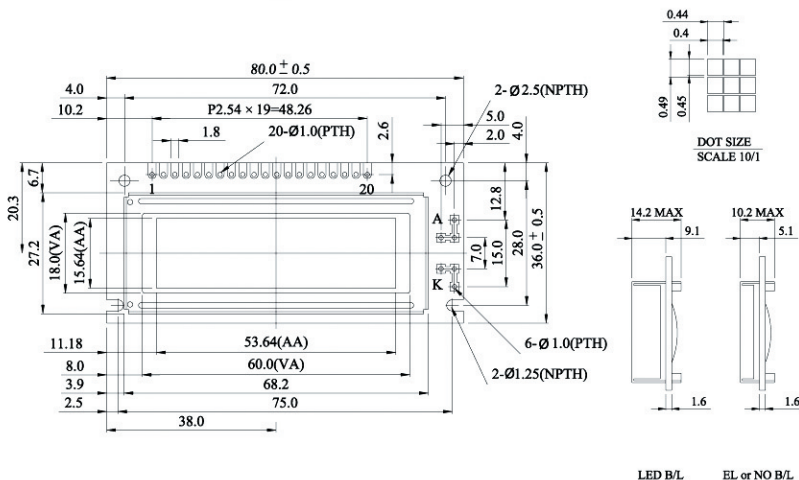## Graphic122x32dots **WG12232E/J**

Dimension drawing

Graphic type

Feature

1. Available forExternal (E type), internal (J type) oscilation 2KHz
2. Epson-SED 1520,or equivalent
3. 1/32 duty cycle
4. N.V. optional for +3V power supply

Pin NO.	Symbol	Function
1	Vss	GND
2	Vdd	Power supply for logic
3	Vo	Contrast Adjustment
4	Ao	H→Data L→Instruction
5	CS1	L→Chip1 Enable
6	CS2	L→Chip2 Enable
7	CL/NV	E type:External clock 2KHz J type:Negative Voltage Dption
8	E/NC	E type:Enable Signal J type:No connection
9	R/W̄	H: read data L: write data
10	DB0	Data bus line
11	DB1	Data bus line
12	DB2	Data bus line
13	DB3	Data bus line
14	DB4	Data bus line
15	DB5	Data bus line
16	DB6	Data bus line
17	DB7	Data bus line
18	RES	H→L Reset the LCM
19	A/Vee	+4.2V for LED/Negative Voltage output
20	K	Power supply for B/L

Mechanical Data

Item	Standard Value	Unit
Module Dimension	80.0x36.0	mm
Viewing Area	60.0x18.0	mm
Mounting hole	75.0x28.0	mm
Dot Pitch	0.44x0.49	mm

Absolute Maximum Rating

Item	Symbol	Standard Value			Unit
		min.	typ.	max.	
Power Supply	VDD-VSS	4.75	5	5.25	V
Input Voltage	VI	0	---	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=+5V	4.5	5.0	5.5	V
Supply Current	IDD	VDD=5V	---	1.0	1.4	mA
Recommended LC Driving Voltage for Normal Temp. Version module	VDD-V0	-20°C	4.9	5.0	5.1	V
		0°C	4.7	4.8	4.9	
		25°C	4.6	4.7	4.8	
		50°C	4.3	4.4	4.7	
		70°C	4.1	4.2	4.5	
LED Forward Voltage	VF	25°C	---	4.2	4.6	V
LED Forward Current	IF	25°C	---	120	240	mA
EL Power Supply Current	IEL	Vel=110VAC;400Hz	---	---	5.0	mA