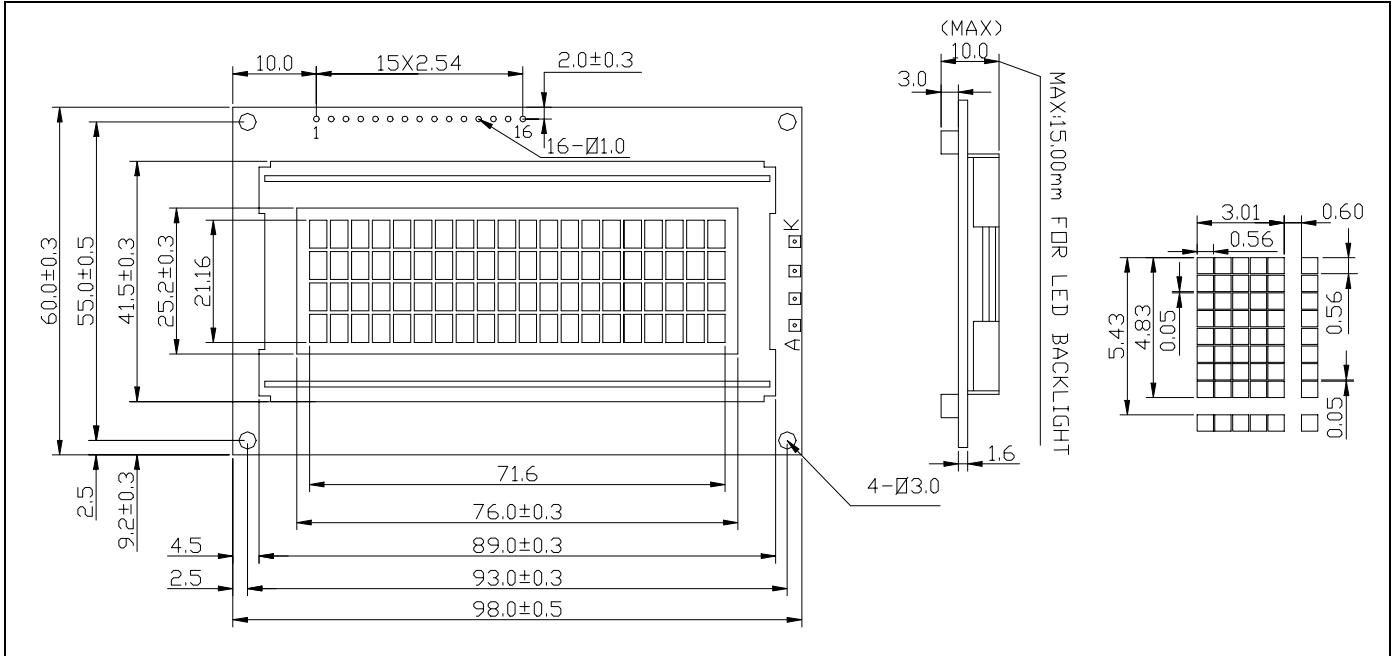




# JM204A

20 CHAR×4LINE  
1/16 DUTY,1/5 BIAS

## 1 EXTERNAL DIMENSION



## 2 MECHANICAL DATA

ITEM	SPECIFICATION	UNIT
Module Size (W×H×T)	98.0×60.0×10.0(LED:15.0)	mm
Viewing Area (W×H)	76.0×25.2	mm
Character Font(W×H)	5×7+cursor	dots
Character Size (W×H)	3.01×4.83	mm
Character Pitch(W×H)	3.61×5.43	mm
Dot Size(W×H)	0.56×0.56	mm

## 5 ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	MIN.	MAX.	UNIT
Supply Voltage	V <sub>dd</sub>	-0.3	7	V
LCD Supply Voltage	V <sub>5</sub>	V <sub>dd</sub> -15	V <sub>dd</sub> +0.3	V
Input Voltage	V <sub>i</sub>	-0.3	V <sub>dd</sub> +0.3	V
Operating Temperature	T <sub>op</sub>	0/-20/-30	50/70/80	°C
Storage Temperature	T <sub>stg</sub>	-20/-30/-40	70/80/80	°C

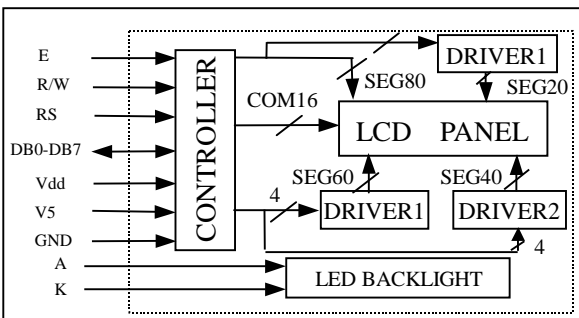
## 3 PIN CONNECTIONS

PIN	SYMBOL	SIGNAL DESCRIPTION
1	GND	Power Supply: 0V
2	V <sub>dd</sub>	Power Supply: +5V
3	V <sub>5</sub>	Power Supply for LCD
4	RS	Register Select(H=DATA,L=Instruction)
5	R/W	Read/Write L=MPU to LCM,H=LCM to MPU
6	E	Enable
7 to 14	DB0 to DB7	Data Bus for 4 bit or 8 bit Mode
15	A	Anode of LED Unit
16	K	Cathode of LED Unit

## 6 ELECTRICAL CHARACTERISTICS(T<sub>a</sub>=25°C)

ITEM	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage(logic)	V <sub>dd</sub> -GND	-	4.5	5.0	5.5	V
Supply Current(logic)	I <sub>dd</sub>	V <sub>dd</sub> =5.0V	-	3.0	-	mA
Driving Current(LCD)	I <sub>ee</sub>		-	0.8	-	mA
Driving Voltage(LCD)	V <sub>dd</sub> -V <sub>5</sub>	V <sub>dd</sub> =5.0V	3.8	4.5	4.9	V
Input Voltage "H"	V <sub>ih</sub>		2.2	-	V <sub>dd</sub>	V
Input Voltage "L"	V <sub>il</sub>	-0.3	-	0.6	V	
Output Voltage "H"	V <sub>oh</sub>	I <sub>oh</sub> =-0.205mA	2.4	-	-	V
Output Voltage "L"	V <sub>ol</sub>	I <sub>ol</sub> =1.2mA	-	-	0.4	V

## 4 BLOCK DIAGRAM



## 7 BOTTOM BACKLIGHT CHARACTERS(T<sub>a</sub>=25°C)

PARAMETER	SYMBOL	CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V <sub>LED</sub>	I <sub>f</sub> =200mA	-	4.1	-	V
LED Forward Consumption Current	I <sub>f</sub>	T <sub>a</sub> =25°C V <sub>f</sub> =4.1V	-	200	-	mA
LED Allowable Dissipation	P <sub>d</sub>	-	-	850	-	mW

Note: Ic use S6A0700(KS0070B).