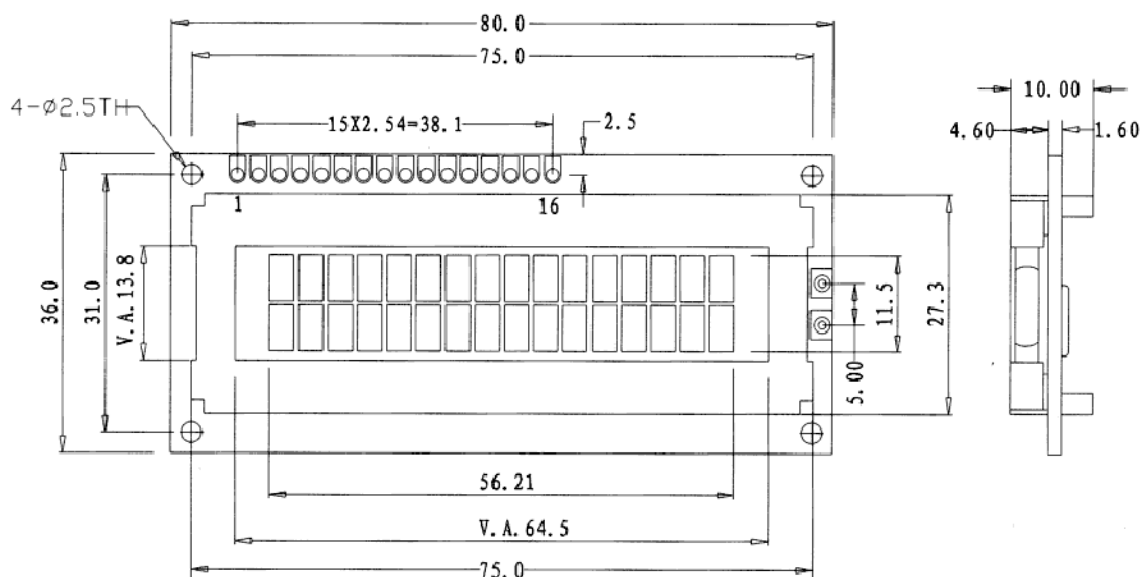


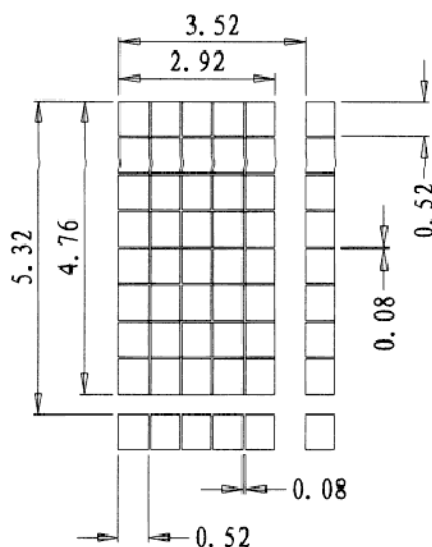
# ITM-1602A

1/16 DUTY, 1/5 BIAS  
16 CHAR. X 2 LINES

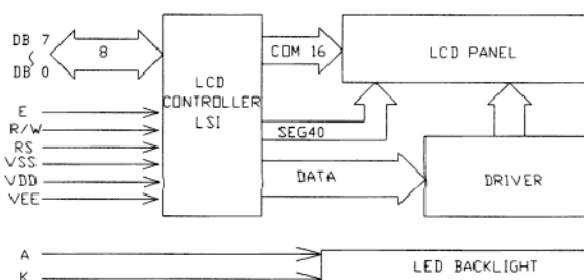
## 1 EXTERNAL DIMENSION



## 2 DISPLAY DOTS



## 3 BLOCK DIAGRAM



## 4 PIN CONNECTIONS

| PIN NO | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|
| SIGNAL | VSS | VDD | VEE | RS  | RW  | E   | DB0 | DB1 |
| PIN NO | 9   | 10  | 11  | 12  | 13  | 14  | 15  | 16  |
| SIGNAL | DB2 | DB3 | DB4 | DB5 | BD6 | DB7 | A   | K   |

# ITM-1602 A

1/16 DUTY, 1/5 BIAS  
16 CHAR. X 2 LINES

## 5 ELECTRICAL CHARACTERISTICS (Ta=25°C, VDD=5.0V±0.5V)

| ITEM                | SYMBOL          | TEST CONDITION             | MIN  | TYPE | MAX             | UNIT |
|---------------------|-----------------|----------------------------|------|------|-----------------|------|
| Input High Voltage  | V <sub>IH</sub> | -                          | 2.2  | -    | V <sub>DD</sub> | V    |
| Input Low Voltage   | V <sub>IL</sub> | -                          | -0.3 | -    | 0.6             | V    |
| Output High Voltage | V <sub>OH</sub> | I <sub>OH</sub> = -0.205mA | 2.4  | -    | -               | V    |
| Output Low Voltage  | V <sub>OL</sub> | I <sub>OL</sub> = 1.6mA    | 0    | -    | 0.4             | V    |
| Supply Current      | I <sub>DD</sub> | V <sub>DD</sub> = 5.0V     | -    | 1.5  | 3.0             | mA   |

## 6 ABSOLUTE MAXIMUM RATINGS

| PARAMETER             | SYMBOL           | RATINGS                                      | UNIT |
|-----------------------|------------------|----------------------------------------------|------|
| Supply Voltage        | V <sub>DD</sub>  | +4.5V ~ +5.5V                                | V    |
| Lcd Supply Voltage    | V <sub>EE</sub>  | V <sub>DD</sub> -13.5 ~ V <sub>DD</sub> +0.3 | V    |
| Input Voltage         | V <sub>r</sub>   | V <sub>SS</sub> ~ V <sub>DD</sub>            | V    |
| Operating Temperature | T <sub>opr</sub> | 0 ~ +50                                      | °C   |
| Storage Temperature   | T <sub>stg</sub> | -20 ~ +70                                    | °C   |

## 7 MECHANICAL SPECIFICATION

| PARAMETER                 | DIMENSIONS ( mm )  |
|---------------------------|--------------------|
| Overall Size              | 80.0 X 36.0 X 10.0 |
| Viewing Area              | 64.5 X 13.8        |
| Character Size            | 4.72 X 2.92        |
| Character Pitch           | 5.32 X 3.52        |
| Dot Size                  | 0.52 X 0.52        |
| Weight                    | 30 ( g )           |
| Overall Size with Led B/L | 80.0 X 36.0 X 13.0 |

## 8 FEATURE

| PART NUMBER  | LCD MODE          | B/L |
|--------------|-------------------|-----|
| ITM-1602ATR  | TN REFLECTIVE     | --  |
| ITM-1602ASR  | STN REFLECTIVE    | --  |
| ITM-1602ATTL | TN TRANSFLECTIVE  | LED |
| ITM-1602ASTL | STN TRANSFLECTIVE | LED |