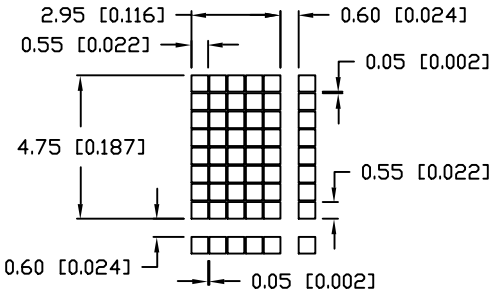
UNCONTROLLED DOCUMENT

PART NUMBER	REV.
LCM–X02004DXX/C	

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE

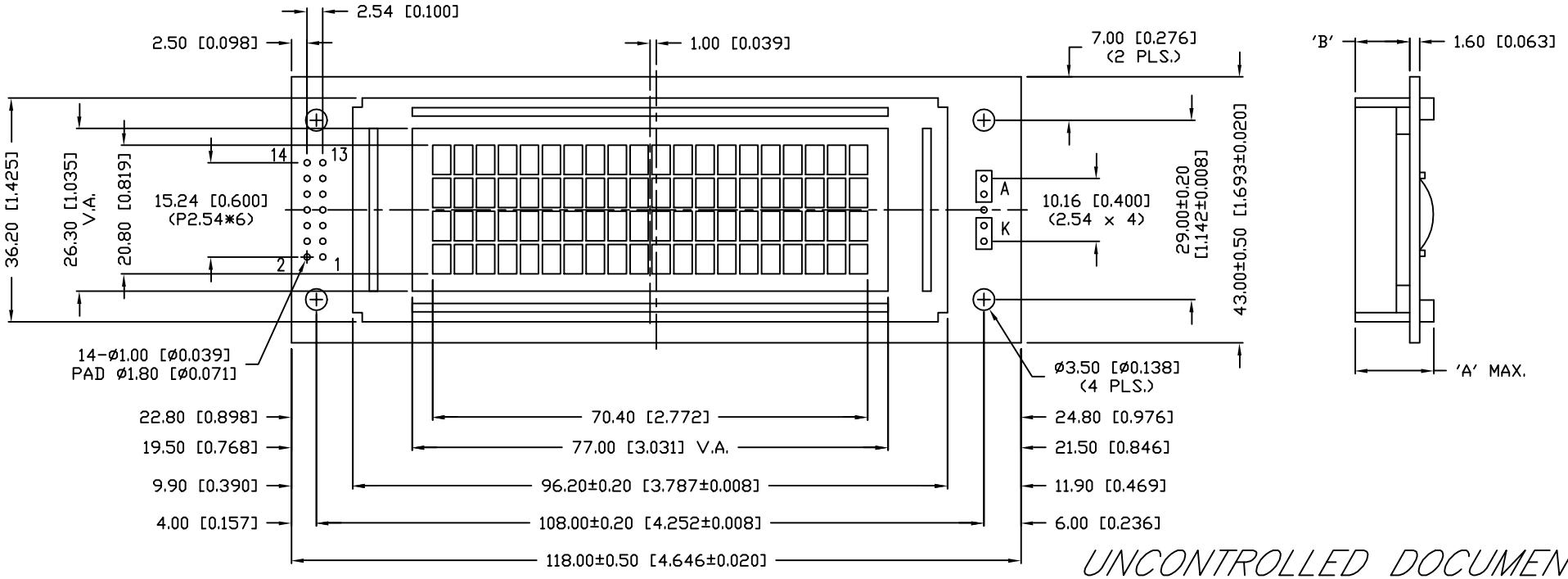
P/N PREFIX/SUFFIX TABLE			
LCM–X		DXX	DESCRIPTION
STANDARD	S	SR	STN, REFLECTIVE
		SF	STN, TRANSFLECTIVE(W/ BACKLIGHT)
HIGH TEMP.	H	TR	TN, REFLECTIVE
		TF	TN, TRANSFLECTIVE(W/ BACKLIGHT)

CHARACTER DETAIL



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

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



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

REV.	PART NUMBER	CONFIDENTIAL INFORMATION	LUMEX INCORPORATED	290 E. HELLEN ROAD PALATINE, ILLINOIS 60067 PHONE: 1–847–359–2790 WEB: HTTP://WWW.LUMEX.COM
	LCM–X02004DXX/C	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.		

4.75mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX,
20 x 4 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:	CHECKED BY:	APPROVED BY:	DATE: 12–14–98
SA/DU			PAGE: 1 OF 2
			SCALE: N/A

PART NUMBER	REV.
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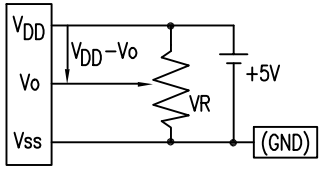
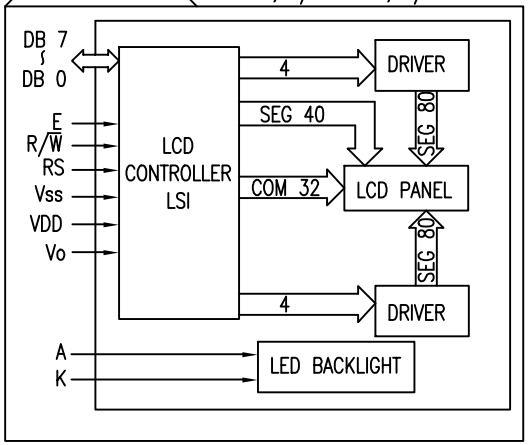
PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	Vss	–	POWER SUPPLY	GND (0V)
2	V_{DD}	–		5V
3	Vo	–		FOR LCD DRIVE
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT	
5	R/$\overline{W}$	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.	
A	–	–	ANODE	LED BACKLIGHT
K	–	–	CATHODE	LED BACKLIGHT

V_{DD}–Vo: LCD DRIVING VOLTAGE
VR: 10KΩ –20KΩ



BLOCK DIAGRAM 20 x 4, 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}–Vss	–	–	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}	I_{OH}=–0.205mA	2.4	–	–	V
	LOW	V_{OL}	I_{OL}=1.6ma	–	–	0.4	V
*LED BACKLIGHT	VOLTAGE	Vf	If=300mA	–	4.2	4.5	V
	CURRENT	If	–	–	300	600	mA
	POWER CUNSUMPTION	PD	–	–	1260	–	mW
	LUMINOUS	L	If=300mA	70	–	–	cd/m²
	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}–Vss	Ta=25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V_{DD}–Vo	–	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V_I	Ta=25°C	Vss	V_{DD}	V
OPERATING TEMPERATURE	Topr	LCM–S	0	50	°C
		LCM–H	–20	70	°C
STORAGE TEMPERATURE	Tstg	LCM–S	–20	70	°C
		LCM–H	–30	85	°C

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SA/DU			PAGE: 2 OF 2
			SCALE: N/A

Mouser Electronics

Authorized Distributor

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