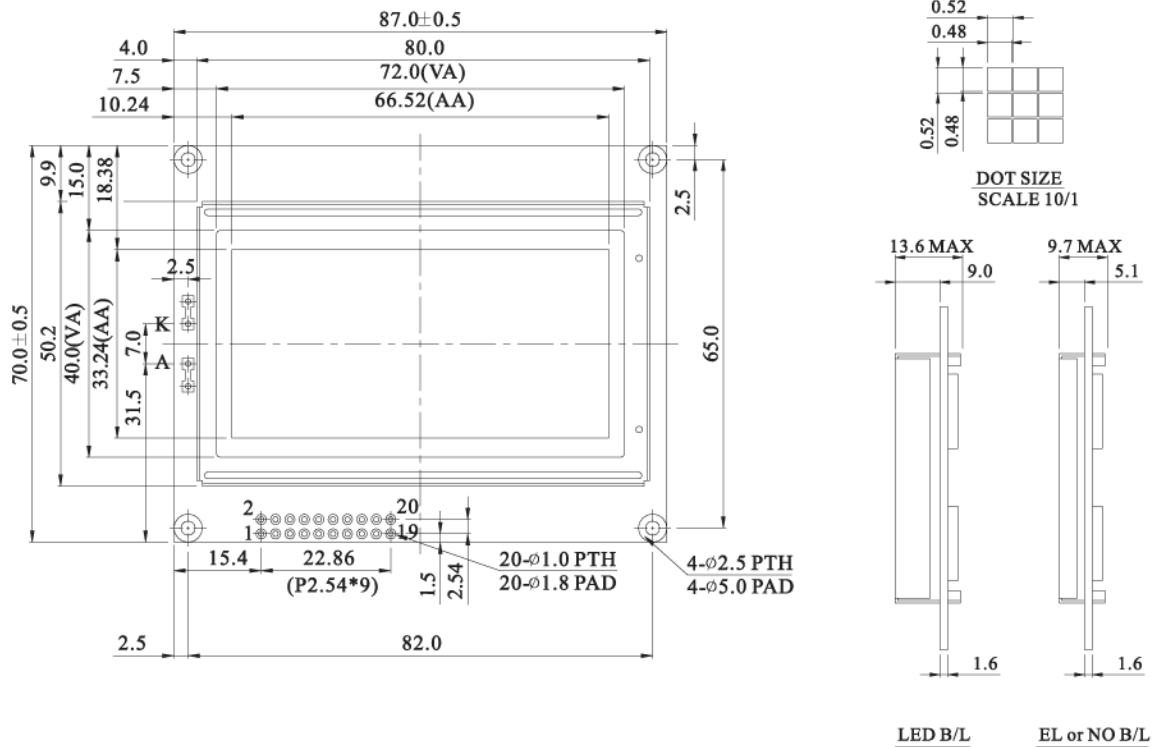


**WG12864F** Graphic 128x64dots

**Dimension drawing**



Graphic type

**Feature**

1. Built-in controller TOSHIBA- (T6963C)
2. +5V power supply
3. 1/64 duty cycle
4. Built-in N.V

Pin NO.	Symbol	Function
1	Vss	Power Supply(0V)
2	Vdd	Power supply (+5V)
3	Vo	Power supply for LCD driver
4	C/D	Command/data read/write
5	$\overline{RD}$	Data read
6	$\overline{WR}$	Data write
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	$\overline{CE}$	Chip enable
16	$\overline{RST}$	Controller reset
17	Vee	Negative Voltage
18	Md2	Pins for selection of number of columns
19	FSI	Font select
20	HLT	Clock operating stop signal

**Mechanical Data**

Item	Standard Value	Unit
Module Dimension	87.0x70.0	mm
Viewing Area	72.0x40.0	mm
Mounting hole	82.0x 65.0	mm
Dot Pitch	0.52x0.52	mm

**Absolute Maximum Rating**

Item	Symbol	Standard Value			Unit
		min.	typ.	max.	
Power Supply	VDD-VSS	4.5	5.0	5.5	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	L level	0.7V <sub>DD</sub>	---	V <sub>DD</sub>	V
	VIO	H level	0	---	0.3V <sub>DD</sub>	V
Supply Current	IDD	VDD=5V	---	9.7	---	mA
Recommended LC Driving Voltage for Normal Temp. Version module	VDD-V0	-20°C	9.6	10.1	10.6	V
		0°C	9.4	9.9	10.4	
		25°C	9.4	9.6	10.4	
		50°C	8.7	9.2	9.7	
		70°C	8.5	9.0	9.5	
LED Forward Voltage	VF	25°C	---	4.2	---	V
LED Forward Current	IF	25°C	---	480	---	mA
EL Power Supply Current	IEL	Vel=110VAC;400Hz	---	---	5.0	mA