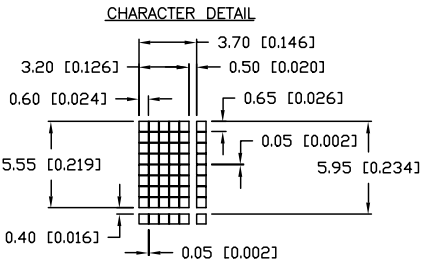


UNCONTROLLED DOCUMENT

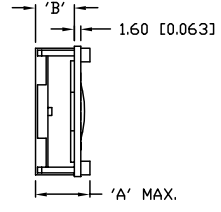
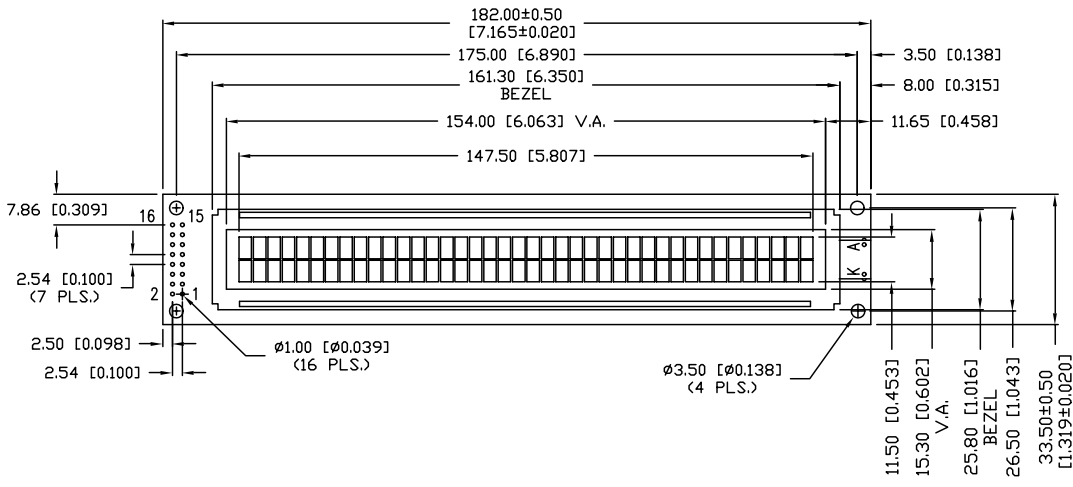
PART NUMBER		REV.
LCM-X04002DXX		
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE

P/N PREFIX/SUFFIX TABLE		
LCM-X	DX	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	4.7	



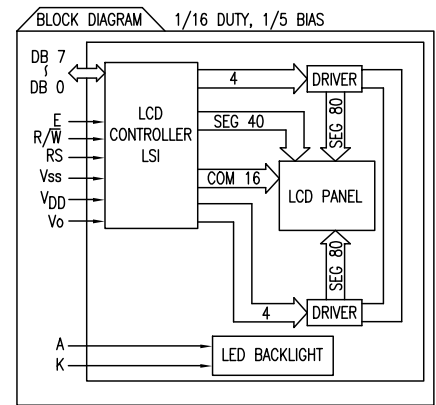
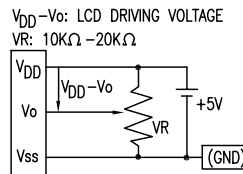
UNCONTROLLED DOCUMENT  
\*UNLESS OTHERWISE SPECIFIED TOLERANCE IS ±0.25mm (±0.010")

REV.	PART NUMBER LCM-X04002DXX	<p>CONFIDENTIAL INFORMATION</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>RELIABILITY NOTE</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 INCORPORATED</b></p> <p>290 E. HELLEN ROAD PALATINE, ILLINOIS 60067 PHONE: 1-847-359-2790 WEB: HTTP://WWW.LUMEX.COM</p>	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE: 9-30-98
5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 40 x 2 LCD CHARACTER MODULE, 1/16 DUTY, 1/5 BIAS.	SA/BC					PAGE: 1 OF 2	SCALE: N/A

UNCONTROLLED DOCUMENT

PART NUMBER		REV.
LCM-X04002DXX		
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE

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	



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	V <sub>IH</sub>	-	2.2	-	V <sub>DD</sub>
	LOW	V <sub>IL</sub>	-	0	-	0.6
OUTPUT VOLTAGE	HIGH	V <sub>OH</sub>	-	2.4	-	V
	LOW	V <sub>OL</sub>	-	-	-	0.4
*LED BACKLIGHT	VOLTAGE	V <sub>f</sub>	-	4.2	4.6	V
	CURRENT	I <sub>f</sub>	-	210	-	mA
	POWER CONSUMPTION	PD	-	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					
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
		LCM-S	0	50	°C
OPERATING TEMPERATURE	T <sub>opr</sub>	LCM-H	-20	70	°C
		LCM-S	-20	70	°C
STORAGE TEMPERATURE	T <sub>stg</sub>	LCM-H	-30	85	°C

UNCONTROLLED DOCUMENT

\*UNLESS OTHERWISE SPECIFIED TOLERANCE IS ±0.25mm (±0.010")

REV.	PART NUMBER	<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 INCORPORATED</b></p> <p>290 E. HELLEN ROAD PALATINE, ILLINOIS 60067 PHONE: 1-847-359-2790 WEB: HTTP://WWW.LUMEX.COM</p>	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE: 9-30-98
5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 40 x 2 LCD CHARACTER MODULE, 1/16 DUTY, 1/5 BIAS.	LCM-X04002DXX			SA/BC			