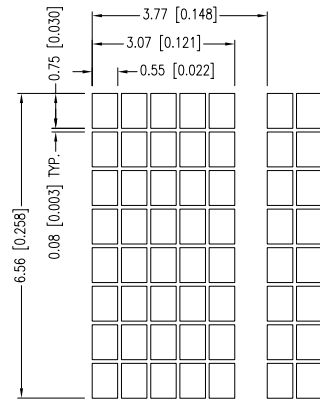
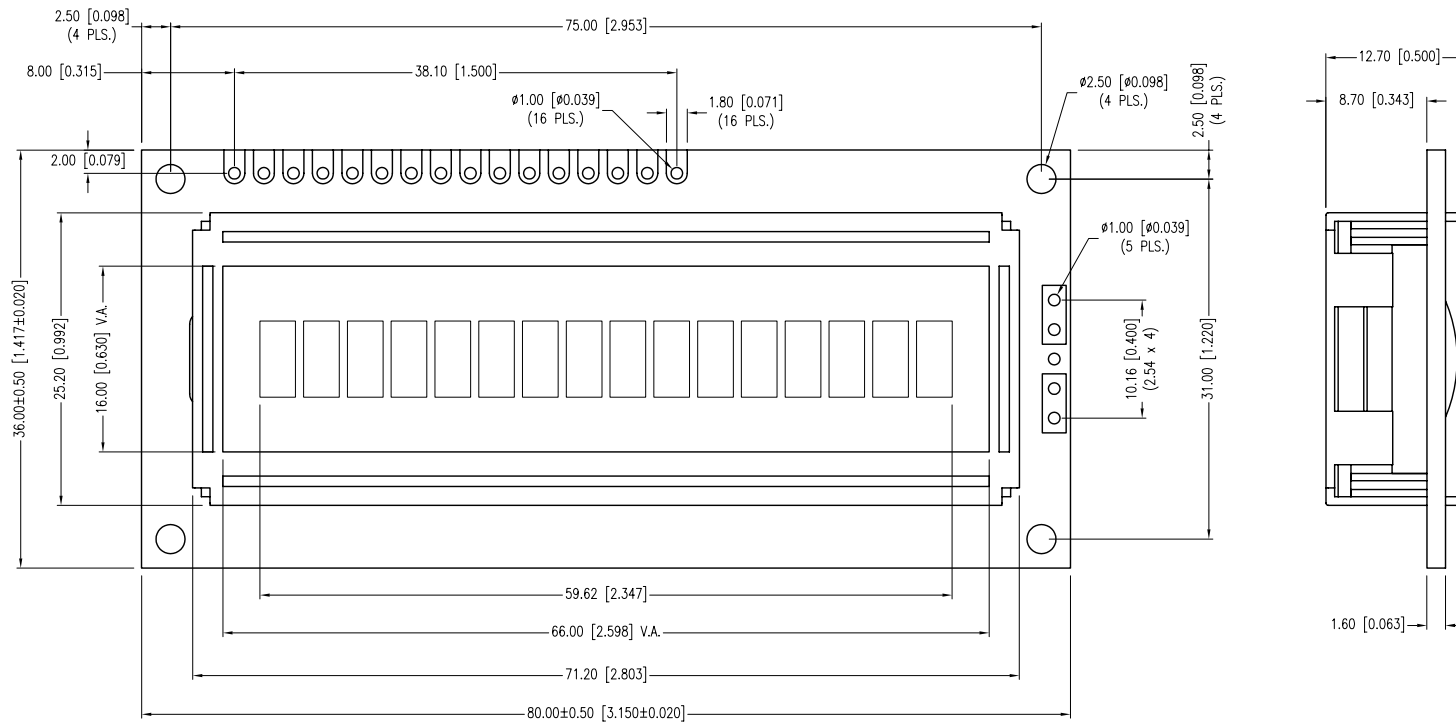
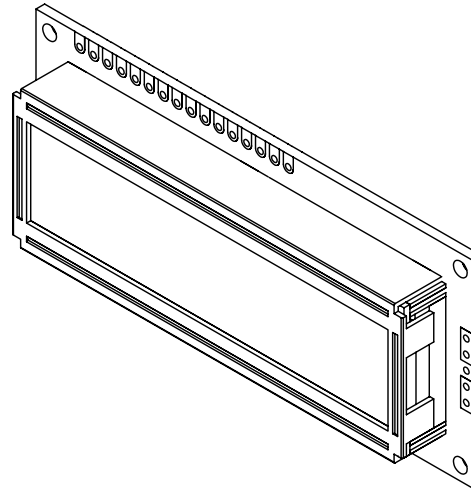


## CHARACTER DETAIL



CAUTION: STATIC SENSITIVE DEVICE  
FOLLOW PROPER E.S.D. HANDLING PROCEDURES  
WHEN WORKING WITH THIS PART.



\*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN.= +DECIMAL PRECISION MAX.= +0.00 -DECIMAL PRECISION

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6.56mm CHAR HEIGHT, 5x8 DOT MATRIX, 16x1 LCD MODULE, 1/16 DUTY, 1/5 BIAS, YELLOW STN, LED BKL.

