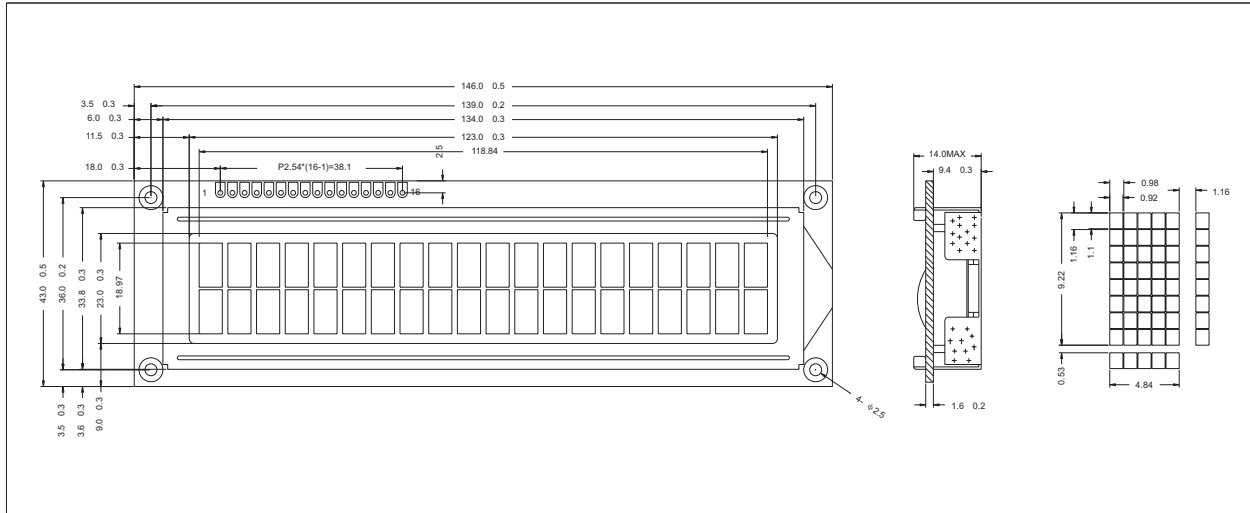


# STANDARD CHARACTER MODULES

## YMC202-16

20CHAR x 2LINE  
1/16DUTY, 1/5BIAS

### 1 EXTERNAL DIMENSION AND DISPLAY PATTERN



### 2 MECHANICAL DATA

ITEM	SPECIFICATION	UNIT
Module Size(W*H*T)	146.0 43.0 14.0	mm
Viewing Area(W*H)	123.0 23.0	mm
Character Font(W*H)	5 7 with Cursor	mm
Character Size (W*H)	4.84 9.22	mm
Dot Size (W*H)	0.92 1.1	mm

### 3 PIN CONNECTIONS

PIN	SYMBOL	SIGNAL DESCRIPTION
1	V <sub>SS</sub>	GND (0V)
2	V <sub>DD</sub>	Power Supply (5V)
3	V <sub>EE</sub>	Supply Voltage LCD Driver
4	RS	Register Select-LOW=Instruction, HIGH=Data
5	R/W	Read/Write LOW=MPU to LCM,HIGH=LCM to MPU
6	E	Eable R/w=LOW:Data are talking over at falling edge R/w=HIGH:Data can be read at E=1
7 to 14	DB <sub>7</sub> to DB <sub>7</sub>	Data Bus-Software Selectable 4 or 8bit Mode

### 4 ABSOLUTE MAXIMUM RATINGS

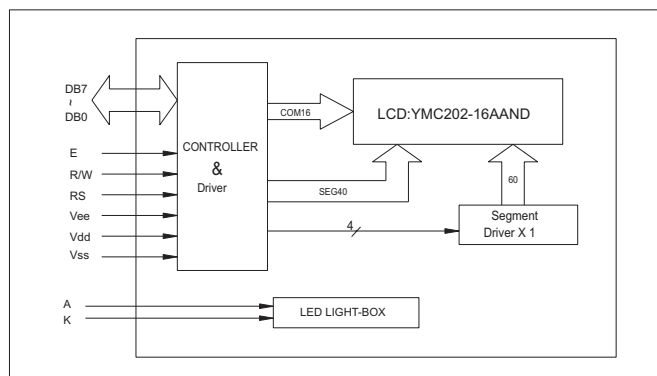
PARAMETER	SYMBOL	MIN	MAX	UNIT
Supply Voltage Logic	V <sub>DD</sub> -V <sub>SS</sub>	-0.3	7.0	V
Supply Voltage Driver	V <sub>DD</sub> -V <sub>EE</sub>	-0.3	13.5	V
Intut Voltage	V <sub>IN</sub>	-0.3	V <sub>DD</sub> +0.3	V

Operating Temp	See page 9
Storage Temp	

### 5 ELECTRICAL CHARACTERISTICS(Ta=25 °C )

ITEM	SYMBOL	CONDITION	SPEC.VALUE			UNIT	
			MIN.	TYP.	MAX.		
Supply Voltage (Logic)	V <sub>DD</sub> -V <sub>SS</sub>		4.5	5.0	-	V	
Supply Current (Logic)	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	0.8	4.5	Ma	
Input Voltage	HIGH	V <sub>HI</sub>	-	2.2	-	0.3	V
	LOW	V <sub>LI</sub>	-	-0.3	-	0.3V <sub>DD</sub>	V
Output Voltage	HIGH	V <sub>OH</sub>	I <sub>OH</sub> =1.2mA	2.4	-	-	V
	LOW	V <sub>OL</sub>	I <sub>OL</sub> =1.2mA	-	-	0.4	V
LCD Operating Voltage	V <sub>DD</sub> -V <sub>EE</sub>	V <sub>DD</sub> =5V Ta=25 °C		4.2	4.7		
Supply Voltage LCD Drive	I <sub>EE</sub>			1.0	1.5		

### 6 BLOCK DIAGRAM



### 7 BACKLIGHTING CHARACTERISTICS(Ta=25 °C )

LED

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V <sub>LED</sub>		3.0	3.2	3.5	V
Power Consumption	P <sub>LED</sub>				140	mW