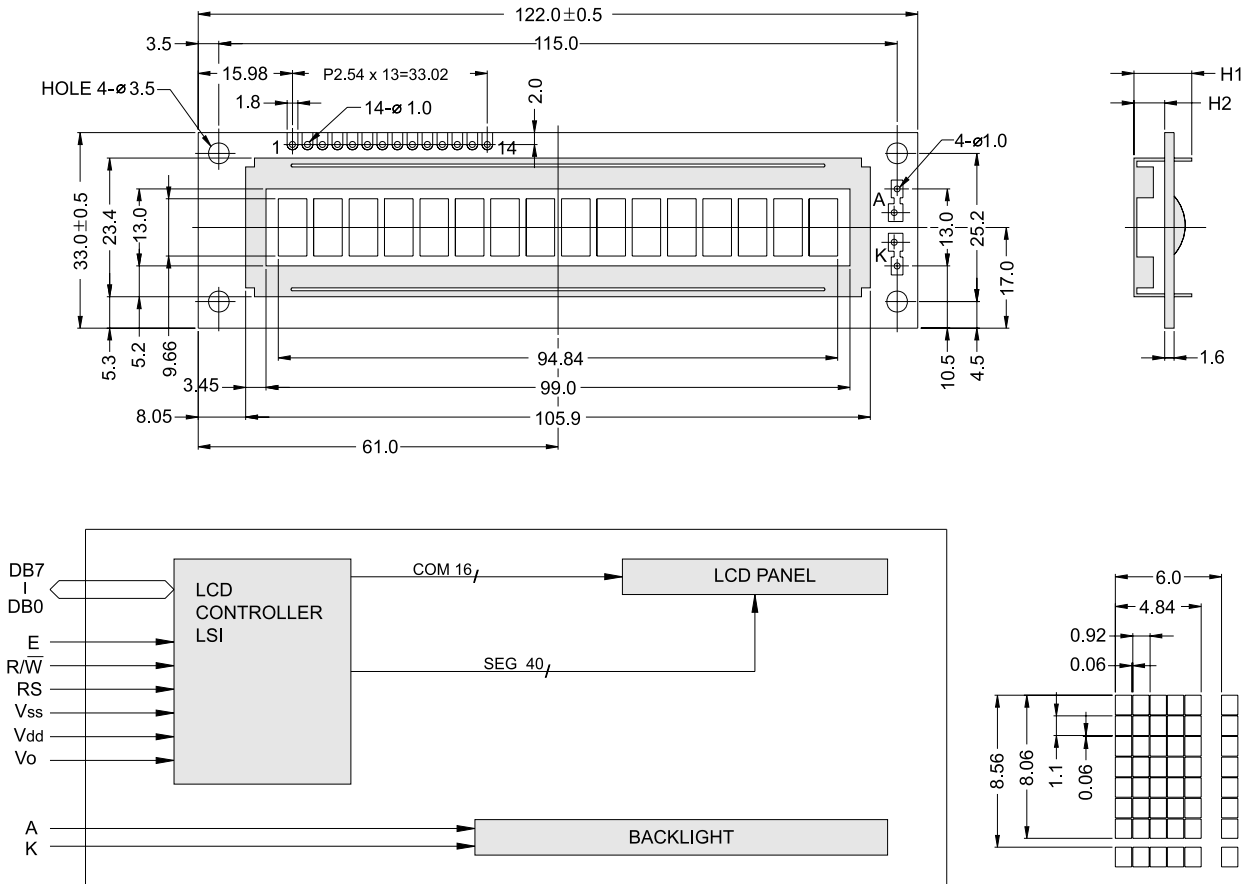


## OUTLINE DIMENSION & BLOCK DIAGRAM



The tolerance unless classified  $\pm 0.3\text{mm}$

| MECHANICAL SPECIFICATION |              |           |            |
|--------------------------|--------------|-----------|------------|
| Overall Size             | 122.0 x 33.0 | Module    | H2 / H1    |
| View Area                | 99.0 x 13.0  | W / O B/L | 5.2 / 9.8  |
| Dot Size                 | 0.92 x 1.10  | EL B/L    | 5.2 / 9.8  |
| Dot Pitch                | 0.98 x 1.16  | LED B/L   | 8.9 / 13.5 |

| PIN ASSIGNMENT |        |                        |
|----------------|--------|------------------------|
| Pin no.        | Symbol | Function               |
| 1              | Vss    | Power supply(GND)      |
| 2              | Vdd    | Power supply(+)        |
| 3              | Vo     | Contrast Adjust        |
| 4              | RS     | Register select signal |
| 5              | R/W    | Data read / write      |
| 6              | E      | Enable signal          |
| 7              | DB0    | Data bus line          |
| 8              | DB1    | Data bus line          |
| 9              | DB2    | Data bus line          |
| 10             | DB3    | Data bus line          |
| 11             | DB4    | Data bus line          |
| 12             | DB5    | Data bus line          |
| 13             | DB6    | Data bus line          |
| 14             | DB7    | Data bus line          |

| ABSOLUTE MAXIMUM RATING          |           |           |      |         |       |       |     |     |   |
|----------------------------------|-----------|-----------|------|---------|-------|-------|-----|-----|---|
| Item                             | Symbol    | Condition | Min. | Max.    | Units |       |     |     |   |
| Supply for logic voltage         | Vdd-Vss   | 25°C      | -0.3 | 7       | V     |       |     |     |   |
| LCD driving supply voltage       | Vdd-Vee   | 25°C      | -0.3 | 13      | V     |       |     |     |   |
| Input voltage                    | Vin       | 25°C      | -0.3 | Vdd+0.3 | V     |       |     |     |   |
| ELECTRICAL CHARACTERISTICS       |           |           |      |         |       |       |     |     |   |
| Item                             | Symbol    | Condition | Min. | Typical | Max.  | Units |     |     |   |
| Power supply voltage             | Vdd-Vss   | 25°C      | 2.7  | -       | 5.5   | V     |     |     |   |
| LCD operation voltage            | Vop       | Top       | N    | W       | N     | W     | V   |     |   |
|                                  |           | -20°C     | -    | 7.1     | -     | 7.5   | -   | 7.9 | V |
|                                  |           | 0°C       | 4.6  | -       | 4.9   | -     | 5.2 | -   | V |
|                                  |           | 25°C      | 4.2  | 6.1     | 4.4   | 6.4   | 4.8 | 6.7 | V |
|                                  |           | 50°C      | 3.9  | -       | 4.2   | -     | 4.5 | -   | V |
|                                  |           | 70°C      | -    | 5.7     | -     | 6     | -   | 6.3 | V |
| LCM current consumption (No B/L) | Idd       | Vdd=5V    | -    | 1.5     | 2.5   | mA    |     |     |   |
| Backlight current consumption    | LED/edge  | VB/L=4.2V | -    | -       | -     | mA    |     |     |   |
|                                  | LED/array | VB/L=4.2V | -    | 190     | -     | mA    |     |     |   |