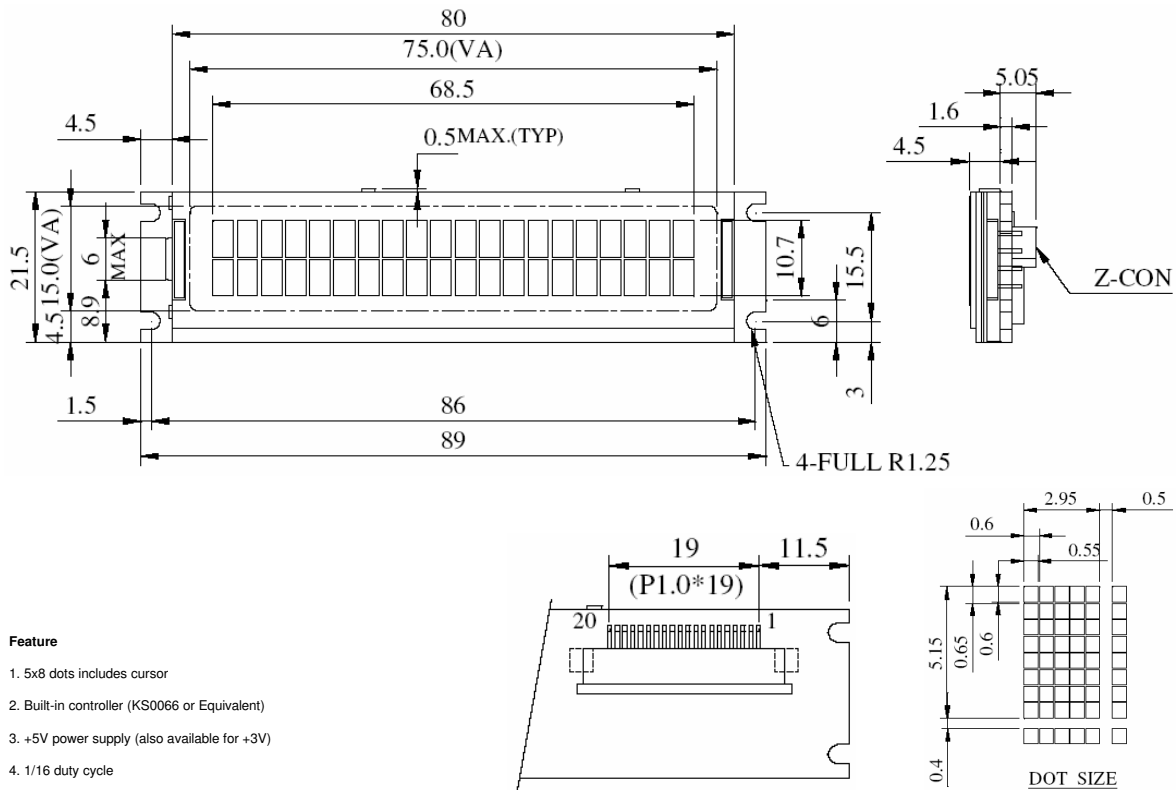


# MSH2002D



### 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 Pin 17 & Pin 18
6. N.V. optional for +3V power supply

Pin	Symbol	Function
1	NC	No connection
2	NC	No connection
3	Vss	GND
4	Vdd	+3V or +5V
5	Vo	Contrast Adjustment
6	RS	H/L Register select signal
7	R/W	Data Read / Write
8	E	H->L Enable signal
9	DB0	Data Bit 0
10	DB1	Data Bit 1
11	DB2	Data Bit 2
12	DB3	Data Bit 3
13	DB4	Data Bit 4
14	DB5	Data Bit 5
15	DB6	Data Bit 6
16	DB7	Data Bit 7
17	VLED+	Power supply for LED+
18	VLED-	Power supply for LED-
19	Vee	Negative voltage output
20	NC	No connection

### Display Character Address Code

Display position 1 2 3 4 5 ~ 16 17 18 19 20

DD RAM Address	00	01					0F					13
DD RAM Address	40	41					4F					53

### Mechanical Data

Item	Standard Value	Unit
Module Dimension	89.0 x 21.5	mm
Viewing Area	75.0 x 15.0	mm
Mounting Hole	86.0 x 15.5	mm
Character Size	2.95 x 5.15	mm

### Absolute Maximum Rating

Item	Symbol	Standard Value			Unit
		min	typ	max	
Power Supply	Vdd - Vss	-0.3	---	6.7	V
Input Voltage	Vi	-0.3	---	Vdd	V

Note: Vss= 0 V, Vdd= 5.0 V

### Electrical Characteristics

Item	Symbol	Condition	Standard Value			Unit
			min	typ	max	
Input Voltage	Vdd	Vdd=+5V	4.75	---	5.25	V
Supply Current	Idd	Vdd=5V	---	1.2	---	mA
Recommended LC Driving Voltage for normal Temperature Version module	Vdd-Vo	-20°C	---	---	5.2	V
		0°C	---	---	4.5	
		25°C	---	4.5	---	
		50°C	3.8	---	---	
		70°C	3.5	---	---	
Y/G LED Forward Voltage	Vf	25°C	---	4.2	---	V
Y/G LED Forward Current	If	25°C	---	40	---	mA
White LED Forward Voltage	Vf	25°C	---	3.5	---	V
White LED Forward Current	If	25°C	---	40	---	mA

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