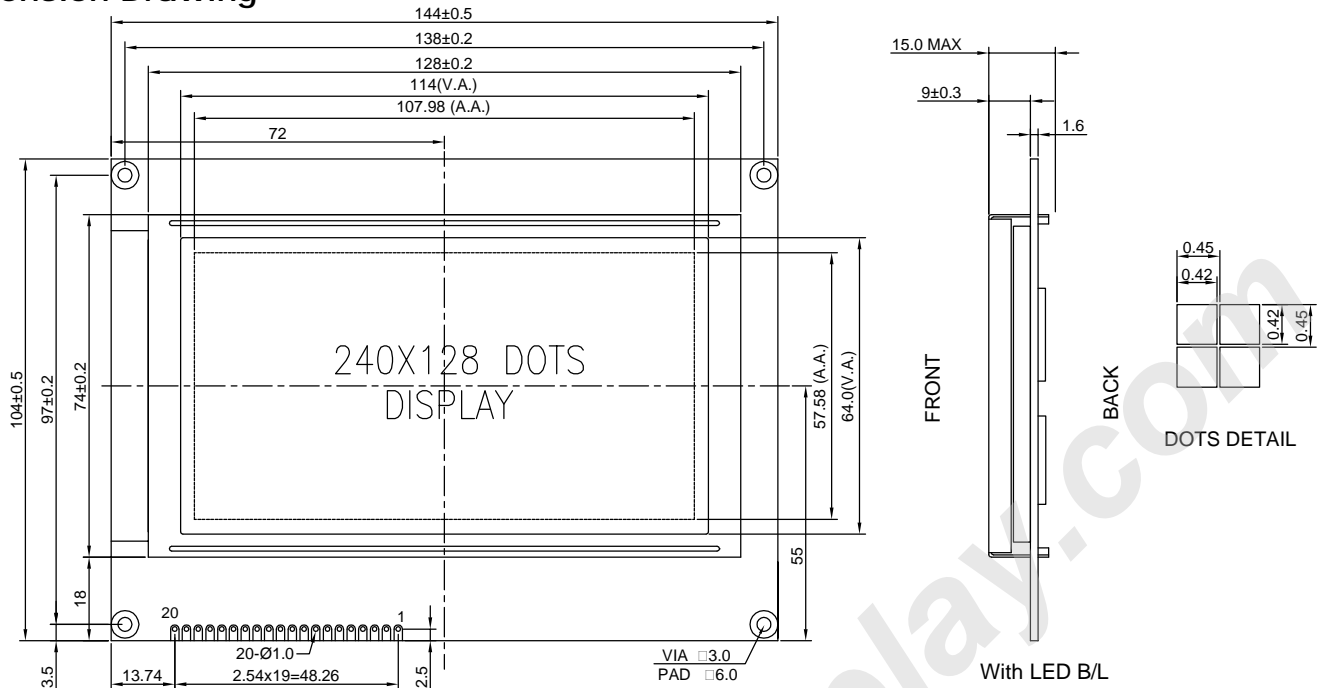


## Dimension Drawing



TOLERANCES UNLESS OTHERWISE STATED  
 X.X ±0.20    X.XX ±0.10    UNIT: mm

## Feature:

1. 240 x 128 Dots graphic display
2. Built-in controller(RA6963 or equivalent)
3. +5V Power supply(also available for +3.3V)
4. 1/128 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	C/D	H → Data L → Instruction
5	/RD	Read enable signal
6	/WR	Write enable signal
7	DB0	H/L Data bus line
8	DB1	H/L Data bus line
9	DB2	H/L Data bus line
10	DB3	H/L Data bus line
11	DB4	H/L Data bus line
12	DB5	H/L Data bus line
13	DB6	H/L Data bus line
14	DB7	H/L Data bus line
15	/CE	Chip enable signal
16	/RESET	Reset signal
17	VEE	Negative voltage for LCD
18	MD2	Control signal
19	FS	Font selection
20	LEDA	Power supply for B/L(LED+)

## Mechanical Data

Item	Standard	Unit
Module dimension	144.0 x 104.0	mm
Viewing area	114.0 x 64.0	mm
Mounting hole	138.0 x 97.0	mm
Dots size	0.42 x 0.42	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	

## Electrical 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	18.8	19.0	19.2	V	
		0 °C	18.5	18.7	19.0		
		25 °C	18.2	18.5	18.8		
		50 °C	18.0	18.3	18.5		
LED forward voltage	V <sub>F</sub>	25 °C	----	3.0	3.3	V	
LED forward current	I <sub>F</sub>	25 °C	Array	----	460	----	mA
			Edge	----	80	120	
EL power supply	I <sub>EL</sub>	V <sub>EL</sub> =110V AC 400Hz	----	----	5.0	mA	