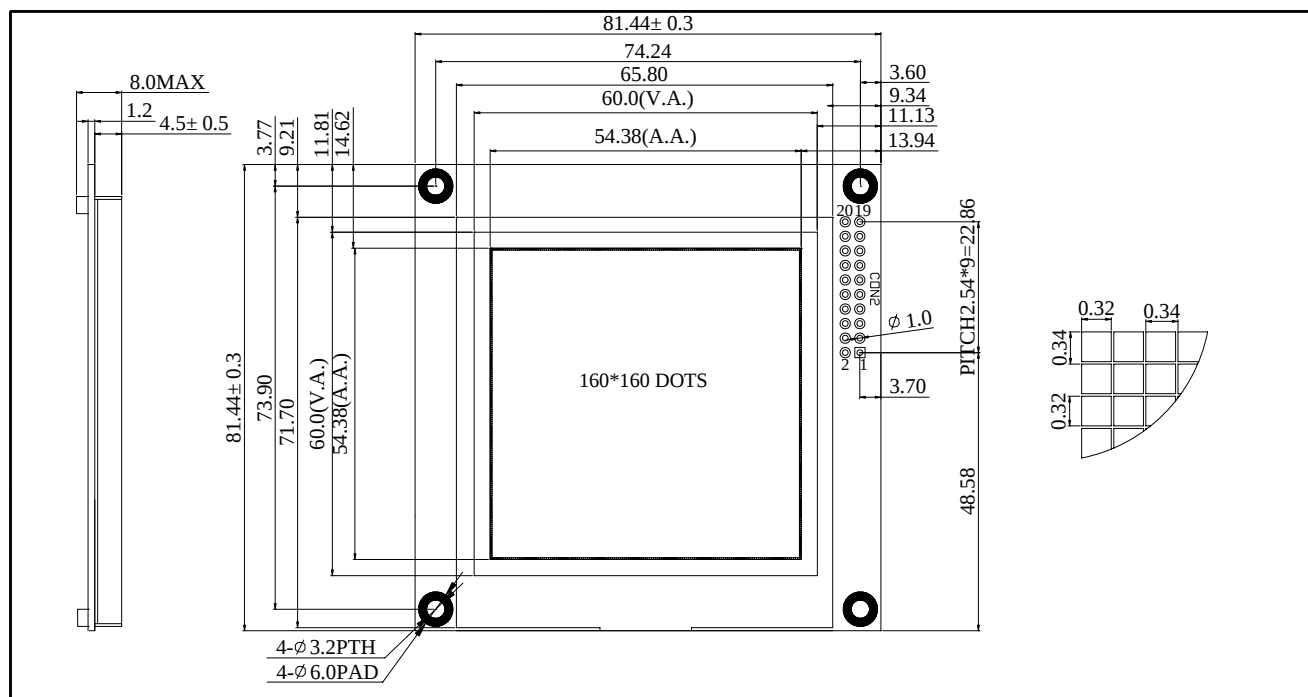




## PIN CONNECTIONS

| Pin          | Symbol          | Level | Function                         |
|--------------|-----------------|-------|----------------------------------|
| 1            | V <sub>SS</sub> | 0V    | GND                              |
| 2            | V <sub>DD</sub> | 3.3V  | Logic power supply               |
| 3            | NC              | -     | No connection                    |
| 4            | /WR             | L     | Write signal                     |
| 5            | /RD             | L     | Read signal                      |
| 6            | /CS             | L     | Chip enable signal               |
| 7            | A0              | H/L   | “L” Data<br>“H” Instruction code |
| 8            | /REST           | L     | Reset signal ,active “L”         |
| 9<br> <br>16 | DB0<br> <br>DB7 | H/L   | Data bus line                    |
| 17           | NC              | -     | No connection                    |
| 18           | NC              | -     | No connection                    |
| 19           | A               | 3.3V  | Power supply for LED             |
| 20           | K               | 0V    | backlight                        |

## NOTES:

- Built-in controller
- FSTN

## MECHANICAL DATA

| Item                    | Nominal Dimensions | Unit |
|-------------------------|--------------------|------|
| Module Size (W x H x T) | 81.44X81.44X8.0    | mm   |
| Viewing Area (W x H)    | 60.0 X60.0         | mm   |
| Dot Pitch (W x H)       | 0.34X0.34          | mm   |
| Dot Size (W x H)        | 0.32X0.32          | mm   |

## ABSOLUTE MAXIMUM RATINGS

| Item                   | Symbol                           | Min. | Max.                 | Unit |
|------------------------|----------------------------------|------|----------------------|------|
| Supply Voltage (Logic) | V <sub>DD</sub> -V <sub>SS</sub> | -0.3 | 4.0                  | V    |
| Supply Voltage (LCD)   | V <sub>0</sub>                   | -0.3 | 19.8                 | V    |
| Input Voltage          | V <sub>I</sub>                   | -0.3 | V <sub>DD</sub> +0.3 | V    |
| Operating Temp.        | T <sub>OPR</sub>                 | -20  | 70                   | °C   |
| Storage Temp.          | T <sub>STG</sub>                 | -30  | 80                   | °C   |

ELECTRICAL CHARACTERISTICS (V<sub>DD</sub>=5.0V, T<sub>a</sub>=25°C)

| Item                | Sym.            | Min.               | Typ. | Max.               | Unit |
|---------------------|-----------------|--------------------|------|--------------------|------|
| Input High Voltage  | V <sub>IH</sub> | 0.5V <sub>DD</sub> | 3.3  | V <sub>DD</sub>    | V    |
| Input Low Voltage   | V <sub>IL</sub> | 0                  | -    | 0.2V <sub>DD</sub> | V    |
| Output High Voltage | V <sub>OH</sub> | 2.4                | -    | V <sub>DD</sub>    | V    |
| Output Low Voltage  | V <sub>OL</sub> | 0                  | -    | 0.4                | V    |
| Supply Current      | I <sub>DD</sub> | -                  | -    | -                  | mA   |
| LCD Driving Voltage | V <sub>0</sub>  | -                  | 16.5 | -                  | V    |

LED BACKLIGHT SPECIFICATIONS (T<sub>a</sub>=25°C)

| Item  | Forward Voltage | Forward Current |
|-------|-----------------|-----------------|
| White | 3.1V            | 45mA            |