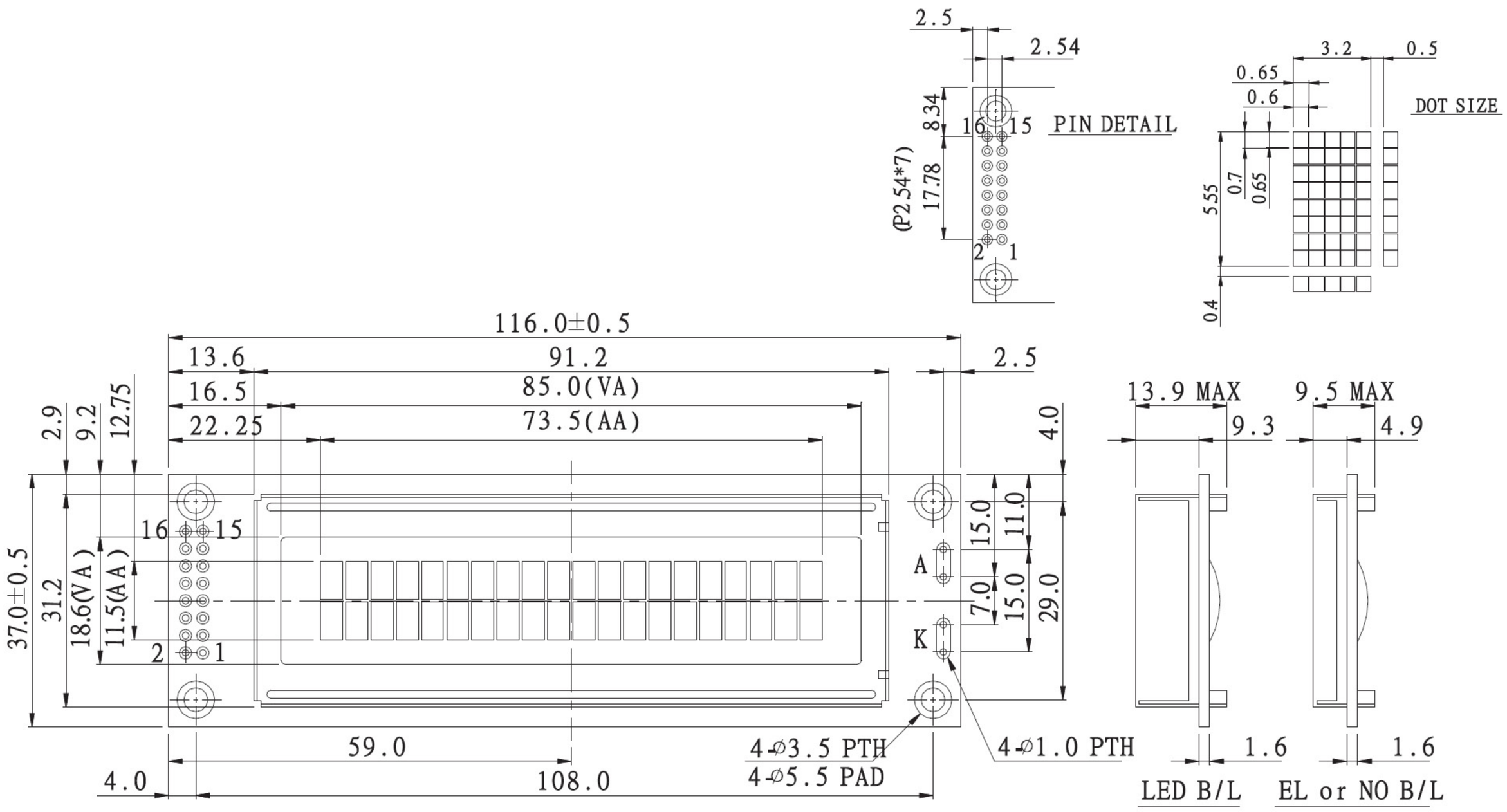
## *Dimension drawing*




## *Feature*

1. 5x8 dots includes cursor
2. Built-in controller (KS 0066 or E quivalent)
3. +5V power supply (Also available for +3V)
4. 1/16 duty cycle
5. LED can be driven by pin1,pin2,pin15,pin16 or A and K
6. N.V. optional for +3V power supply

| Pin NO. | Symbol | Function |
|---|---|---|
| 1 | Vss | GND |
| 2 | Vdd | +3V or + 5V |
| 3 | Vo | Contrast Adjustment |
| 4 | RS | H/L Register select signal |
| 5 | R/$\overline{W}$ | H/L Read / write signal |
| 6 | E | H→L 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 | A/Vee | +4.2V for LED /Negative Voltage output |
| 16 | K | Power supply for B/L (0V) |

## *Mechanical Data*

| Item | Standard Value | Unit |
|---|---|---|
| Module Dimension | 116.0x37.0 | mm |
| Viewing Area | 85.0x18.6 | mm |
| Mounting hole | 108.0x 29.0 | mm |
| Character Size | 3.2x5.55 | mm |

## *Absolute Maximum Rating*

| Item | Symbol | Standard Value | | | Unit |
|---|---|---|---|---|---|
| | | min. | typ. | max. | |
| Power Supply | VDD-VSS | -0.3 | --- | 7.0 | 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 | VDD=+5V | 4.7 | 5.0 | 5.3 | V |
| | | VDD=+3V | 2.7 | 3.0 | 5.3 | V |
| Supply Current | IDD | VDD=5V | --- | 1.0 | 1.2 | mA |
| Recommended LC Driving Voltage for Normal Temp. Version module | VDD-V0 | -20°C | 5.0 | 5.1 | 5.7 | V |
| | | 0°C | 4.6 | 4.8 | 5.2 | |
| | | 25°C | 4.1 | 4.5 | 4.7 | |
| | | 50°C | 3.9 | 4.2 | 4.5 | |
| | | 70°C | 3.7 | 3.9 | 4.3 | |
| LED Forward Voltage | VF | 25°C | --- | 4.2 | 4.6 | V |
| LED Forward Current | IF | 25°C | --- | 210 | 420 | mA |
| EL Power Supply Current | IEL | Vel=110VAC;400Hz | --- | --- | 5.0 | mA |

## *Display Character Address Code :*

Display position

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | --- | --- | 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DD RAM Address | 00 | 01 | | | | | | | | | | | | | | 13 |
| DD RAM Address | 40 | 41 | | | | | | | | | | | | | | 53 |