UNCONTROLLED DOCUMENT

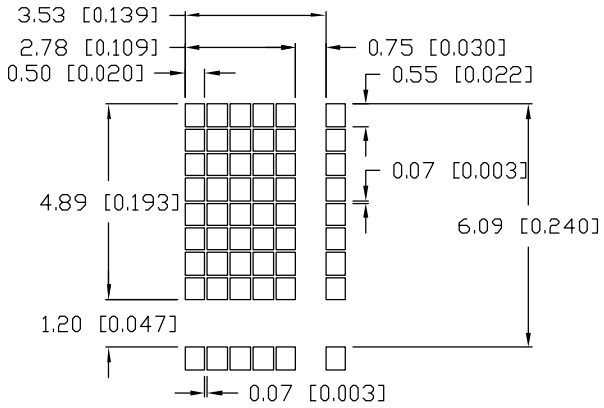
PART NUMBER	REV.
LCM–X04004DXX	A

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #10BRDR. & 10999.	6.10.03

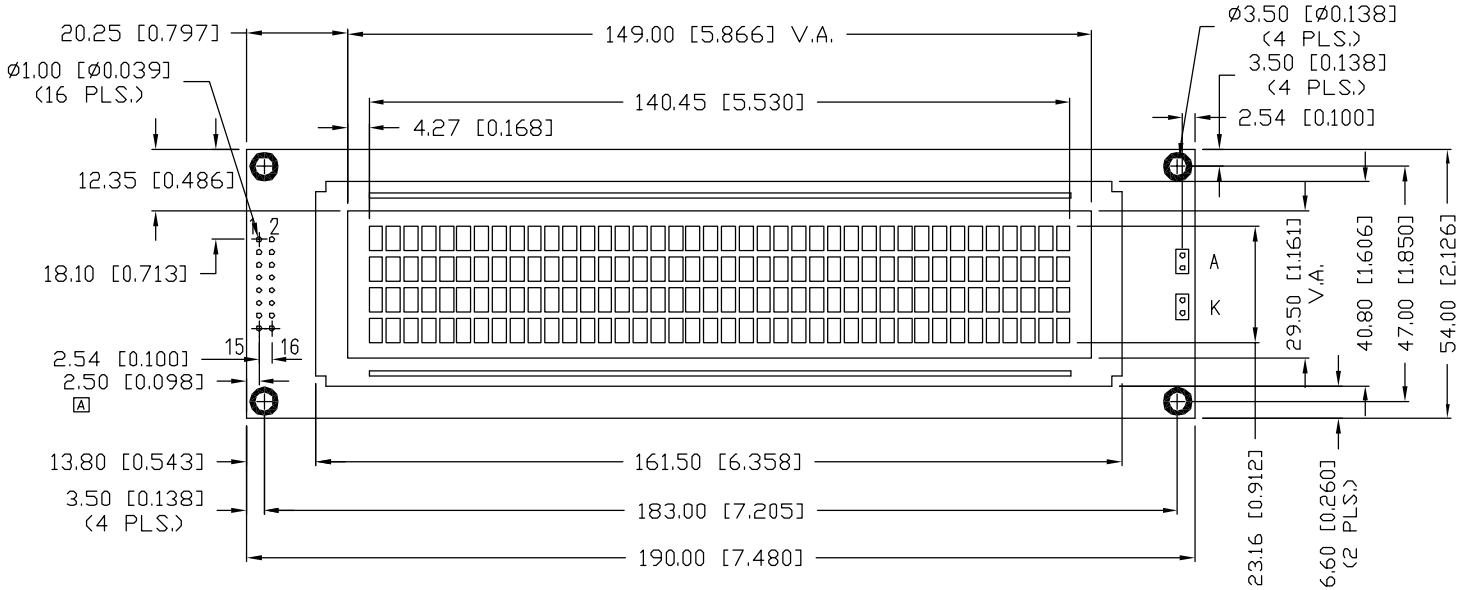
P/N PREFIX/SUFFIX TABLE			
LCM–X		DXX	DESCRIPTION
STANDARD	S	SR	STN, REFLECTIVE
		SF	STN, TRANSFLECTIVE(W/ BACKLIGHT)
HIGH TEMP.	H	TR	TN, REFLECTIVE
		TF	TN, TRANSFLECTIVE(W/ BACKLIGHT)

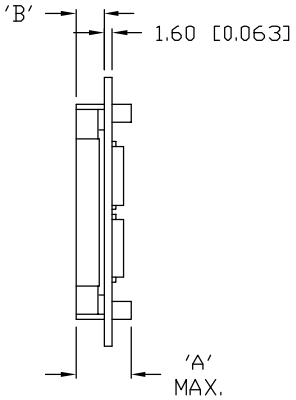
CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.

CHARACTER DETAIL



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





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REV.	PART NUMBER
A	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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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.

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CT			PAGE: 1 OF 2
			SCALE: N/A

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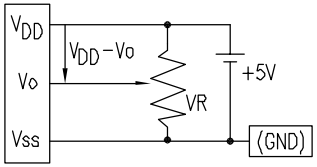
PART NUMBER	REV.
LCM-X04004DXX	A

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
	SEE PAGE 1.	

PIN CONFIGURATION

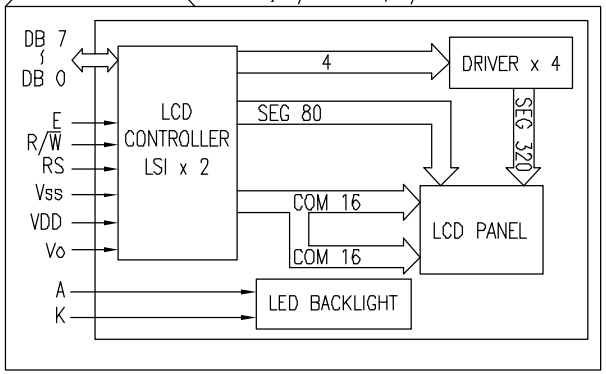
PIN NO.	SYMBOL	LEVEL	FUNCTION	
A 1~8	DB7~DB0	H/L	DATA BUS-SOFTWARE SELECTABLE 4 OR 8 BIT MODE.	
9	E1	H,H->L	ENABLE 1	
10	R/$\overline{W}$	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<--MPU)	
11	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT	
12	Vo	–	POWER SUPPLY	FOR LCD DRIVE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

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



BLOCK DIAGRAM

40 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 MIN.	TYP.	MAX.	UNIT
SUPPLY VOLTAGE FOR LOGIC		V_{DD}-Vss	–	–	5.0	–	V
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	Vf	–	–	4.2	4.6	V
	CURRENT	If	–	–	500	–	mA
	POWER CUNSUMPTION	PD	–	–	2100	–	mW
	LUMINOUS	L	If=500mA	70	–	–	cd/m²
	COLOR	–	–	–	–	–	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE MIN	MAX	UNIT
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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