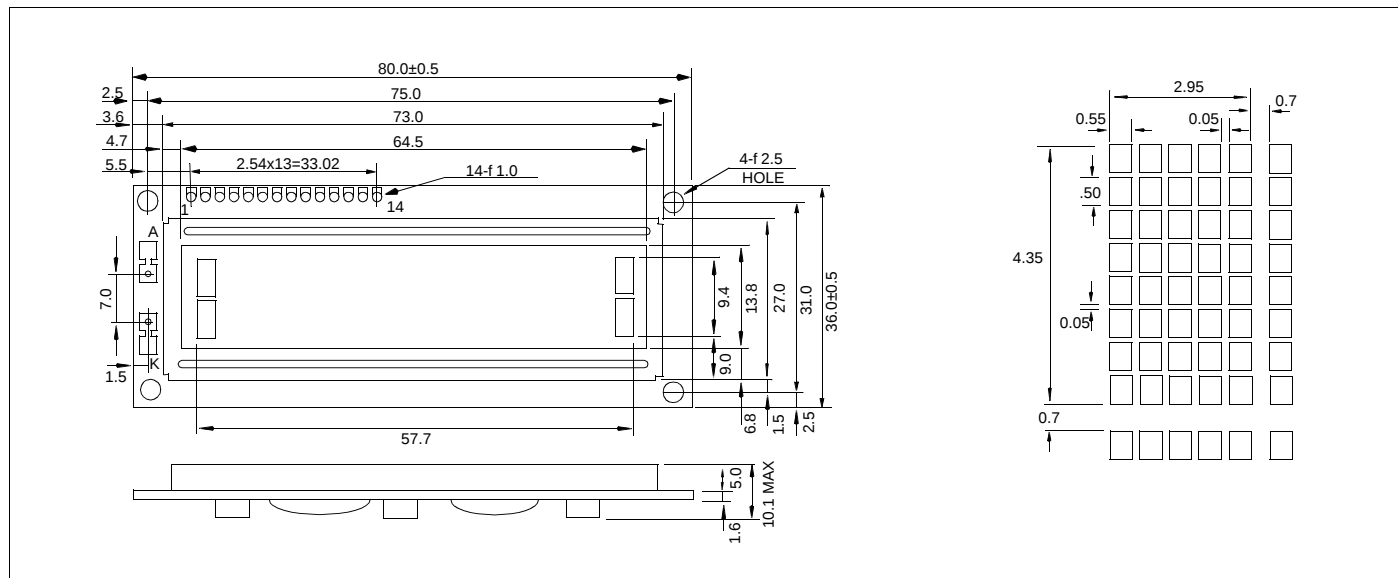


**External Dimensions**
**16 Character x 2 Lines**

**Physical Data**

Modul size.....80.0mm(W) x 36.0(H) x 10(T)  
 Viewing area.....65.6mm(W) x 13.8mm(H)  
 Character size.....2.95mm(W) x 3.80mm(H)  
 Character pitch.....3.65mm(H)  
 Dot size.. .....0.55mm(W) x 0.50mm(H)  
 Weight.....about 25g

**Absolute Maximum Ratings**

| Item                     | Symbol                           | Min.            | Max.            | Unit |
|--------------------------|----------------------------------|-----------------|-----------------|------|
| Supply voltage for Logic | V <sub>DD</sub> -V <sub>SS</sub> | 0               | 7.0             | V    |
| Supply voltage for LCD   | V <sub>DD</sub> -V <sub>L</sub>  | 0               | 13.5            | V    |
| Input voltage            | V <sub>IN</sub>                  | V <sub>SS</sub> | V <sub>DD</sub> | V    |
| Operating temperature    | T <sub>OP</sub>                  | 0               | 50              | °C   |
| Storage temperature      | T <sub>STG</sub>                 | -20             | 70              | °C   |

**PIN Connection**

| PIN No. | Symbol | Level   | Function                                   |
|---------|--------|---------|--------------------------------------------|
| 1       | VSS    | -       | 0V                                         |
| 2       | VDD    | -       | 5V                                         |
| 3       | VL     | -       | -                                          |
| 4       | RS     | H/L     | H: Data input<br>L: Instruction data input |
| 5       | R/W    | H/L     | H: Data read<br>L: Data write              |
| 6       | E      | H.H - L | Enable signal                              |
| 7       | D0     | H/L     | Data bus line                              |
| 8       | D1     | H/L     |                                            |
| 9       | D2     | H/L     |                                            |
| 10      | D3     | H/L     |                                            |
| 11      | D4     | H/L     |                                            |
| 12      | D5     | H/L     |                                            |
| 13      | D6     | H/L     |                                            |
| 14      | D7     | H/L     |                                            |
| 15      | N/A    | -       |                                            |
| 16      | N/A    | -       |                                            |

N/A = not available

**Electrical Characteristics** (V<sub>DD</sub>=5.0V+/-0.25% at 25°C)

| Item                 | Symb.                           | Condition              | Min. | Typ. | Max. | Unit |
|----------------------|---------------------------------|------------------------|------|------|------|------|
| Input high voltage   | V <sub>IH</sub>                 | -                      | 2.2  | -    | -    | V    |
| Input low voltage    | V <sub>IL</sub>                 | -                      | -    | -    | 0.6  | V    |
| Output high voltage  | V <sub>OH</sub>                 | I <sub>OH</sub> =0.2mA | 2.4  | -    | -    | V    |
| Output low voltage   | V <sub>OL</sub>                 | I <sub>OL</sub> =1.2mA | -    | -    | 0.4  | V    |
| Power supply current | I <sub>DD</sub>                 | V <sub>DD</sub> =5.0V  | -    | 1.0  | 2.2  | mA   |
| Power supply for LCD | V <sub>DD</sub> -V <sub>L</sub> | T <sub>A</sub> =25°C   | 4.3  | -    | 4.7  | V    |
| Driving method       | 1/16 duty                       |                        |      |      |      |      |

**Block Diagram**
