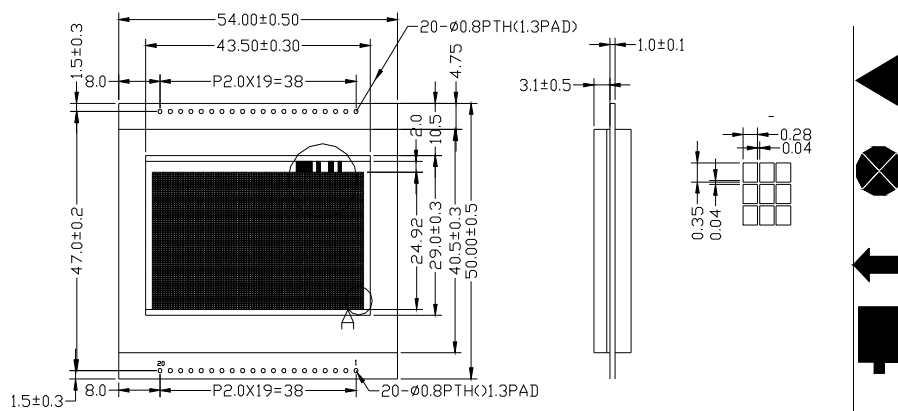


## EXTERNAL DIMENSIONS AND DISPLAY PATTERN



## MECHANICAL DATA (Nominal dimensions)

| ITEM                 | SPECIFICATION | UNIT |
|----------------------|---------------|------|
| Module Size( WxH )   | 54. 00x50. 00 | mm   |
| Viewing Area( WxH )  | 43. 5x29. 0   | mm   |
| Internal Area( WxH ) | 40. 96x24. 96 | mm   |
| Dot pitch( WxH )     | 0. 32x0. 39   | mm   |
| Dot Size(WxH )       | 0. 28x0. 35   | mm   |
| DOTS                 | 128X64        | dot  |

### Absolute Maximum Ratings

| Item                     | Symbol          | Condition | Standard Value |          | unit |
|--------------------------|-----------------|-----------|----------------|----------|------|
|                          |                 |           | min            | max      |      |
| Supply Voltage for Logic | $V_{DD}-V_{SS}$ | Ta=25°C   | 0              | 5.5      | V    |
| Supply Voltage for LCD   | $V_{DD}-V_{RE}$ |           | 0              | 14.0     | V    |
| Input Voltage            | $V_1$           |           | 0              | $V_{DD}$ | V    |

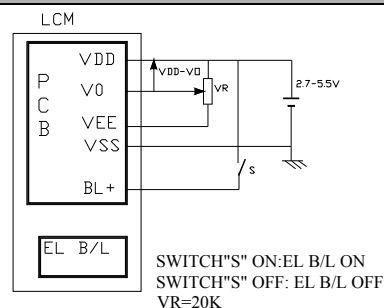
## PIN CONFIGURATION

| ITEM | SYMBOL  | Level | DESCRIPTION                             |
|------|---------|-------|-----------------------------------------|
| 1    | VSS     | 0     | Ground                                  |
| 2    | VDD     | +5V   | Supply voltage for logic                |
| 3    | V0      | —     | For LCD drive voltage                   |
| 4    | D/I     | H/L   | H:Display data<br>L:Display instruction |
| 5    | R/W     | H/L   | H:Read signal L:Write signal            |
| 6    | E       | H/L   | Enable signal                           |
| 7-14 | DB0-DB7 | —     | Data bus                                |
| 15   | CS1     | H/L   | H: Select chip 2                        |
| 16   | CS2     | H/L   | H: Select chip 3                        |
| 17   | /RES    | H/L   | Reset signal                            |
| 18   | VEE     | —     | Negative voltage(-10V) to LCD           |
| 19   | SW      | —     | EL backlight ON                         |
| 20   | NC      | —     |                                         |

## ELECTRICAL CHARACTERISTICS

| Item                        | Symbol          | Condition       | Standard value |      |             | Unit |
|-----------------------------|-----------------|-----------------|----------------|------|-------------|------|
|                             |                 |                 | min.           | typ. | max.        |      |
| Supply Voltage<br>for Logic | $V_{DD}-V_{SS}$ | —               | 4.75           | 5.0  | 5.25        | V    |
| Supply Voltage<br>for LCD   | $V_{DD}-V_0$    | —               | —              | 12.0 | —           | V    |
| Input high<br>Voltage       | $V_{IH}$        | —               | $0.7V_{DD}$    | —    | $V_{DD}$    | V    |
| Input low<br>Voltage        | $V_{IL}$        | —               | 0              | —    | $0.3V_{DD}$ | V    |
| Supply Current<br>for Logic | $V_{OH}$        | $-I_{OH}=0.2mA$ | —              | 7.0  | —           | mA   |
| Supply Current<br>for LCD   | $V_{OL}$        | $I_{OL}=1.2mA$  | —              | 3.0  | —           | mA   |
| With B/L                    | $I_{EL}$        | $V_{DD}=5.0V$   | —              | 30   |             | mA   |
| Drive method                | 1/64Duty        |                 | 1/9Bias        |      |             |      |

## Power supply



### Block diagram

