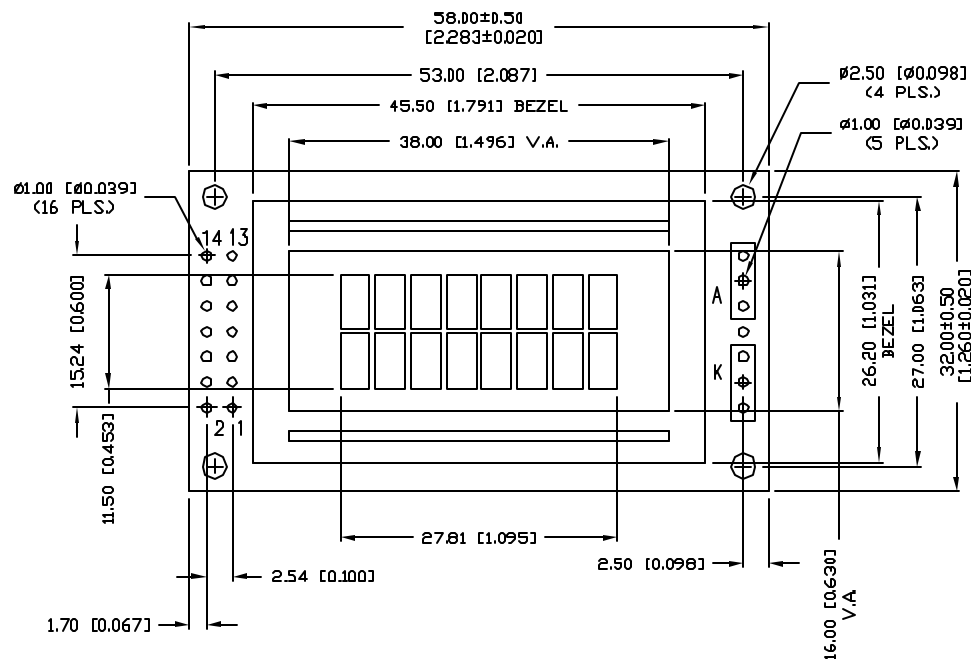


UNCONTROLLED DOCUMENT

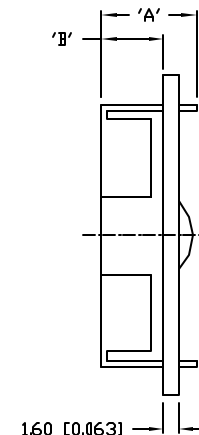
| P/N PREFIX/SUFFIX TABLE | | |
|-------------------------|----|----------------------------------|
| LCM-X | DX | DESCRIPTION |
| STANDARD | SR | STN, REFLECTIVE |
| | SF | STN, TRANSFLECTIVE(W/ BACKLIGHT) |
| HIGH TEMP. | TR | TN, REFLECTIVE |
| | TF | TN, TRANSFLECTIVE(W/ BACKLIGHT) |

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

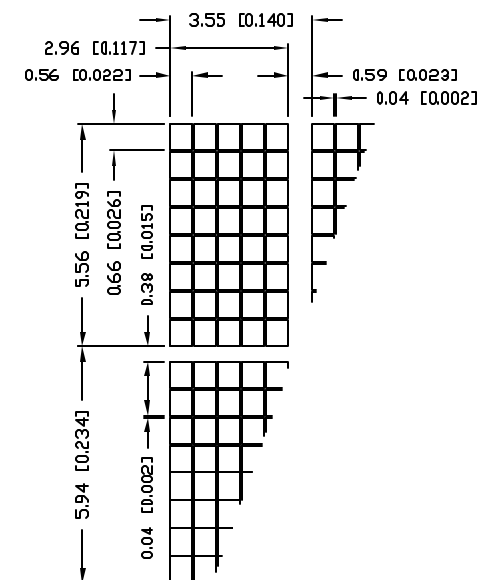
| PART NUMBER | | REV. |
|---------------|-------------------------------------|---------|
| LCM-X00802DXX | | B |
| REV. | E.C.N. NUMBER AND REVISION COMMENTS | DATE |
| A | E.C.N. #10464. | 10.9.98 |
| B | E.C.N. #11031. | 9.5.03 |




| TYPE | DIM. | A | B |
|----------------|------|-----|---|
| WITH BACKLIGHT | 12.8 | 8.6 | |
| NO BACKLIGHT | 8.6 | 4.2 | |



