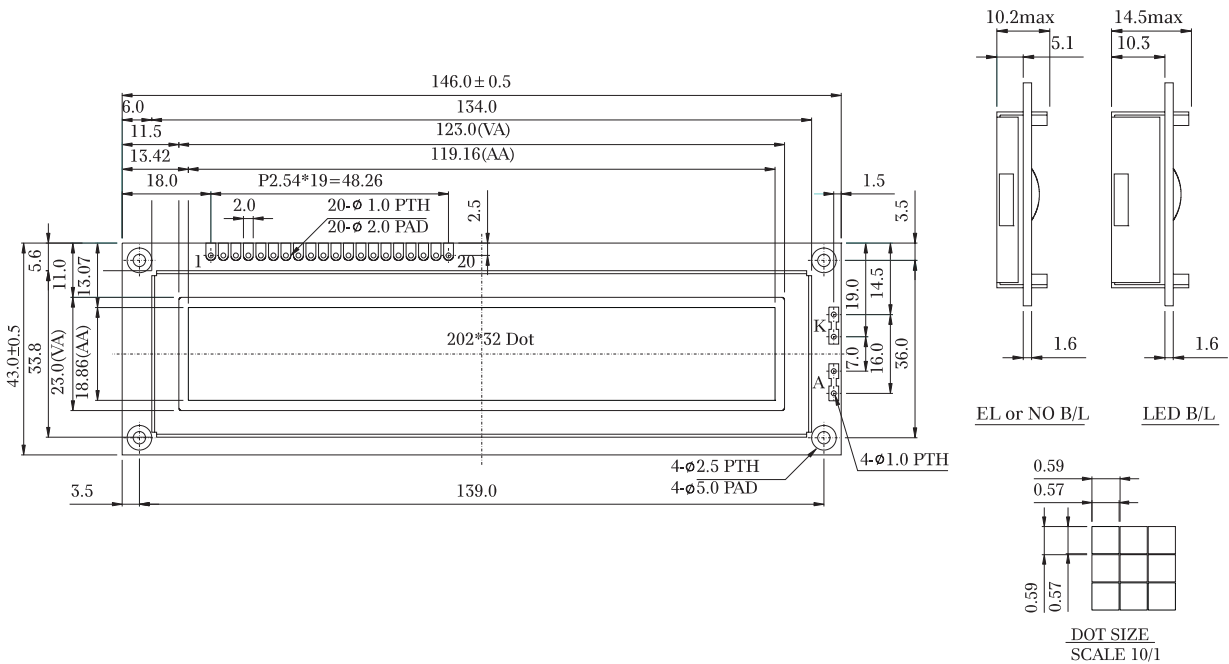




Graphic 202x32 dots **WG20232A**

**Dimension drawing**



Graphic type

**Feature**

1. Built-in oscilation.
2. Built-in controller Epson- (SED1520 or Equivalent)
3. 1/32 duty cycle
4. 2.85 ~ 5V power supply

Pin NO.	Symbol	Function
1	Vss	GND
2	Vdd	Power Supply(+3V,5V)
3	Vo	Contrast Adjustment
4	A0	H:Do ~ D7 are display data L:Do ~ D7 are display control data
5	R/W	WR for 80 serial R/W for 68 serial
6	Cs1	Enable chip1
7	DB0	Data bus line
8	DB1	Data bus line
9	DB2	Data bus line
10	DB3	Data bus line
11	DB4	Data bus line
12	DB5	Data bus line
13	DB6	Data bus line
14	DB7	Data bus line
15	Vee	Negative Voltage output
16	Reset	Reset signal
17	A	+4.2V for LED RA=0Ω
18	K	Power supply for B/L (0V)
19	CS2	Enable chip2
20	CS3	Enable chip3

**Mechanical Data**

Item	Standard Value	Unit
Module Dimension	146.0x43.0	mm
Viewing Area	123.0x23.0	mm
Dot Size	0.57x0.57	mm
Dot Pitch	0.59x0.59	mm
Mounting hole	139.0x36.0	mm

**Absolute Maximum Rating**

Item	Symbol	Standard Value			Unit
		min.	typ.	max.	
Power Supply	VDD-VSS	-0.3	---	8.0	V
Input Voltage	VI	-0.3	---	VDD	V

Note : VSS=0 Volt, VDD=5.0 Volt.

**Electronical Characteristics**

Item	Symbol	Condition	Standard Value			Unit
			min.	typ.	max.	
Input Voltage	VDD	VDD=3V ± 5V	2.7	3.0	3.3	V
Supply Current	IDD	VDD=3V	---	1.0	---	mA
Recommended LC Driving Voltage for Normal Temp. Version module	VDD-V0	-20°C	5.9	6.2	6.5	V
		0°C	5.7	6.0	6.3	
		25°C	4.6	4.7	4.8	
		50°C	4.3	4.4	4.5	
LED Forward Voltage	VF	70°C	3.3	3.4	3.5	V
		25°C	1.7	---	2.5	
LED Forward Current	IF	25°C	---	---	200	mA
EL Power Supply Current	IEL	Vel=110VAC;400Hz	---	---	5.0	mA

