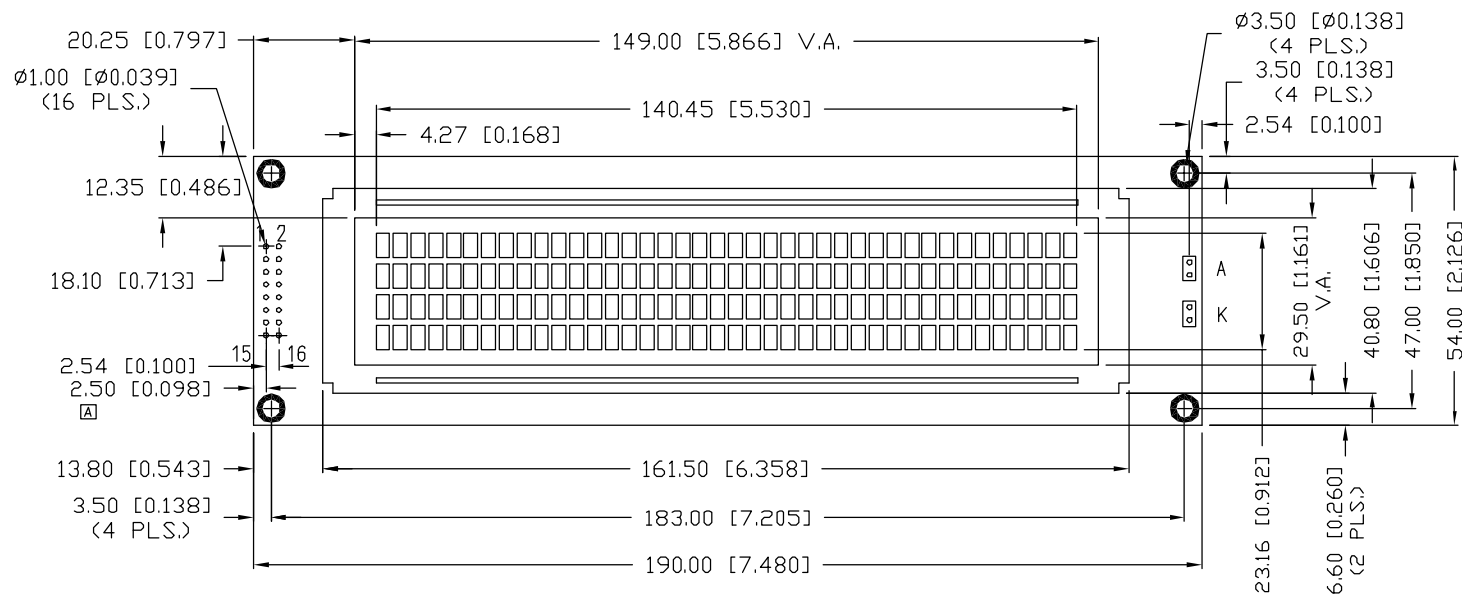
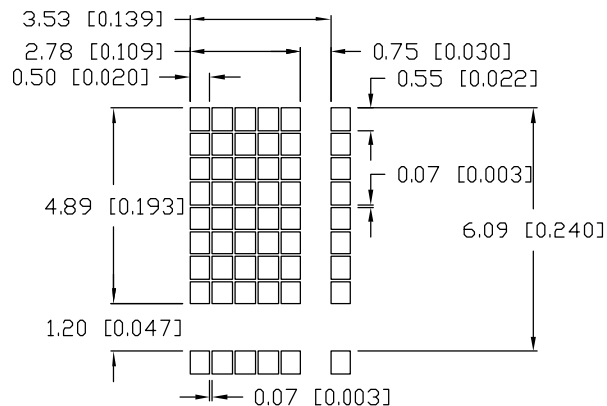


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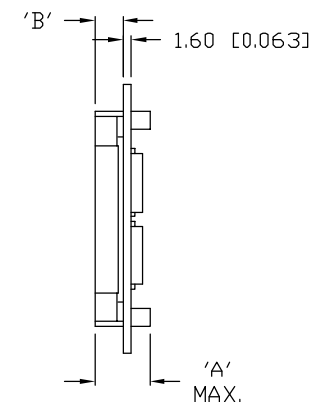
P/N PREFIX/SUFFIX TABLE			
LCM-X		DXX	DESCRIPTION
STANDARD	S	SR	STN, REFLECTIVE
		SF	STN, TRANSFLECTIVE(W/ BACKLIGHT)
HIGH TEMP.	H	TR	TN, REFLECTIVE
		TF	TN, TRANSFLECTIVE(W/ BACKLIGHT)

