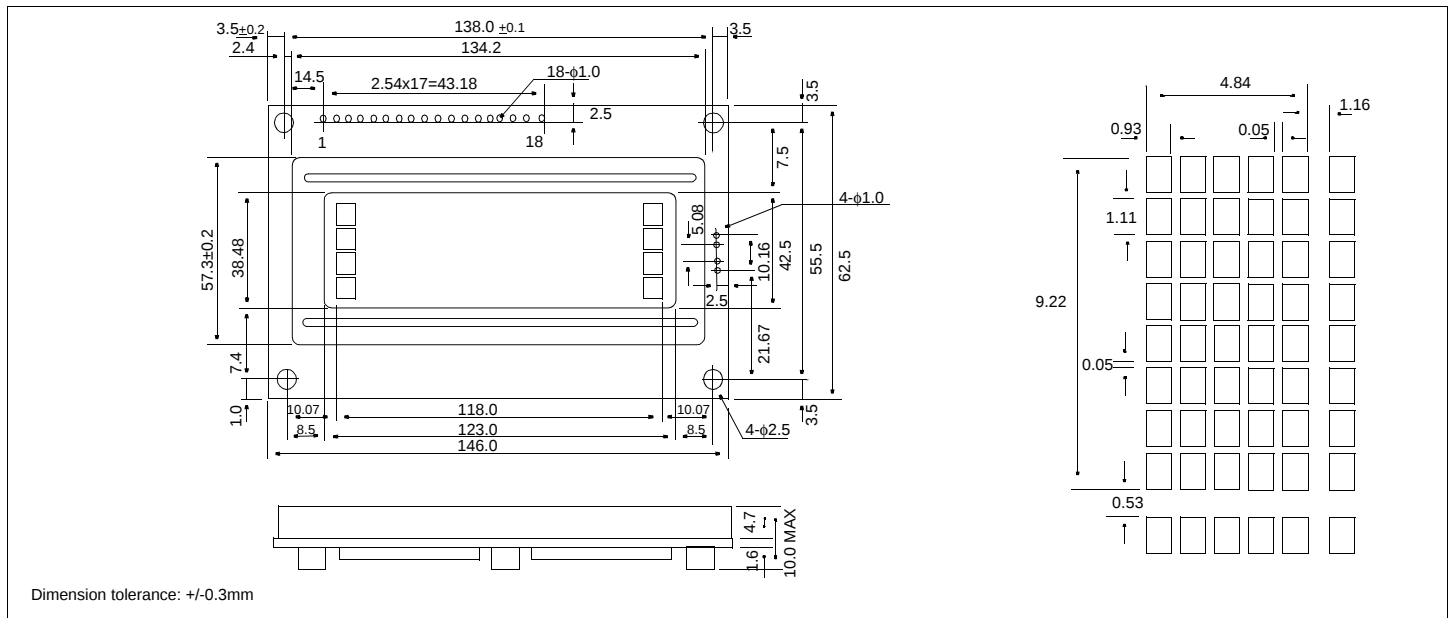


HDM20416H-M

Dimensional Drawing

20 Character x 4 Lines, Large Character



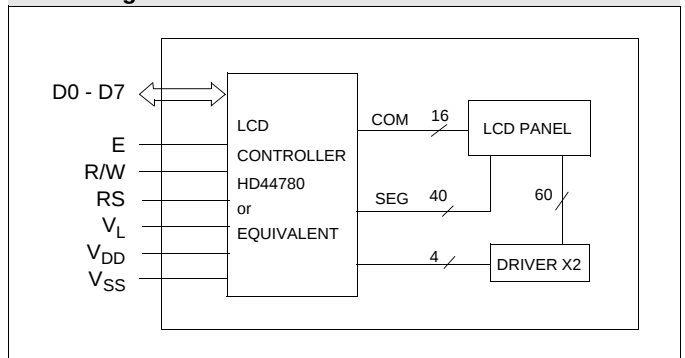
Features

Character Format5x7 Dots with Cursor
Backlight.....EL Optional
Options.....TN/Gray STN/Yellow STN, 12 o'Clock/6 o'Clock View
Normal/Extended Temperature
Normal/Negative Displays
Built-in Negative Voltage Inverter

Physical Data

Module Size.....146.0W x 62.5H x 10.0T mm
Viewing Area Size.....123.0W x 42.5H mm
Weight.....70g

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	$^{\circ}\text{C}$
STORAGE TEMPERATURE	T_{STG}	-20	70	$^{\circ}\text{C}$

Electrical Characteristics ($V_{DD}=5.0\pm 0.25\text{V}$ 25 $^{\circ}\text{C}$)

