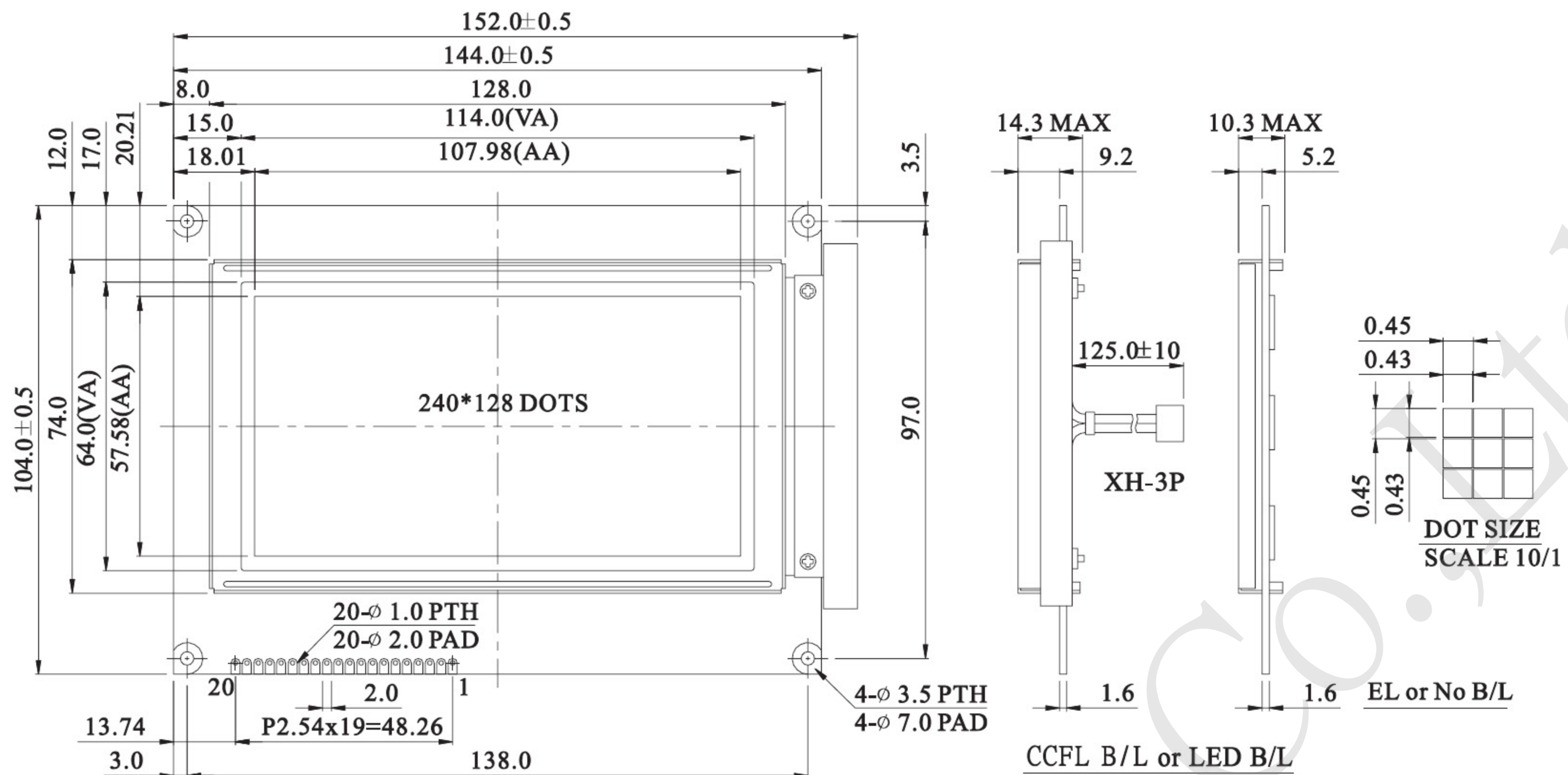


**Dimension drawing**



**Feature**

1. Built-in controller SANYO- (LC7981 or equivalent)
2. +5V power supply
3. 1/128 duty cycle
4. Built-in N.V

**Electronical Characteristics**

Pin NO	Symbol	Function
1	Vss	Power supply (GND)
2	Vdd	Power supply (+5V)
3	Vo	Contrast Adjustment
4	RS	Data /instruction select
5	$\overline{RW}$	Data read write
6	E	Enable signal
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	$\overline{CS}$	Chip select
16	$\overline{RES}$	Reset signal
17	Vee	Negative Voltage output
18	NC	No connection
19	A	Power supply for B/L
20	K	Power supply for B/L

**Mechanical Data**

Item	Standard Value	Unit
Module Dimension	144.0x104.0	mm
Viewing Area	114.0x64.0	mm
Dot Size	0.43x0.43	mm
Dot pitch	0.45x0.45	mm

**Absolute Maximum Rating**

Item	Symbol	Standard Value			Unit
		min.	typ.	max.	
Power Supply	VDD-VSS	4.75	5.0	5.25	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	---	---	0.3V <sub>DD</sub>	V
Supply Current	IDD	VDD=5V	0	55	60	mA
Recommended LC Driving Voltage for Normal Temp. Version module	VDD-V0	0°C	20.3	21.4	22.5	V
		25°C	18.0	19.1	20.2	
		50°C	17.8	18.9	20.0	
LED Forward Voltage	VF	25°C	---	4.2	---	V
LED Forward Current	IF	25°C	---	900	1800	mA
CCFL	VF	25°C	---	250	590	V <sub>rms</sub>
	IF	25°C	---	---	5.5	mA
EL	---	---	---	---	5.0	mA