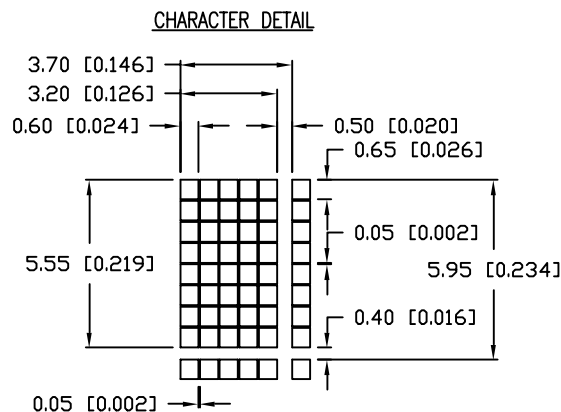


PART NUMBER  
LCM-X02002DXX

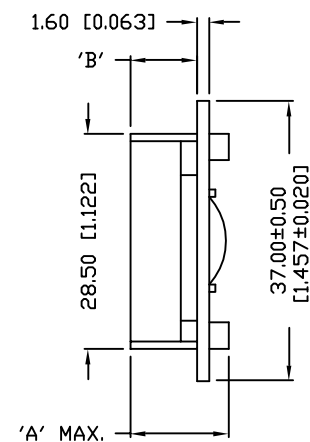
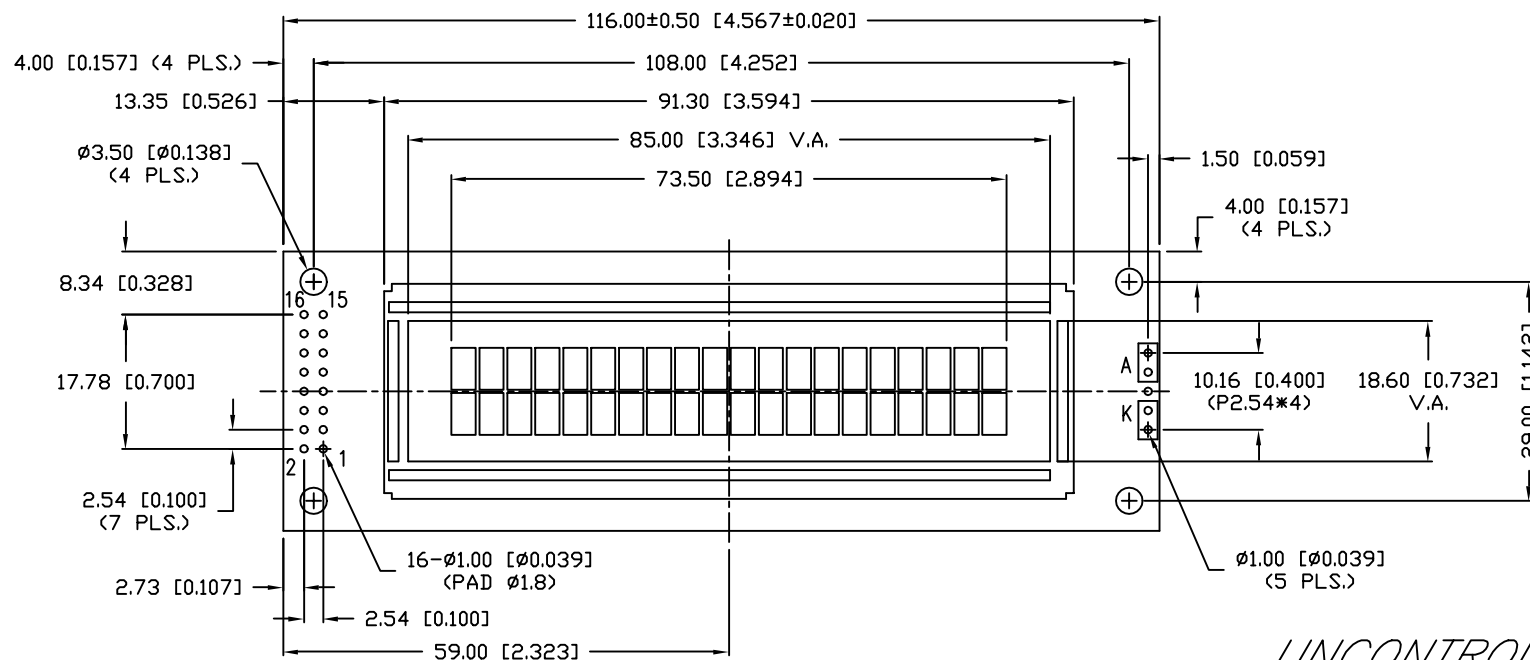
REV.  
B

