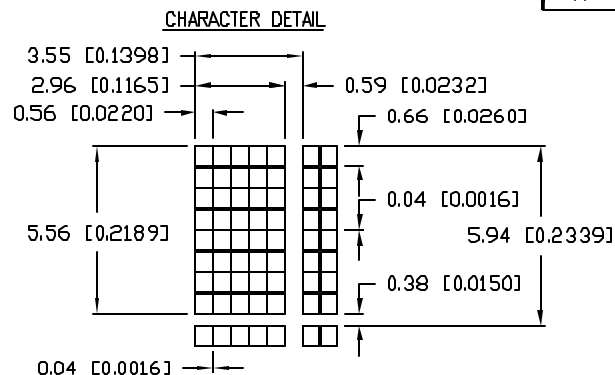


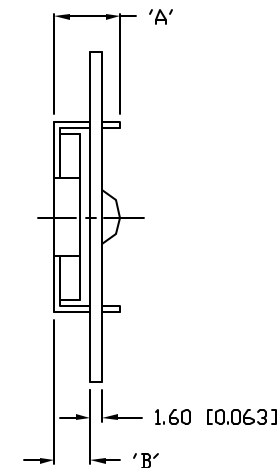
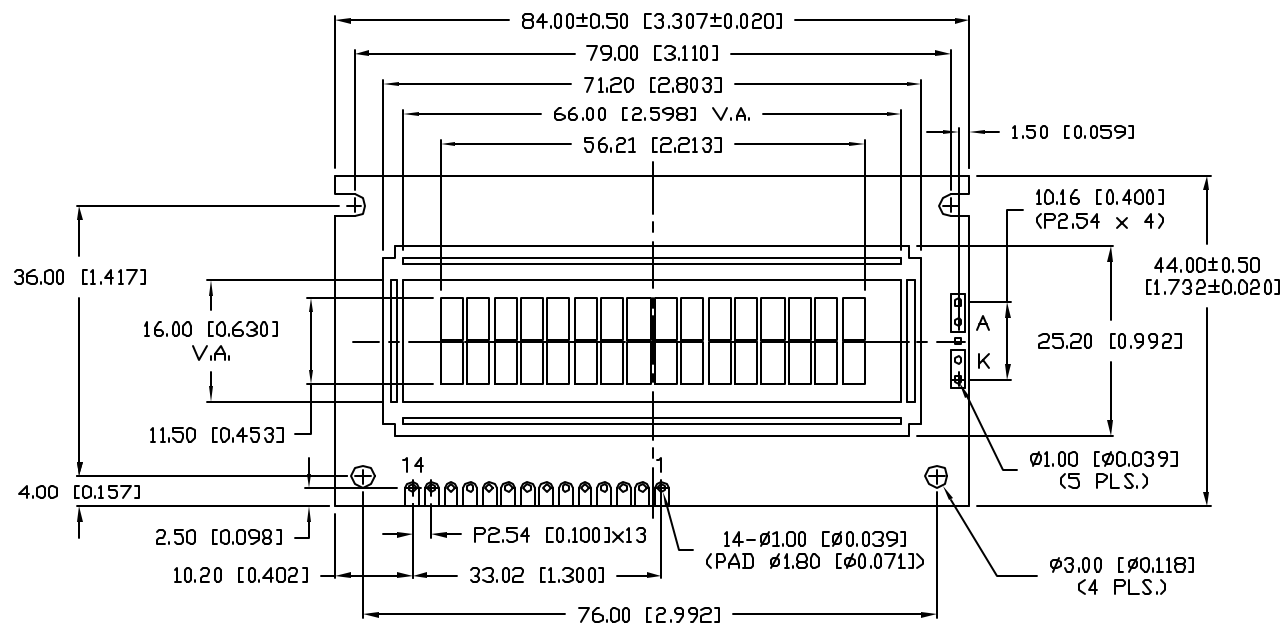
PART NUMBER		REV.
LCM-X01602DXX/B		A
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #10BRDR. & REDRAWN.	9-3-98

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

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



TYPE	DIM.	A	B
WITH BACKLIGHT		12.7	8.7
NO BACKLIGHT		8.8	4.8



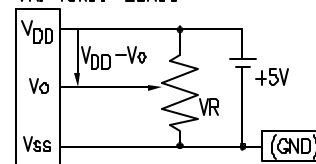
UNCONTROLLED DOCUMENT  
\*UNLESS OTHERWISE SPECIFIED TOLERANCE IS  $\pm 0.25\text{mm}$  ( $\pm 0.010"$ )

REV. A	PART NUMBER LCM-X01602DXX/B	<p><b>CONFIDENTIAL INFORMATION</b></p> <p>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.</p> <p><b>RELIABILITY NOTE</b></p> <p>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.</p>	<p><b>LUMEX</b> INCORPORATED</p> <p>290 E. HELLEN ROAD PALATINE, ILLINOIS 60067 PHONE: 1-847-359-2790 WEB: <a href="http://www.lumex.com">HTTP://WWW.LUMEX.COM</a></p>
<p>5.56mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 16 x 2 LCD MODULE, 1/16 DUTY, 1/5 BIAS.</p>		<p>DRAWN BY: SA/BC</p>	<p>CHECKED BY:</p> <p>APPROVED BY:</p> <p>DATE: 4-28-98</p> <p>PAGE: 1 OF 2</p> <p>SCALE: N/A</p>

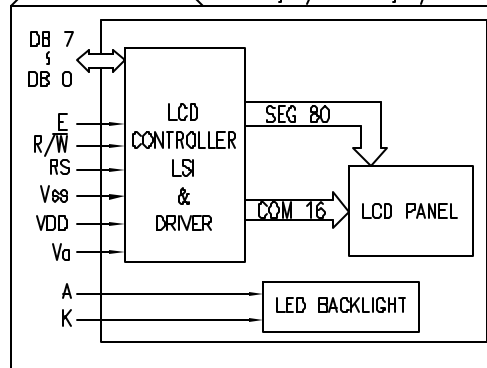
## PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V <sub>SS</sub>	-	POWER SUPPLY
2	V <sub>DD</sub>	-	
3	V <sub>O</sub>	-	
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 <sub>H</sub> ->L	ENABLE
7~14	DB0~DB7	H/L	DATA BUS-SOFTWARE SELECTABLE 4 OR 8 BIT MODE.

V<sub>DD</sub>-V<sub>O</sub>: LCD DRIVING VOLTAGE  
V<sub>R</sub>: 10K $\Omega$  - 20K $\Omega$



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



## ELECTRICAL CHARACTERISTICS

V<sub>DD</sub>=4.7V to 5.3V, T<sub>A</sub>=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		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		$V_f$	$I_f=160mA$	-	4.2	4.6	V
	CURRENT		$I_f$	-	-	160	-	mA
	POWER CONSUMPTION		PD	-	-	656	-	mW
	LUMINOUS		L	$I_f=160mA$	70	-	-	cd/m <sup>2</sup>
	COLOR		-	-	-	-	-	nm

\*ONLY APPLIES TO MODULES WITH BACKLIGHT

## ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
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@50°C	4.8@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
		LCM-H	-20	70	°C
		LCM-S	-20	70	°C
STORAGE TEMPERATURE	T <sub>stg</sub>	LCM-H	-30	85	°C

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## 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.

**LUMEX**  
INCORPORATED

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DRAWN BY:

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PAGE: 2 OF 2

SCALE: N/A

5.56mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX,

16 x 2 LCD MODULE, 1/16 DUTY, 1/5 BIAS.

# Mouser Electronics

Authorized Distributor

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