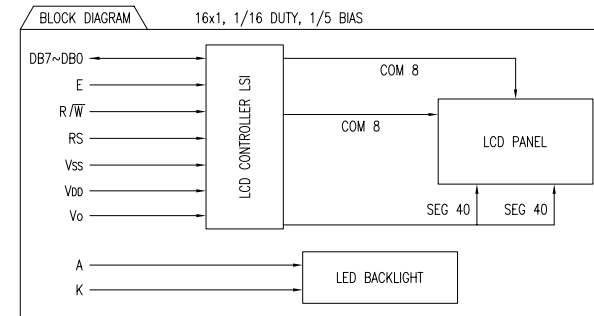
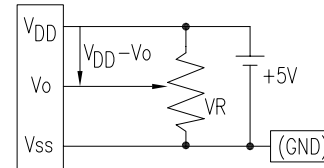
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|--------|-----------|-----------|----|
| DATE:  | 03.06.12  | DRAWN BY: | AB |
| PAGE:  | 1 OF 2    | CHKD BY:  | KF |
| SCALE: | NTS       | APRVD BY: | KF |
| UNIT:  | mm [INCH] |           | Ⓟ  |

| PIN CONFIGURATION |         |        | FUNCTION                                                        |               |
|-------------------|---------|--------|-----------------------------------------------------------------|---------------|
| PIN NO.           | SYMBOL  | LEVEL  |                                                                 |               |
| 1                 | Vss     | —      | POWER SUPPLY                                                    | GND (0V)      |
| 2                 | VDD     | —      |                                                                 | 5V            |
| 3                 | Vo      | —      |                                                                 | FOR LCD DRIVE |
| 4                 | RS      | H/L    | REGISTER SELECT SIGNAL<br>H: DATA INPUT<br>L: INSTRUCTION INPUT |               |
| 5                 | R/W     | H/L    | H: DATA READ (MODULE-->MPU)<br>L: DATA WRITE (MODULE<--MPU)     |               |
| 6                 | E       | H,H->L | ENABLE                                                          |               |
| 7~14              | DB0~DB7 | H/L    | DATA BUS—SOFTWARE SELECTABLE 4 OR 8 BIT MODE                    |               |
| 15                | A       | —      | ANODE LED BACKLIGHT                                             |               |
| 16                | K       | —      | CATHODE LED BACKLIGHT                                           |               |

$V_{DD}-V_o$ : LCD DRIVING VOLTAGE  
 $V_R$ :  $10K\Omega \sim 20K\Omega$



| ELECTRICAL CHARACTERISTICS |                   | $V_{DD}=4.7V$ to $5.3V$ , $T_a=25^\circ C$ |                |     |     |                   |
|----------------------------|-------------------|--------------------------------------------|----------------|-----|-----|-------------------|
| ITEM                       | SYMBOL            | CONDITION                                  | STANDARD VALUE |     |     | UNIT              |
| SUPPLY VOLTAGE FOR LOGIC   | $V_{DD}-V_{SS}$   | —                                          | MIN            | TYP | MAX | V                 |
| SUPPLY CURRENT FOR LOGIC   | $I_{DD}$          | $V_{DD}=5V$                                | —              | 1.6 | 2.5 | mA                |
| INPUT VOLTAGE              | HIGH              | $V_{IH}$                                   | —              | 2.2 | —   | $V_{DD}$ V        |
|                            | LOW               | $V_{IL}$                                   | —              | 0   | —   | 0.6 V             |
| OUTPUT VOLTAGE             | HIGH              | $V_{OH}$                                   | —              | 2.4 | —   | V                 |
|                            | LOW               | $V_{OL}$                                   | —              | —   | 0.4 | V                 |
| LED BACKLIGHT              | VOLTAGE           | $V_f$                                      | $I_f=150mA$    | —   | 4.2 | 4.6 V             |
|                            | CURRENT           | $I_f$                                      | —              | —   | 150 | 200 mA            |
|                            | POWER CONSUMPTION | PD                                         | —              | —   | 630 | mW                |
|                            | LUMINOUS          | L                                          | $I_f=150mA$    | 70  | —   | cd/m <sup>2</sup> |
|                            | COLOR             | —                                          | —              | —   | —   | nm                |

| ABSOLUTE MAXIMUM RATINGS     |                                  |                      |                 |                 |      |
|------------------------------|----------------------------------|----------------------|-----------------|-----------------|------|
| ITEM                         | SYMBOL                           | TEST CONDITION       | STANDARD VALUE  |                 | UNIT |
|                              |                                  |                      | MIN             | MAX             |      |
| SUPPLY VOLTAGE FOR LOGIC     | V <sub>DD</sub> -V <sub>SS</sub> | T <sub>a</sub> =25°C | 4.7             | 5.3             | V    |
| SUPPLY VOLTAGE FOR LCD DRIVE | V <sub>DD</sub> -V <sub>o</sub>  | —                    | 4.2 AT 50°C     | 4.8 AT 0°C      | V    |
| INPUT VOLTAGE                | V <sub>i</sub>                   | T <sub>a</sub> =25°C | V <sub>SS</sub> | V <sub>DD</sub> | V    |
| OPERATING TEMPERATURE        | T <sub>opr</sub>                 | LCM-S                | 0               | +50             | °C   |
| STORAGE TEMPERATURE          | T <sub>stg</sub>                 | LCM-S                | -20             | +70             | °C   |

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