



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
7. FFC and FFC connector is for MSH2004B only

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 / Vee	+4.2V for LED (RA=0R) / Negative voltage output
16	K	Power supply for B/L (0V)

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	98.0 x 60.0	mm
Viewing Area	77.0 x 25.2	mm
Mounting Hole	93.0 x 55.0	mm
Character Size	2.95 x 4.75	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	---	1.0	1.2	mA
Recommended LC Driving Voltage for normal Temperature Version module	Vdd-Vo	-20°C	5.0	5.1	5.7	V
		0°C	4.6	4.8	5.2	
		25°C	4.1	4.5	4.7	
		50°C	3.9	4.2	4.5	
		70°C	3.7	3.9	4.3	
Y/G LED Forward Voltage	Vf	25°C	---	4.2	---	V
Y/G LED Forward Current	If	25°C	---	280	---	mA
White LED Forward Voltage	Vf	25°C	---	3.5	---	V
White LED Forward Current	If	25°C	---	60	---	mA

See Specification for detailed Backlight information!!!

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