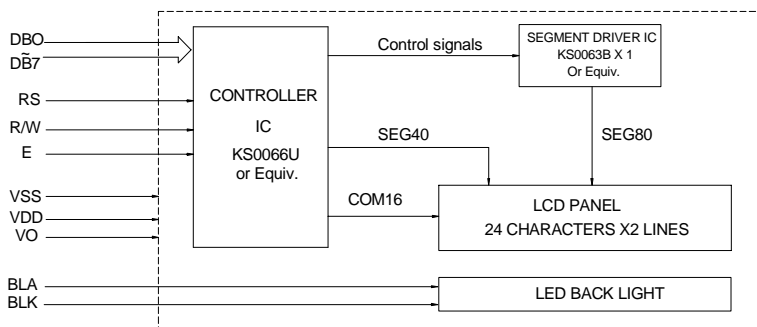
## MC2402-01

### OUTLINE DIMENSION

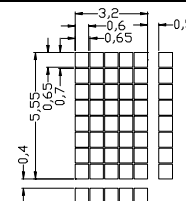


Tolerance: ±0.20mm, unless otherwise specified.

### BLOCK DIAGRAM



### DISPLAY PATTERN



### MECHANICAL SPECIFICATION

| Item         | Dimensions(W)X(H) | Unit |
|--------------|-------------------|------|
| Overall Size | 118.0x36.0        | MM   |
| View Area    | 93.5x15.8         | MM   |
| Character    | 3.20x5.55         | MM   |
| Dot Size     | 0.60x0.65         | MM   |
| Dot Pitch    | 0.65x0.70         | MM   |

### PIN ASSIGNMENT

| Pin no | Symbol  | Function           |
|--------|---------|--------------------|
| 1      | VSS     | Power Supply(GND)  |
| 2      | VDD     | Power Supply(+)    |
| 3      | VO      | Contrast Adjust    |
| 4      | RS      | Command data input |
| 5      | R/W     | Data read / write  |
| 6      | E       | Enable signal      |
| 7-14   | DB0~DB7 | Data bus line      |
| 15     | BLA     | Back light anode   |
| 16     | BLK     | Back light cathode |

### ABSOLUTE MAXIMUM RATING

| Item                       | Symbol | Condition | Min  | Max     | Unit |
|----------------------------|--------|-----------|------|---------|------|
| Supply for logic voltage   | VDD    | 25°C      | -0.3 | 7.0     | V    |
| LCD driving supply voltage | VDD-Vo | 25°C      | -0.3 | VDD+0.3 | V    |
| Input voltage              | VI     | 25°C      | -0.3 | VDD+0.3 | V    |

### ELECTRICAL CHARACTERISTICS

| Item                          | Symbol          | Condition | Min   | Typical | Max | Unit |
|-------------------------------|-----------------|-----------|-------|---------|-----|------|
| Supply voltage for logic      | VDD             | ---       | 4.5   | 5.0     | 5.5 | V    |
| Supply current for logic      | I <sub>DD</sub> | ---       | ---   | 1.38    | 4   | mA   |
| Operation voltage for LCD     | VDD-Vo          | 0°C       | 4.7   | 5.0     | 5.3 | V    |
|                               |                 | 25°C      | 4.5   | 4.8     | 5.1 | V    |
|                               |                 | 50°C      | 4.4   | 4.7     | 5.0 | V    |
| Input voltage "H" level       | V <sub>IH</sub> | ---       | V-2.2 | ---     | VDD | V    |
| Input voltage "L" level       | V <sub>IL</sub> | ---       | 0     | ---     | 0.8 | V    |
| Supply voltage for back light | VF              | ---       | ---   | 4.2     | 4.6 | V    |
| Supply current for back light | IF              | VF=4.2V   | ---   | 150     | 300 | mA   |

### REMARKS:

- LCD options: STN, TN, FSTN.
- Back light Options: LED\EL Back light feature.