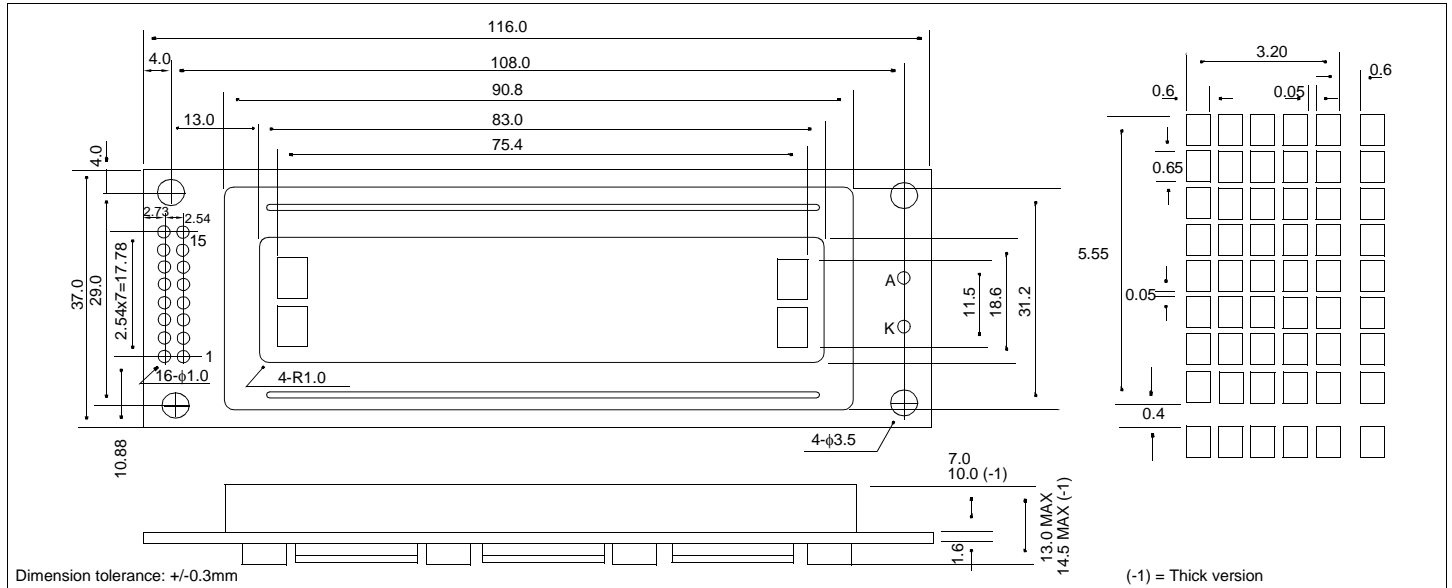


HDM20216L, HDM20216L-1

Dimensional Drawing

20 Character x 2 Lines, LED Backlight



Features

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

Physical Data

Module Size116.0W x 37.0H x 13.0T mm
 Thick Version.....116.0W x 37.0H x 14.5T mm
 Viewing Area Size.....83.0W x 18.6H mm
 Weight.....45g

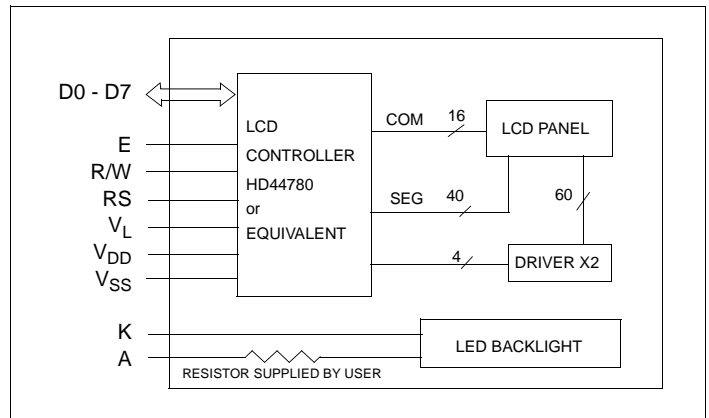
Absolute Maximum Ratings

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_{OP}	-20	70	°C
LED FORWARD CURRENT (White)	I_F	-	25	mA
(Yellow)		-	300	
LED REVERSE VOLTAGE (White)	V_R	-	5	V
(Yellow)		-	8	
LED POWER CONSUMPTION (White)	P_D	-	100	mW
(Yellow)		-	1350	

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

PARAMETER	SYM	CONDITION	MIN	TYP	MAX	UNIT
POWER SUPPLY CURRENT	I_{DD}	$V_{DD}=5.0V$	-	1.2	2.4	mA
POWER SUPPLY FOR LCD	$V_{DD}-V_L$	$T_A=25°C$	4.3	-	4.7	V
LED FORWARD VTG (White)	V_F	$I_F=20mA$		3.6		V
(Yellow)		$I_F=120mA$	3.9	4.1	4.5	V
BRIGHTNESS (White LED)	L	$I_F=20mA$	46	57	-	cd/m2
(Yellow LED)		$I_F=120mA$	15	45	-	
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