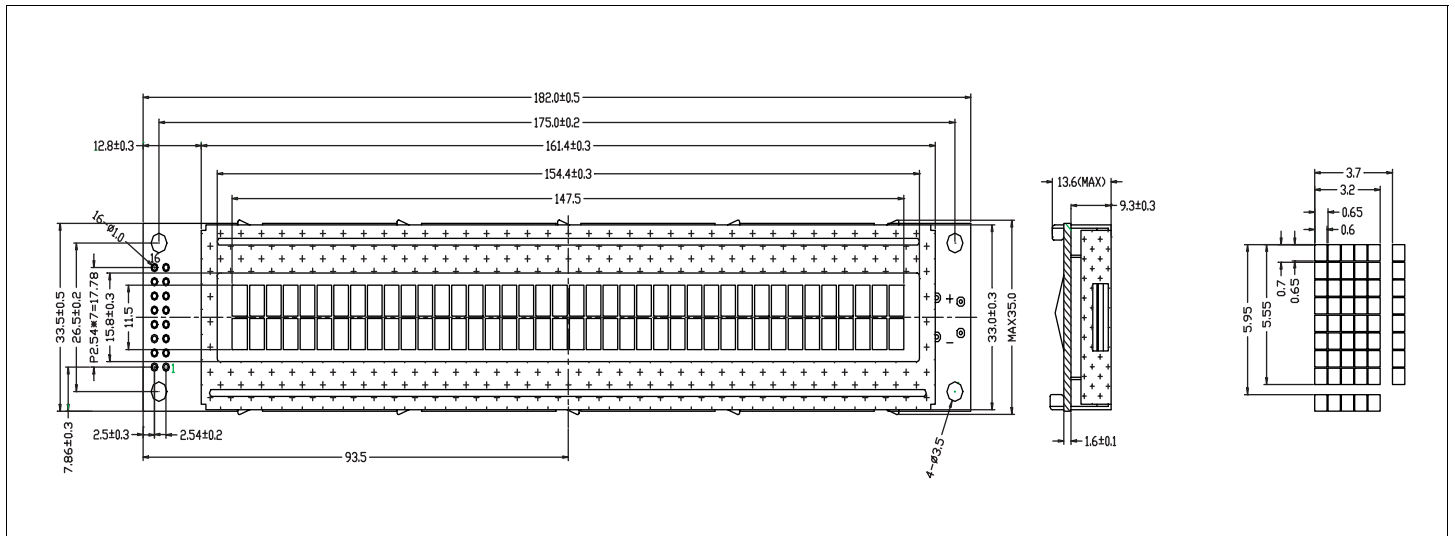


# HDM40216L-1

Dimensional Drawing

40 Character x 2 Lines, LED Backlight



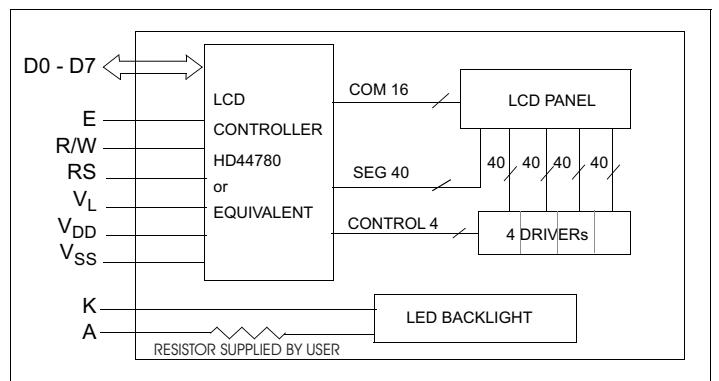
## Features

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 .....182.0W x 33.5H x 13.6T mm  
 Viewing Area Size.....154.4W x 15.8H mm

## 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    |
| OPERATING TEMPERATURE       | $T_{OP}$        | 0   | 50   | °C   |
| STORAGE TEMPERATURE         | $T_{STG}$       | -20 | 70   | °C   |
| LED REVERSE VOLTAGE (White) | $V_R$           | -   | 5    | V    |
| (Yellow)                    |                 | -   | 8    |      |

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

| PARAMETER               | SYM          | CONDITION     | MIN  | TYP  | MAX  | UNIT     |
|-------------------------|--------------|---------------|------|------|------|----------|
| POWER SUPPLY CURRENT    | $I_{DD}$     | $V_{DD}=5.0V$ | -    | 1.21 | 3.0  | mA       |
| POWER SUPPLY FOR LCD    | $V_{DD}-V_L$ | $T_A=25°C$    | 4.2  | 4.7  | 5.2  | V        |
| LED FORWARD Vtg (White) | $V_F$        | $I_F=40mA$    | 4.3  | 4.6  | 4.9  | V        |
| (Yellow/green)          |              | $I_F=260mA$   | 3.85 | 4.05 | 4.25 |          |
| BRIGHTNESS (White LED)  | L            | $I_F=40mA$    | -    | 135  | -    | $cd/m^2$ |
| (Yellow/green LED)      |              | $I_F=260mA$   | 80   | 100  | -    |          |
| LED POWER (White)       | $P_D$        | -             | -    | 200  | mW   |          |
| (Yellow)                |              | -             | -    | 1100 |      |          |
| 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     | 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                  |              |