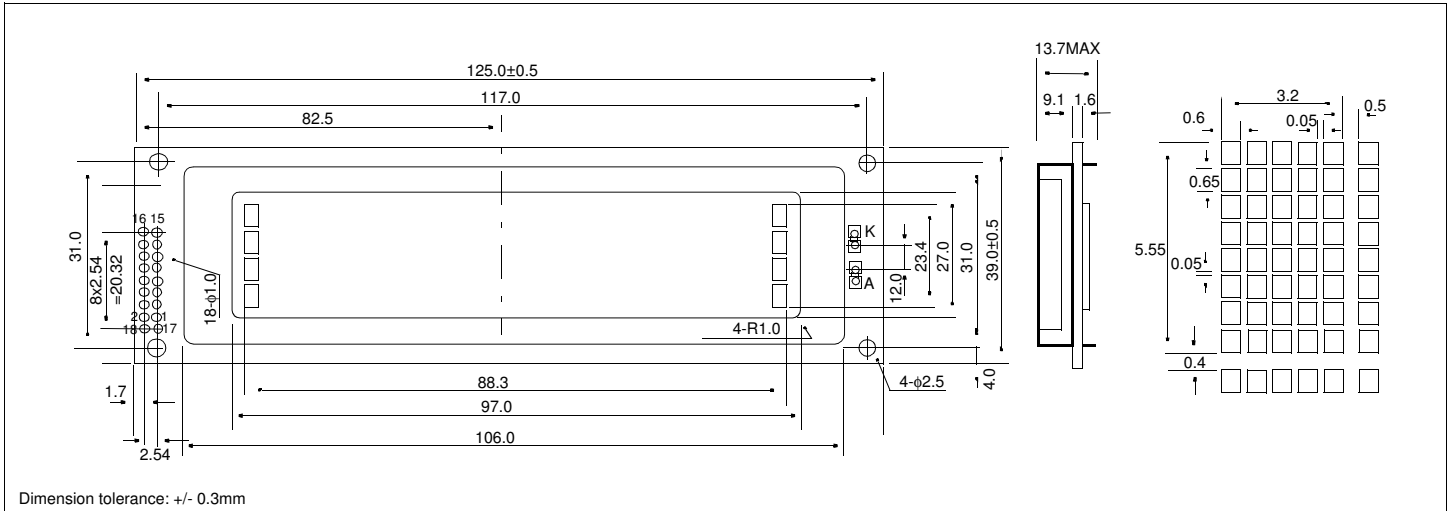


HDM24416L-1

Dimensional Drawing

24 Character x 4 Lines, 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.....125.0W x 39.0H x 13.7T mm
 Viewing Area Size.....97.0W x 27.0H mm
 Weight.....60g

Absolute Maximum Ratings

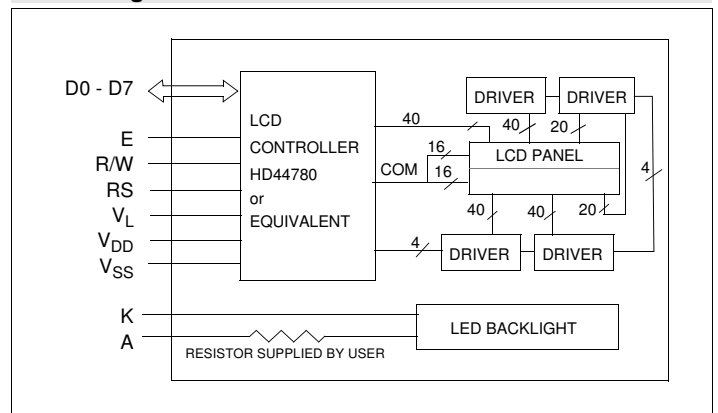
PARAMETER	SYMBOL	MIN	MAX	UNIT
SUPPLY VOLTAGE	V _{DD} -V _{SS}	0	7.0	V
SUPPLY VOLTAGE FOR LCD	V _{DD} -V _L	0	13.5	V
INPUT VOLTAGE	V _{IN}	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{OP}	0	50	°C
STORAGE TEMPERATURE	T _{STG}	-20	70	°C
LED FORWARD CURRENT	I _F	-	500	mA
LED REVERSE VOLTAGE	V _R	-	8	V
LED POWER CONSUMPTION	P _D	-	2000	mW

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	-	1.5	2.5	mA
POWER SUPPLY FOR LCD	V _{DD} -V _L	T _A = 25°C	6.3	6.7	7.0	V
LED FORWARD VOLTAGE	V _F	I _F = 360mA	3.9	4.2	4.5	V
BRIGHTNESS	L	I _F = 360mA	30	50	-	NIT
DRIVE METHOD	1/32 Duty					

Has built-in inverter for negative power supply

Block Diagram



Pin Connections

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	VSS	-	0V
2	VDD	-	5V
3	VL	-	-
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	N/C	-	No connection
16	N/C	-	No connection
17	V _{OUT}	#	Contrast adj. voltage output
18	N/C	-	No connection