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	8.8
NO BACKLIGHT		8.9	4.8



UNCONTROLLED DOCUMENT

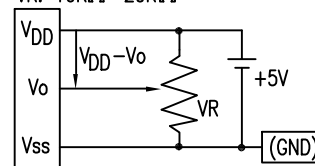
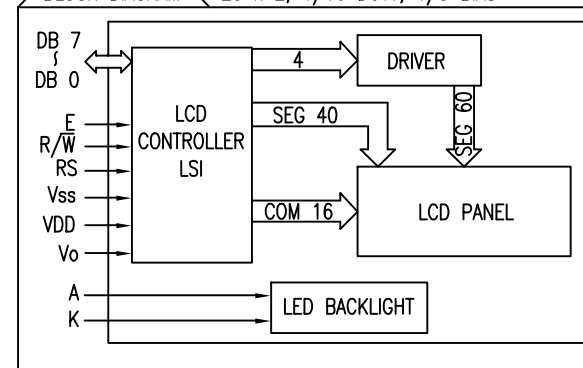
\*UNLESS OTHERWISE SPECIFIED TOLERANCE IS  $\pm 0.25\text{mm}$  ( $\pm 0.010"$ )

REV. B	PART NUMBER LCM-X02002DXX	<p><u>CONFIDENTIAL INFORMATION</u></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>LUMEX</b> INCORPORATED</p> <p>290 E. HELLEN ROAD PALATINE, ILLINOIS 60067 PHONE: 1-847-359-2790 WEB: HTTP://WWW.LUMEX.COM</p>
5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 20 x 2 LCD MODULE, 1/16 DUTY, 1/5 BIAS.		<p><u>RELIABILITY NOTE</u></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>DRAWN BY: SA/BC</p> <p>CHECKED BY:</p> <p>APPROVED BY:</p> <p>DATE: 4-2-98</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	GND (0V)
2	V <sub>DD</sub>	-		5V
3	V <sub>O</sub>	-		FOR LCD DRIVE
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.	
15	A	-	ANODE	LED BACKLIGHT
16	K	-	CATHODE	LED BACKLIGHT

V<sub>DD</sub>-V<sub>O</sub>: LCD DRIVING VOLTAGE  
VR: 10KΩ-20KΩ

BLOCK DIAGRAM <sup>A</sup> 20 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 <sub>DD</sub> -V <sub>SS</sub>	-	-	5.0	-	V
SUPPLY CURRENT FOR LOGIC	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	2.0	3.0	mA
INPUT VOLTAGE	HIGH LOW	V <sub>IH</sub>	-	2.2	-	V <sub>DD</sub>
		V <sub>IL</sub>	-	0	-	0.6
OUTPUT VOLTAGE	HIGH LOW	V <sub>OH</sub>	-	2.4	-	V
		V <sub>OL</sub>	-	-	0.4	V
*LED BACKLIGHT	VOLTAGE	V <sub>f</sub>	I <sub>f</sub> =210mA	-	4.2	4.6
	CURRENT	I <sub>f</sub>	-	-	210	mA
	POWER CONSUMPTION	P <sub>D</sub>	-	-	882	mW
	LUMINOUS	L	I <sub>f</sub> =210mA	70	-	cd/m <sup>2</sup>
	COLOR	-	-	-	-	nm

\*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS <sup>A</sup>

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@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
STORAGE TEMPERATURE	T <sub>stg</sub>	LCM-S	-20	70	°C
		LCM-H	-30	85	°C

REV.

B

PART NUMBER

LCM-X02002DXX

5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX,  
20 x 2 LCD MODULE, 1/16 DUTY, 1/5 BIAS.

## 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

DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE: 4-2-98
SA/BC			PAGE: 2 OF 2
			SCALE: N/A

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Lumex:

[LCM-H02002DTF](#)