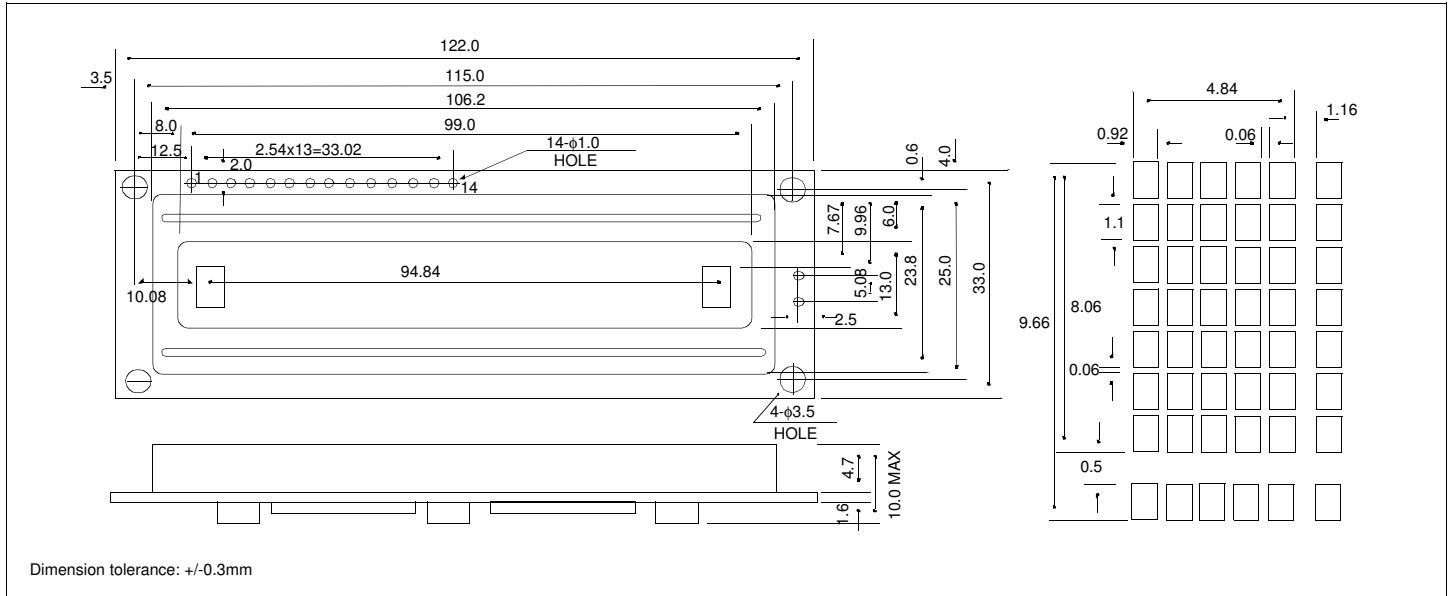


# HDM16116H-7

## Dimensional Drawing

16 Character x 1 Line Large Character



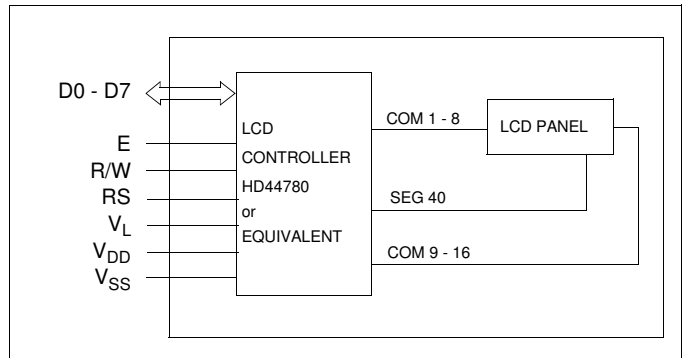
### Features

Character Format .....5x7 Dots Large Character with Cursor  
 Backlight.....EL Optional  
 Options.....Gray STN/Yellow STN, 12 o'Clock/6 o'Clock View  
 Normal/Extended Temperature  
 Normal/Negative Displays

### Physical Data

Module Size.....122.0W x 33.0H x 10.0T mm  
 Viewing Area Size.....99.0W x 13.0H mm  
 Weight.....45g

### Block Diagram



### Absolute Maximum Ratings

| PARAMETER              | SYMBOL          | MIN      | MAX      | UNIT |
|------------------------|-----------------|----------|----------|------|
| SUPPLY VOLTAGE         | $V_{DD}-V_{SS}$ | 0        | 7.0      | V    |
| SUPPLY VOLTAGE FOR LCD | $V_{DD}-V_L$    | 0        | 13.5     | V    |
| INPUT VOLTAGE          | $V_{IN}$        | $V_{SS}$ | $V_{DD}$ | V    |
| OPERATING TEMPERATURE  | $T_{OP}$        | 0        | 50       | °C   |
| STORAGE TEMPERATURE    | $T_{STG}$       | -20      | 70       | °C   |

### Electrical Characteristics (VDD=5.0±0.25V 25°C)

| PARAMETER            | SYM          | CONDITION      | MIN | TYP | MAX | UNIT |
|----------------------|--------------|----------------|-----|-----|-----|------|
| INPUT HIGH VOLTAGE   | $V_{IH}$     | -              | 2.2 | -   | -   | V    |
| INPUT LOW VOLTAGE    | $V_{IL}$     | -              | -   | -   | .6  | V    |
| OUTPUT HIGH VOLTAGE  | $V_{OH}$     | $I_{OH}=0.2mA$ | 2.4 | -   | -   | V    |
| OUTPUT LOW VOLTAGE   | $V_{OL}$     | $I_{OL}=1.2mA$ | -   | -   | 0.4 | V    |
| POWER SUPPLY CURRENT | $I_{DD}$     | $V_{DD}=5.0V$  | -   | 1.0 | 2.2 | mA   |
| POWER SUPPLY FOR LCD | $V_{DD}-V_L$ | $TA=25°C$      | 4.3 | -   | 4.7 | V    |
| DRIVE METHOD         | 1/16 Duty    |                |     |     |     |      |

### Pin Connections

| PIN NO. | SYMBOL   | LEVEL | FUNCTION                                   |              |
|---------|----------|-------|--|--------------|
| 1       | $V_{SS}$ | -     | 0V   | Power supply |
| 2       | $V_{DD}$ | -     | 5V   |              |
| 3       | $V_L$    | -     | -  |              |
| 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                                   |              |
| 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   |  |              |