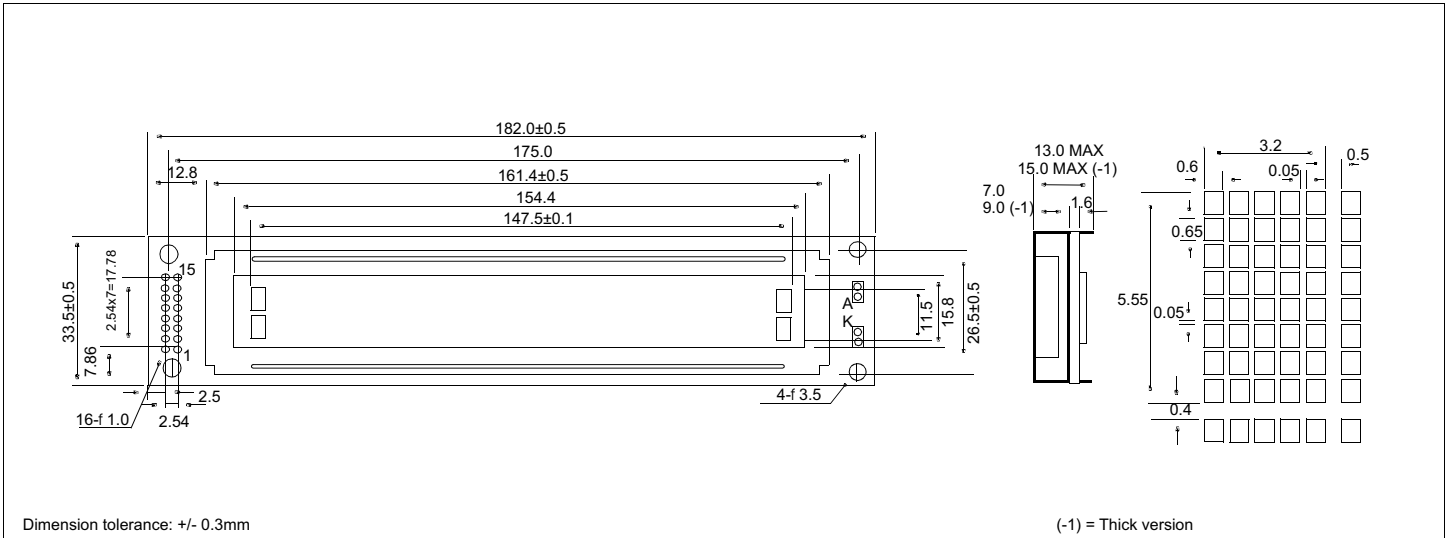


# HDM40216L

## 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 13.0T mm  
 Thick version..... 182.0W x 33.5H x 15.0T mm  
 Viewing Area Size..... 154.4W x 15.8H mm  
 Weight..... 70g

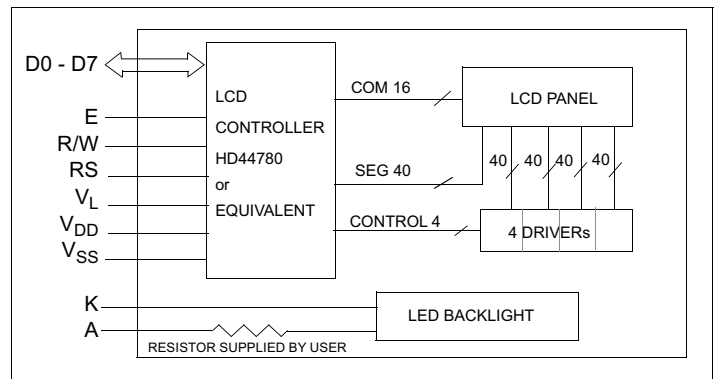
### Absolute Maximum Ratings

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)	$I_F$	-	50	mA
(Yellow)		-	700	
LED REVERSE VOLTAGE (White)	$V_R$	-	5	V
(Yellow)		-	8	
LED POWER CONSUMPTION (White)	$P_D$	-	200	mW
(Yellow)		-	3200	

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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
POWER SUPPLY CURRENT	$I_{DD}$	$V_{DD}=5.0V$	-	1.73	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)	$V_F$	$I_F=40mA$	3.0	3.3	3.6	V
(Yellow)		$I_F=360mA$	4.0	4.2	4.6	
BRIGHTNESS (White LED)	L	$I_F=40mA$	-	135	-	cd/m <sup>2</sup>
(Yellow LED)		$I_F=360mA$	-	90	-	
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 L: Instruction data input
5	R/W	H/L	H: Data read 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