CHARACTER DETAIL



*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 -0.00 DECIMAL PRECISION

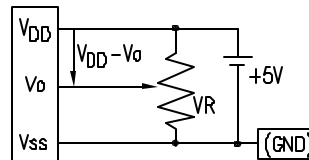
| REV. | PART NUMBER | CONFIDENTIAL INFORMATION | | 290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 US WEB: www.lumex.com TW WEB: www.lumex.com.tw | |
|--|---------------|--|--|---|--|
| B | LCM-X00802DXX | THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES. | |  | |
| 5.56mm CHARACTER HEIGHT, 5x8 DOT MATRIX, 8x2, LCD MODULE, 1/16 DUTY, 1/5 BIAS. | | RELIABILITY NOTE OUR MANY YEARS OF EXPERIENCE DATA ACCUMULATION INDICATE THAT SOLDER HEAT IS A MAJOR CAUSE OF EARLY AND FUTURE FAILURE. PLEASE PAY ATTENTION TO YOUR SOLDERING PROCESS. | | DRAWN BY: GT | CHECKED BY: |
| | | | | APPROVED BY: | DATE: 9.5.03 PAGE: 1 OF 2 SCALE: N/A |

UNCONTROLLED DOCUMENT

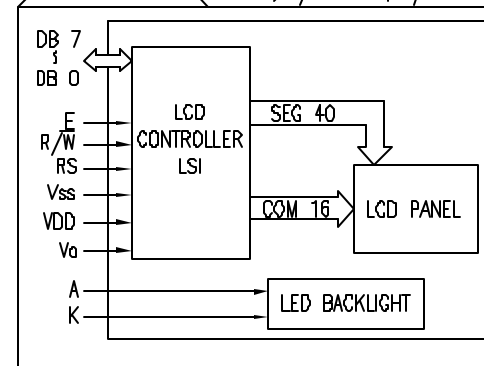
PIN CONFIGURATION

| PIN NO. | SYMBOL | LEVEL | FUNCTION |
|---------|-----------------|--------|---|
| 1 | V _{SS} | - | POWER SUPPLY GND (0V) 5V FOR LCD DRIVE |
| 2 | V _{DD} | - | |
| 3 | V _O | - | |
| 4 | RS | H/L | REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT |
| 5 | R/W | H/L | H: DATA READ (MODULE-->MPU) 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. |

V_{DD}-V_O: LCD DRIVING VOLTAGE
VR: 10KΩ-20KΩ



BLOCK DIAGRAM 8 x 2, 1/16 DUTY, 1/5 BIAS



ELECTRICAL CHARACTERISTICS

□ V_{DD}=4.7V to 5.3V, T_A=25°C

| ITEM | SYMBOL | CONDITION | STANDARD VALUE | | | UNIT |
|--------------------------|----------------------------------|---------------------|----------------------|------|-----------------|-------------------|
| | | | MIN. | TYP. | MAX. | |
| SUPPLY VOLTAGE FOR LOGIC | V _{DD} -V _{SS} | - | - | 5.0 | - | V |
| SUPPLY CURRENT FOR LOGIC | I _{DD} | V _{DD} =5V | - | 2.0 | 3.0 | mA |
| INPUT VOLTAGE | V _{IH} | - | 2.2 | - | V _{DD} | V |
| | V _{IL} | - | 0 | - | 0.6 | V |
| OUTPUT VOLTAGE | V _{OH} | - | 2.4 | - | - | V |
| | V _{OL} | - | - | - | 0.4 | V |
| *LED BACKLIGHT | VOLTAGE | V _f | I _f =70mA | 4.5 | 5.0 | V |
| | CURRENT | I _f | - | 70 | 110 | mA |
| | POWER CONSUMPTION | P _D | - | 315 | - | mW |
| | LUMINOUS | L | I _f =70mA | 70 | - | cd/m ² |
| | COLOR | - | - | - | - | nm |

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS

| ITEM | SYMBOL | TEST CONDITION | STANDARD VALUE | | UNIT |
|------------------------------|----------------------------------|----------------------|-----------------|-----------------|------|
| | | | MIN | MAX | |
| SUPPLY VOLTAGE FOR LOGIC | V _{DD} -V _{SS} | T _a =25°C | 4.7 | 5.3 | V |
| SUPPLY VOLTAGE FOR LCD DRIVE | V _{DD} -V _O | - | 4.2@50°C | 4.8@0°C | V |
| INPUT VOLTAGE | V _I | T _a =25°C | V _{SS} | V _{DD} | V |
| OPERATING TEMPERATURE | T _{opr} | LCM-S | 0 | 50 | °C |
| | | LCM-H | -20 | 70 | °C |
| STORAGE TEMPERATURE | T _{stg} | LCM-S | -20 | 70 | °C |
| | | LCM-H | -30 | 85 | °C |

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REV.

B

PART NUMBER

LCM-X00802DXX

5.56mm CHARACTER HEIGHT, 5x8 DOT MATRIX, 8x2,
LCD MODULE, 1/16 DUTY, 1/5 BIAS.

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