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}	$I_{OH}=0.2\text{mA}$	2.4	-	-	V
OUTPUT LOW VOLTAGE	V_{OL}	$I_{OL}=1.2\text{mA}$	-	-	0.4	V
POWER SUPPLY CURRENT	I_{DD}	$V_{DD}=5.0\text{V}$	-	1.0	2.2	mA
POWER SUPPLY FOR LCD	$V_{DD}-V_L$	$T_A=25^{\circ}\text{C}$	4.3	-	4.7	V
DRIVE METHOD	1/16 Duty					

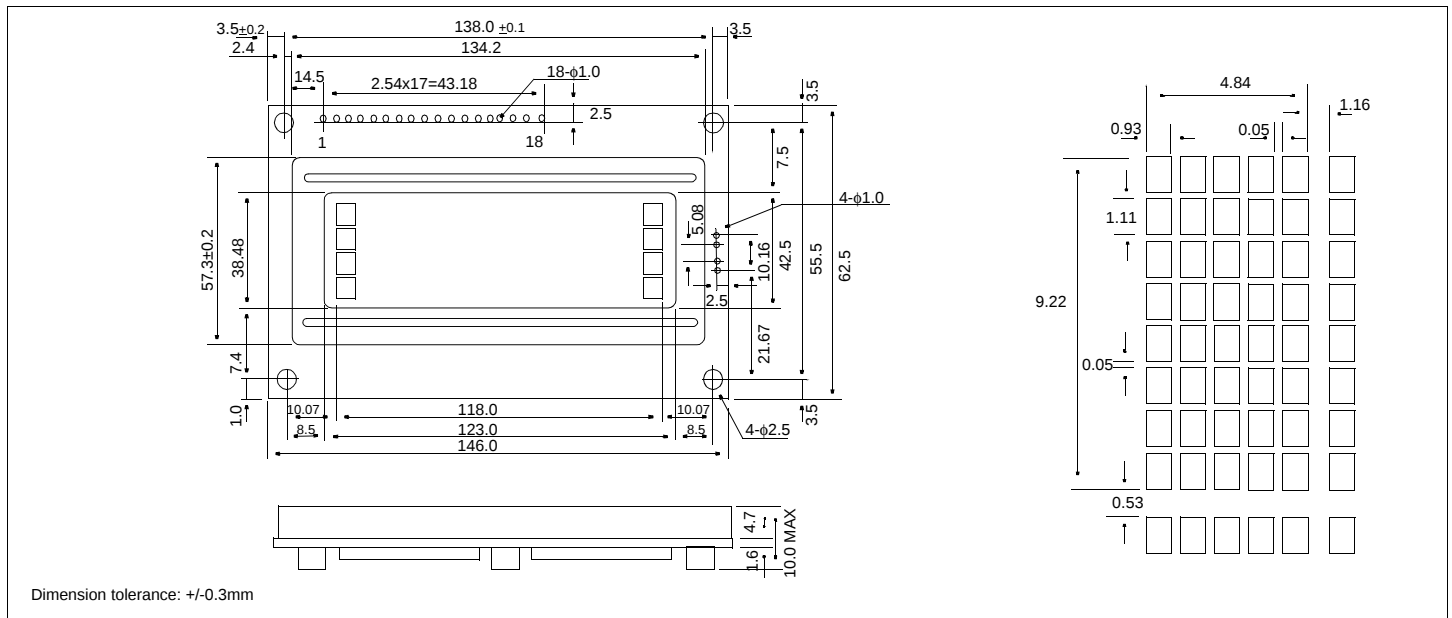
Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V_{SS}	-	0V
2	V_{DD}	-	5V
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 $\rightarrow$ 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	N/C	-	No Connection
16	N/C	-	No Connection
17	N/C or V_{EE}	-	No Connection or Negative Voltage
18	N/C	-	No Connection

HDM20416H-M

Dimensional Drawing

20 Character x 4 Lines, Large Character



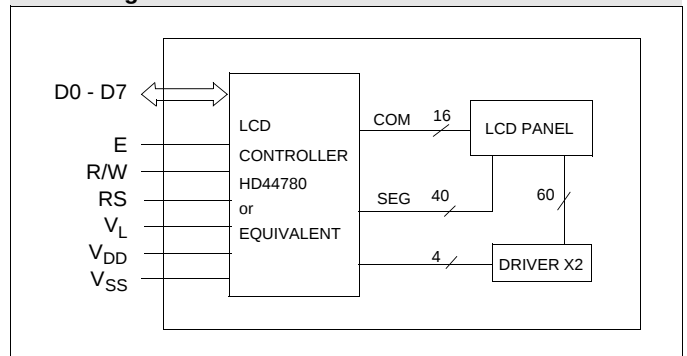
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12	D5	H/L	
13	D6	H/L	
14	D7	H/L	
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16	N/C	-	No Connection
17	N/C or V_{EE}	-	No Connection or Negative Voltage
18	N/C	-	No Connection