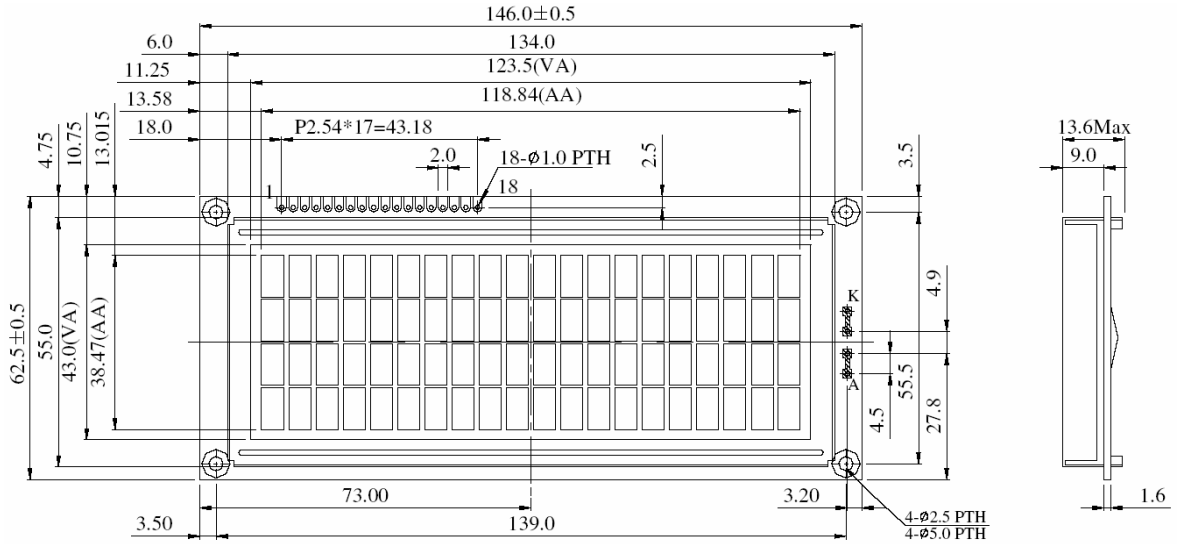
MSH2004L

GMS. DISPLAY SYSTEMS



Feature

1. 5x8 dots includes cursor
2. Built-in controller (KS0066 or Equivalent)
3. +5V power supply (also available for +3V)
4. 1/16 duty cycle
5. LED can be driven by Pin1, 2, 15 & 16 or A and K
6. N.V. optional for +3V power supply

Pin	Symbol	Function
1	Vss	GND
2	Vdd	+3V or +5V
3	Vo	Contrast Adjustment
4	RS	H/L Register select signal
5	R/**W**	H/L Read / write signal
6	E	H-->L Enable signal
7	DB0	H/L Data Bus Line
8	DB1	H/L Data Bus Line
9	DB2	H/L Data Bus Line
10	DB3	H/L Data Bus Line
11	DB4	H/L Data Bus Line
12	DB5	H/L Data Bus Line
13	DB6	H/L Data Bus Line
14	DB7	H/L Data Bus Line
15	A	Power supply for LED 4.2V
16	K	Power supply for B/L (0V)
17	NC / Vee	NC or Negative Voltage output
18	NC	No connection

Display Character Address Code

Display position	1	2	3	4	5	~	17	18	19	20
DD RAM Address	00	01								13
DD RAM Address	40	41								53
DD RAM Address	14	15								27
DD RAM Address	54	55								67

Mechanical Data

Item	Standard Value	Unit
Module Dimension	146.0 x 62.5	mm
Viewing Area	123.5 x 43.0	mm
Mounting Hole	139.0 x 55.5	mm
Character Size	4.84 x 9.22	mm

Absolute Maximum Rating

Item	Symbol	Standard Value			Unit
		min	typ	max	
Power Supply	Vdd - Vss	-0.3	---	7.0	V
Input Voltage	Vi	-0.3	---	Vdd	V

Note: Vss= 0 V, Vdd= 5.0 V

Electronical Characteristics

Item	Symbol	Condition	Standard Value			Unit
			min	typ	max	
Input Voltage	Vdd	Vdd=+5V	4.7	5.0	5.3	V
		Vdd=+3V	2.7	3.0	5.3	
Supply Current	Idd	Vdd=5V	---	8.0	10.0	mA
Recommended LC Driving Voltage for normal Temperature Version module	Vdd-Vo	-20℃	5.0	5.1	5.7	V
		0℃	4.6	4.8	5.2	
		25℃	4.1	4.5	4.7	
		50℃	3.9	4.2	4.5	
		70℃	3.7	3.9	4.3	
Y/G LED Forward Voltage	Vf	25℃	---	4.2	---	V
Y/G LED Forward Current	If	25℃	---	540	---	mA
White LED Forward Voltage	Vf	25℃	---	3.5	---	V
White LED Forward Current	If	25℃	---	80	---	mA