

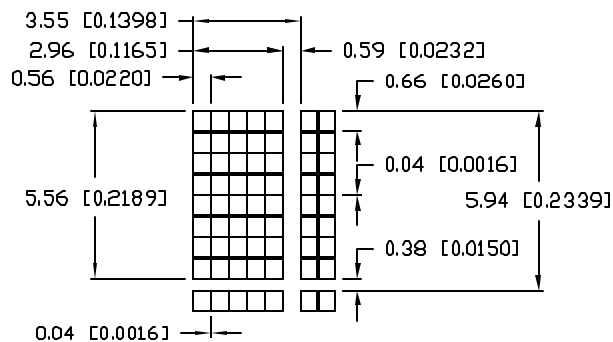
UNCONTROLLED DOCUMENT

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

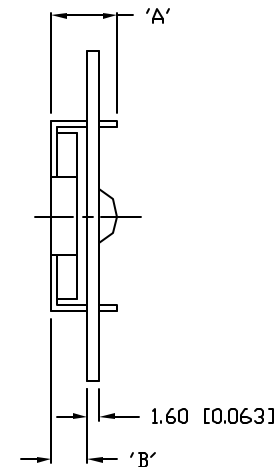
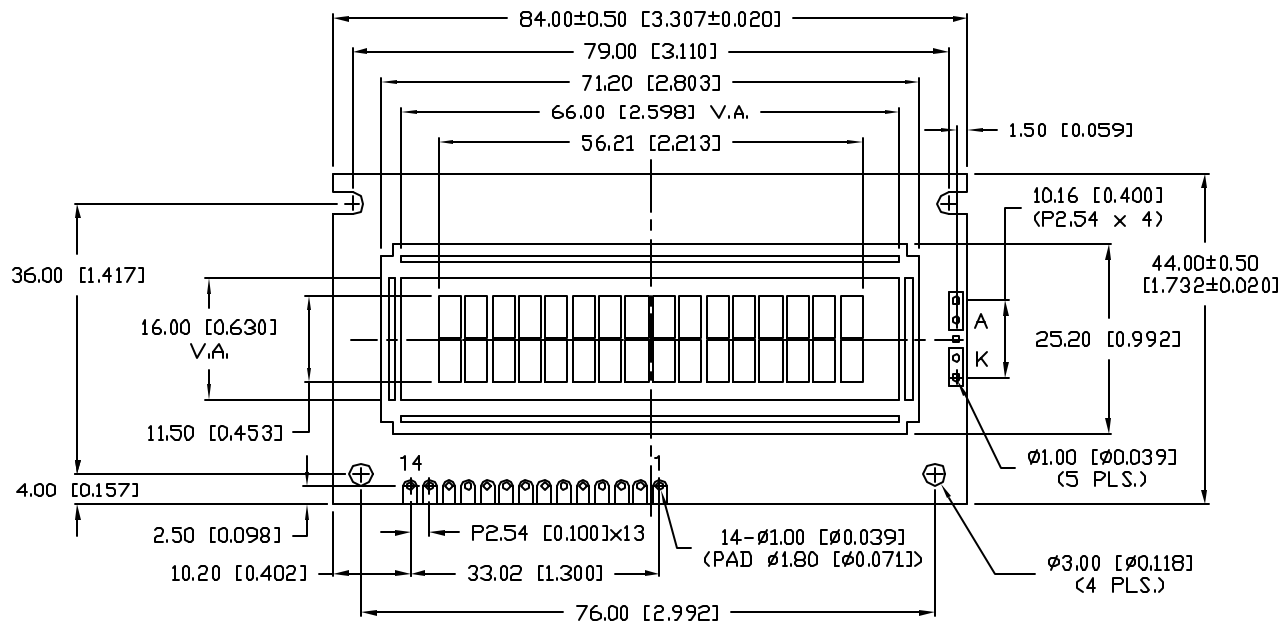
LCM-X		DXX	DESCRIPTION
STANDARD	S	SR	STN, REFLECTIVE
		SF	STN, TRANSFLECTIVE(W/ BACKLIGHT)
HIGH TEMP.	H	TR	TN, REFLECTIVE
		TF	TN, TRANSFLECTIVE(W/ BACKLIGHT)

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

CHARACTER DETAIL



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



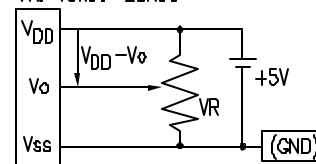
UNCONTROLLED DOCUMENT
*UNLESS OTHERWISE SPECIFIED TOLERANCE IS $\pm 0.25\text{mm}$ ($\pm 0.010"$)

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

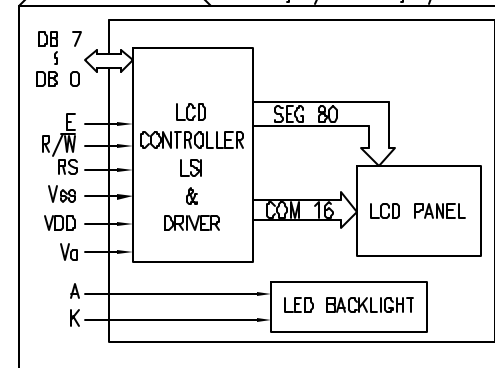
PIN CONFIGURATION

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
V_R: 10K Ω - 20K Ω



BLOCK DIAGRAM 16 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	HIGH LOW	V _{IH}	-	2.2	V _{DD}	V
		V _{IL}	-	0	0.6	V
OUTPUT VOLTAGE	HIGH LOW	V _{OH}	-	2.4	-	V
		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	P _D	-	-	656	mW
	LUMINOUS	L	I _F =160mA	70	-	cd/m ²
	COLOR	-	-	-	-	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
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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RELIABILITY NOTE

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LUMEX
INCORPORATED

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