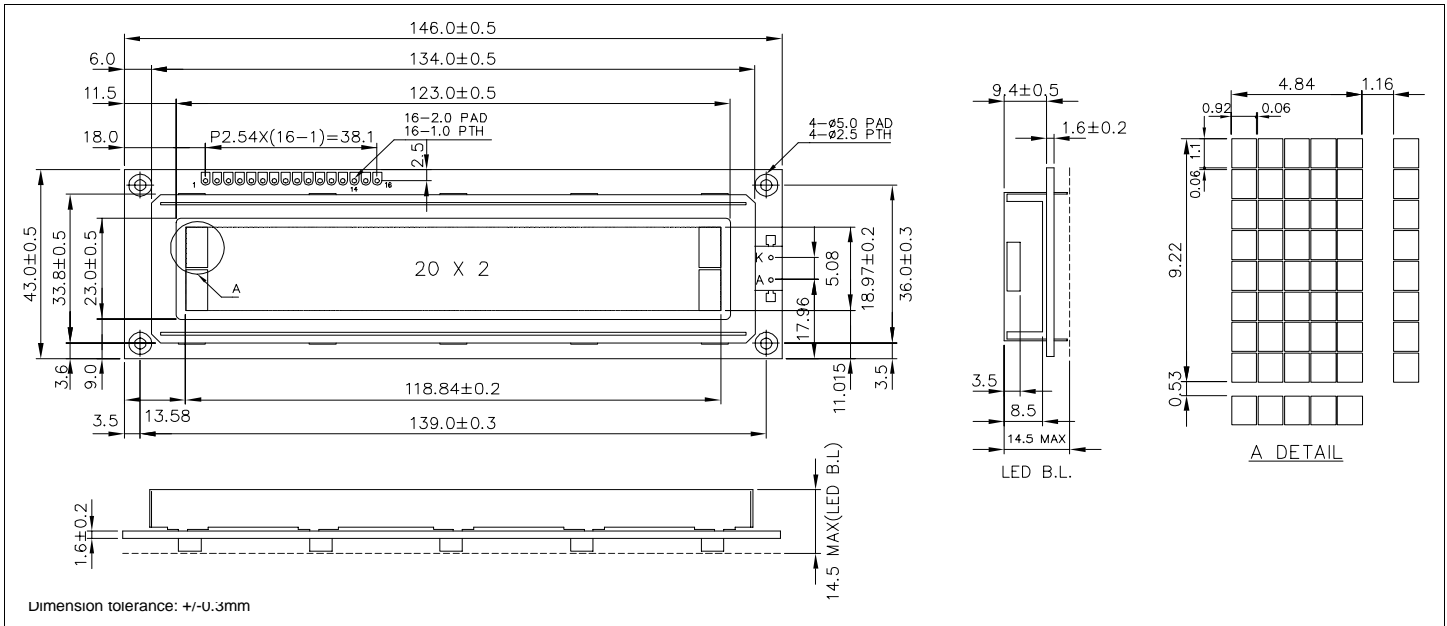


# HDM20216L-L

## Dimensional Drawing

20 Character x 2 Lines, Large Character, LED Backlight



### Features

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

### Physical Data

Module Size.....146.0W x 43.0H x 14.5T mm Viewing Area Size.....123.0W x 23.0H mm Weight.....81g

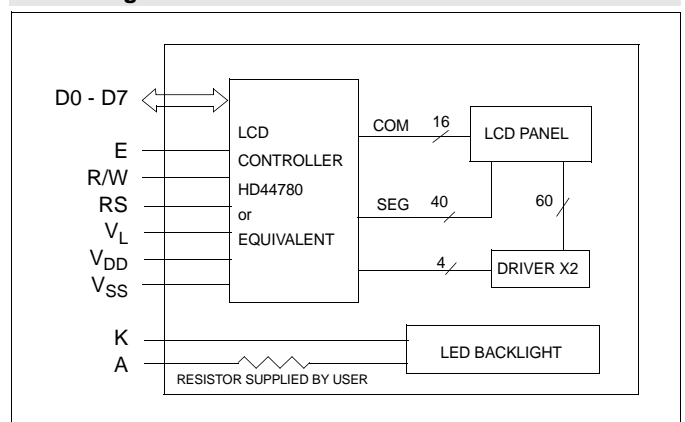
### Absolute Maximum Ratings

PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	$V_{DD}-V_{SS}$	0	6.5	V
SUPPLY VOLTAGE FOR LCD	$V_{DD}-V_L$	0	13.5	V
INPUT VOLTAGE	$V_{IN}$	-0.3	$V_{DD}$	V
OPERATING TEMPERATURE	$T_{OP}$	0	50	°C
STORAGE TEMPERATURE	$T_{SIG}$	-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	$V_{IL}$	-	-	-	0.6	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	$I_{DD}$	$V_{DD}=5.0V$	-	-	2.0	mA
POWER SUPPLY FOR LCD	$V_{DD}-V_L$	$T_A=25°C$	4.3	4.7	5.1	V
LED FORWARD VOLTAGE	$V_F$	$I_F=240mA$	3.9	4.2	4.5	V
LED FORWARD CURRENT	$I_F$	$V_F=5.0V,$ $R_{BL}=3.3\ ohm$	-	240	-	mA
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 connection for LED backlight
16	K		Cathode connection for LED backlight