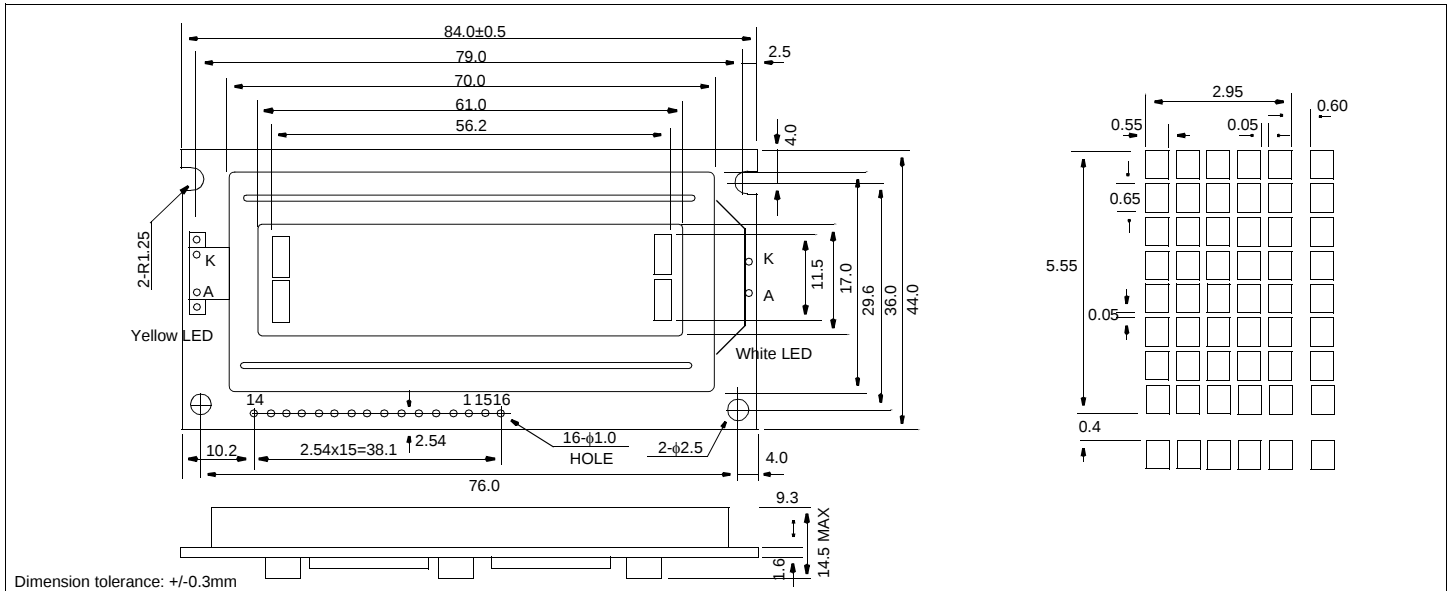


# HDM16216L-B

## Dimensional Drawing

16 Character x 2 Lines, LED Backlight, Connector on Bottom



### Features

Character Format ..... 5x7 Dots with Cursor  
 Backlight.....White or Yellow LED  
 Options.....TN/Gray STN/Yellow STN, FSTN  
 12 o'Clock/6 o'Clock View  
 Normal/Extended Temperature  
 Normal/Negative Displays

### Physical Data

Module Size.....84.0W x 44.0H x 14.5T mm  
 Viewing Area Size.....61.0W x 17.0H mm  
 Weight.....35g

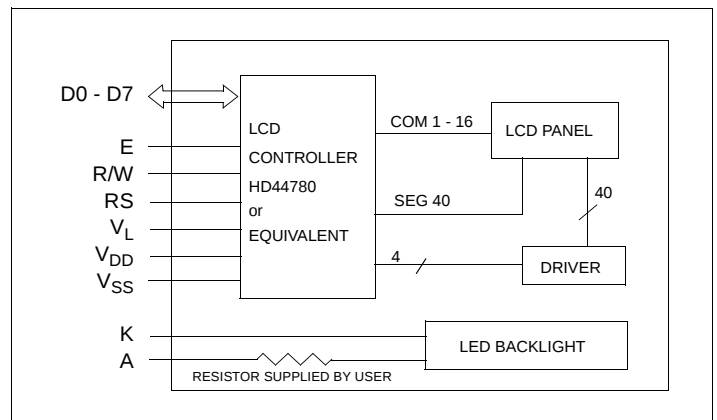
### Absolute Maximum Ratings

| 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    |
| OPERATING TEMPERATURE         | $T_{OP}$        | 0   | 50   | °C   |
| STORAGE TEMPERATURE           | $T_{STG}$       | -20 | 70   | °C   |
| LED FORWARD CURRENT (White)   | $I_F$           |     | 30   | mA   |
| (Yellow)                      |                 |     | 120  |      |
| LED REVERSE VOLTAGE (White)   | $V_R$           | 5   |      | V    |
| (Yellow)                      |                 | 8   |      |      |
| LED POWER CONSUMPTION (White) | $P_D$           |     | 50   | mW   |
| (Yellow)                      |                 |     | 540  |      |

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

| PARAMETER               | SYM                             | CONDITION             | MIN | TYP | MAX | UNIT              |
|-------------------------|---------------------------------|-----------------------|-----|-----|-----|-------------------|
| POWER SUPPLY CURRENT    | I <sub>DD</sub>                 | V <sub>DD</sub> =5.0V | -   | 0.8 | 2.0 | mA                |
| POWER SUPPLY FOR LCD    | V <sub>DD</sub> -V <sub>L</sub> | T <sub>A</sub> =25°C  | 4.2 | 4.7 | 5.2 | V                 |
| LED FORWARD Vtg (White) | V <sub>F</sub>                  | I <sub>F</sub> =20mA  | 3.2 | 3.4 | 3.7 | V                 |
| (Yellow)                |                                 | I <sub>F</sub> =75mA  | 3.9 | 4.1 | 4.5 |                   |
| BRIGHTNESS (White LED)  | L                               | I <sub>F</sub> =20mA  | 86  | 115 | -   | cd/m <sup>2</sup> |
| (Yellow LED)            |                                 | I <sub>F</sub> =75mA  | 30  | 50  | -   |                   |
| DRIVE METHOD            | 1/16 DUTY                       |                       |     |     |     |                   |

### Block Diagram



### Pin Connections

| PIN NO. | SYMBOL   | LEVEL  | FUNCTION                                   |
|---------|----------|--------|--------------------------------------------|
| 1       | $V_{SS}$ | -      | Power supply                               |
| 2       | $V_{DD}$ | -      |                                            |
| 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    |                                            |
| 15      | A        | -      | Anode for LED backlight                    |
| 16      | K        | -      | Cathode for LED backlight                  |