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

CHARACTER DETAIL



TYPE	DIM.	A	B
WITH BACKLIGHT		14.5	9.3
NO BACKLIGHT		10	4.9



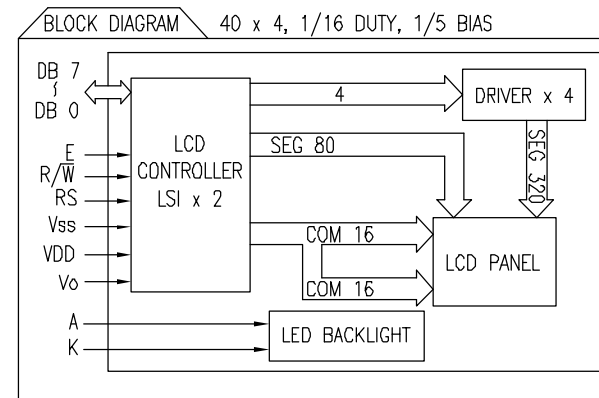
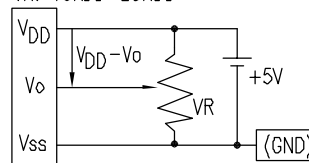
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*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN.=+DECIMAL PRECISION
-0.00 MAX.=+0.00
-DECIMAL PRECISION

REV. A	PART NUMBER LCM-X04004DXX	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.		290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 US WEB: www.lumex.com TW WEB: www.lumex.com.tw			
4.89mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 40 x 4 LCD CHARACTER 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: CT	CHECKED BY:	APPROVED BY:	DATE: 9.10.98 PAGE: 1 OF 2 SCALE: N/A

PIN CONFIGURATION				
PIN NO.	SYMBOL	LEVEL	FUNCTION	
1~8	DB7~DB0	H/L	DATA BUS—SOFTWARE SELECTABLE 4 OR 8 BIT MODE.	
9	E1	H,H→L	ENABLE 1	
10	R/ \overline{W}	H/L	H: DATA READ (MODULE→MPU) L: DATA WRITE (MODULE←MPU)	
11	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT	
12	V _o	—	POWER SUPPLY	
13	V _{ss}	—		FOR LCD DRIVE
14	V _{DD}	—		GND (0V)
15	E2	H,H→L	5V	
16	—	—	ENABLE 2	
	A	—	NO CONNECTION	
	K	—	ANODE FOR BACKLIGHT	
			CATHODE FOR BACKLIGHT	

$V_{DD}-V_o$: LCD DRIVING VOLTAGE
VR: 10K Ω - 20K Ω



ELECTRICAL CHARACTERISTICS		$V_{DD}=4.7V$ to $5.3V$, $T_A=25^\circ C$				
ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
SUPPLY VOLTAGE FOR LOGIC	$V_{DD}-V_{ss}$	-	MIN.	TYP.	MAX.	
SUPPLY CURRENT FOR LOGIC	I_{DD}	$V_{DD}=5V$	-	4.0	10.0	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	-	4.2	4.6	V
	CURRENT	I_f	-	500	-	mA
	POWER CONSUMPTION	PD	-	2100	-	mW
	LUMINOUS	L	$I_f=500mA$	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	$V_{DD}-V_{ss}$	$T_a=25^\circ C$	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	$V_{DD}-V_o$	-	4.2@50 $^\circ C$	4.8@0 $^\circ C$	V
INPUT VOLTAGE	V_I	$T_a=25^\circ C$	V_{ss}	V_{DD}	V
OPERATING TEMPERATURE	T_{opr}	LCM-S	0	50	$^\circ C$
		LCM-H	-20	70	$^\circ C$
		LCM-S	-20	70	$^\circ C$
STORAGE TEMPERATURE	T_{stg}	LCM-H	-30	85	$^\circ C$

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REV.

A

PART NUMBER

LCM-X04004DXX

4.89mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX,
40 x 4 LCD CHARACTER MODULE, 1/16 DUTY, 1/5 BIAS.

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SCALE: N/A

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