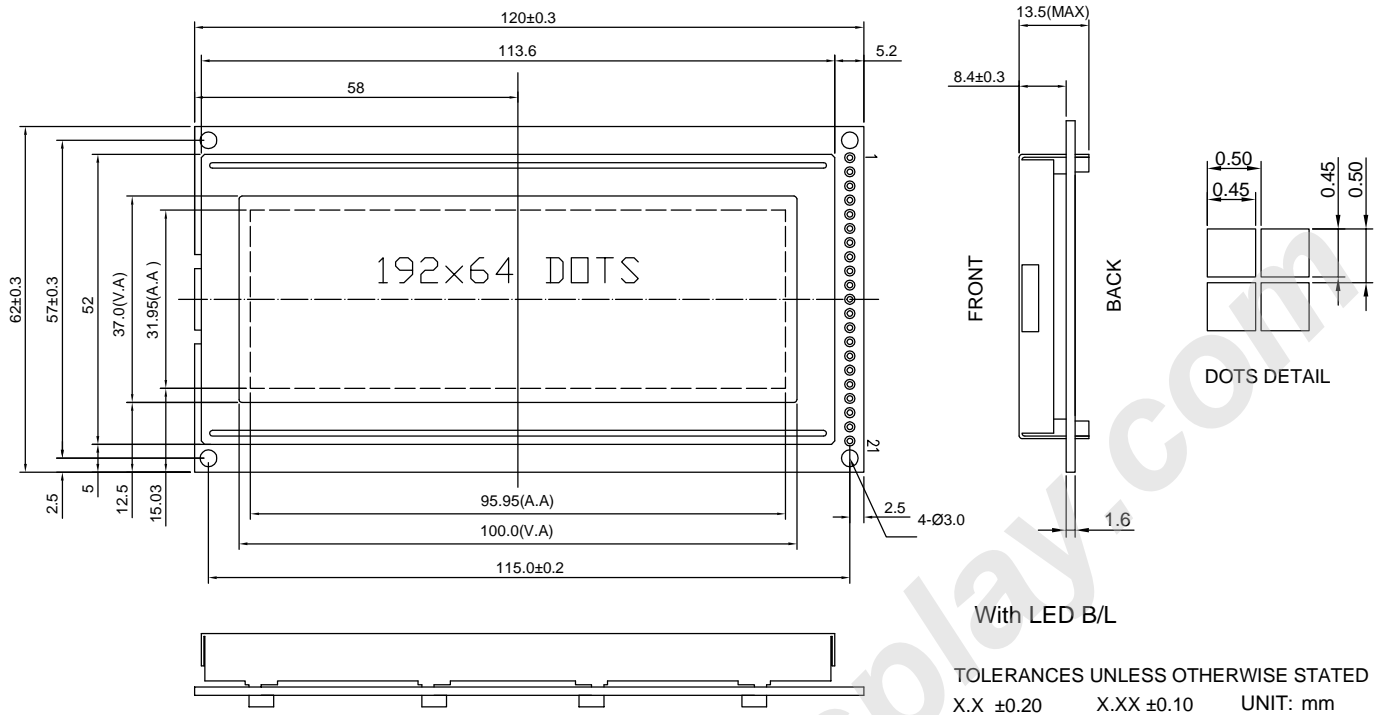


## Dimension Drawing



## Feature:

1. 192 x 64 dots graphic display
2. Built-in controller(NT7108 or equivalent)
3. +5V power supply(also available for +3.3V)
4. 1/64 Duty cycle
5. STN or FSTN Mode
6. Match all kind colors of LED back light
7. ROHS compliant

## Interface Pin Connections

PIN NO.	Symbol	Function
1	VSS	GND
2	VDD	+5V or +3.3V
3	V0	Contrast adjustment
4	VEE	Negative voltage output
5	D/I	H → Data L → Instruction
6	R/W	H :Read data L :Write data
7	E	Enable signal
8	DB0	H/L Data bus line
9	DB1	H/L Data bus line
10	DB2	H/L Data bus line
11	DB3	H/L Data bus line
12	DB4	H/L Data bus line
13	DB5	H/L Data bus line
14	DB6	H/L Data bus line
15	DB7	H/L Data bus line
16	CS1	L → Chip1 Enable
17	CS2	L → Chip2 Enable
18	CS3	L → Chip3 Enable
19	REST	H → L Rest the LCM
20	A	Power supply for B/L(LED+)

## Mechanical Data

Item	Standard	Unit
Module dimension	120.0 x 62.0	mm
Viewing area	100.0 x 37.0	mm
Mounting hole	95.95 x 31.95	mm
Dots size	0.45 x 0.45	mm

## Absolute Maximum Rating

Item	Symbol	Standard			Unit
		Min	Typ	Max	
Power supply	VDD-VSS	-0.3	---	7.0	V
Input voltage	VI	VDD-19.0	---	VDD+0.3	

## Electronical Characteristics

Item	Symbol	Condition	Standard			Unit	
			Min	Typ	Max		
Input voltage	VDD	+5.0V	4.5	5.0	5.5	V	
		+3.3V	2.7	3.3	4.5		
Supply current	I <sub>DD</sub>	VDD=5V	----	----	0.5	mA	
Recommended LCD driving voltage for normal temp version module	VDD-V0 (VDD=5V)	-20 °C	9.7	9.9	10.2	V	
		0 °C	9.5	9.7	10.0		
		25 °C	9.2	9.6	9.8		
		50 °C	9.0	9.3	9.5		
LED forward voltage	V <sub>F</sub>	25 °C	----	3.0	3.3	V	
LED forward current	I <sub>F</sub>	25 °C	Array	----	320	----	mA
			Edge	----	80	120	
EL power supply	I <sub>EL</sub>	V <sub>EL</sub> =110V AC 400Hz	----	----	5.0	mA	