

UNCONTROLLED DOCUMENT

PART NUMBER
LCM-X320240GXX/C(-X)

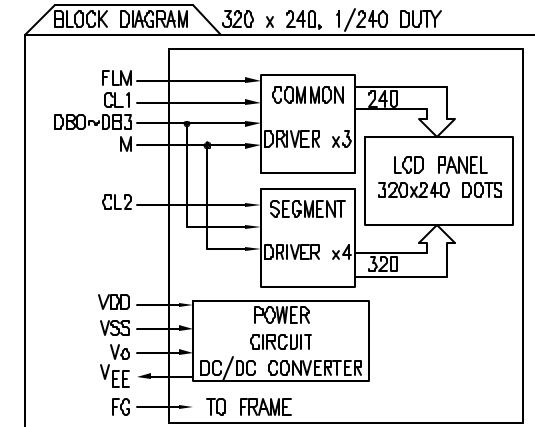
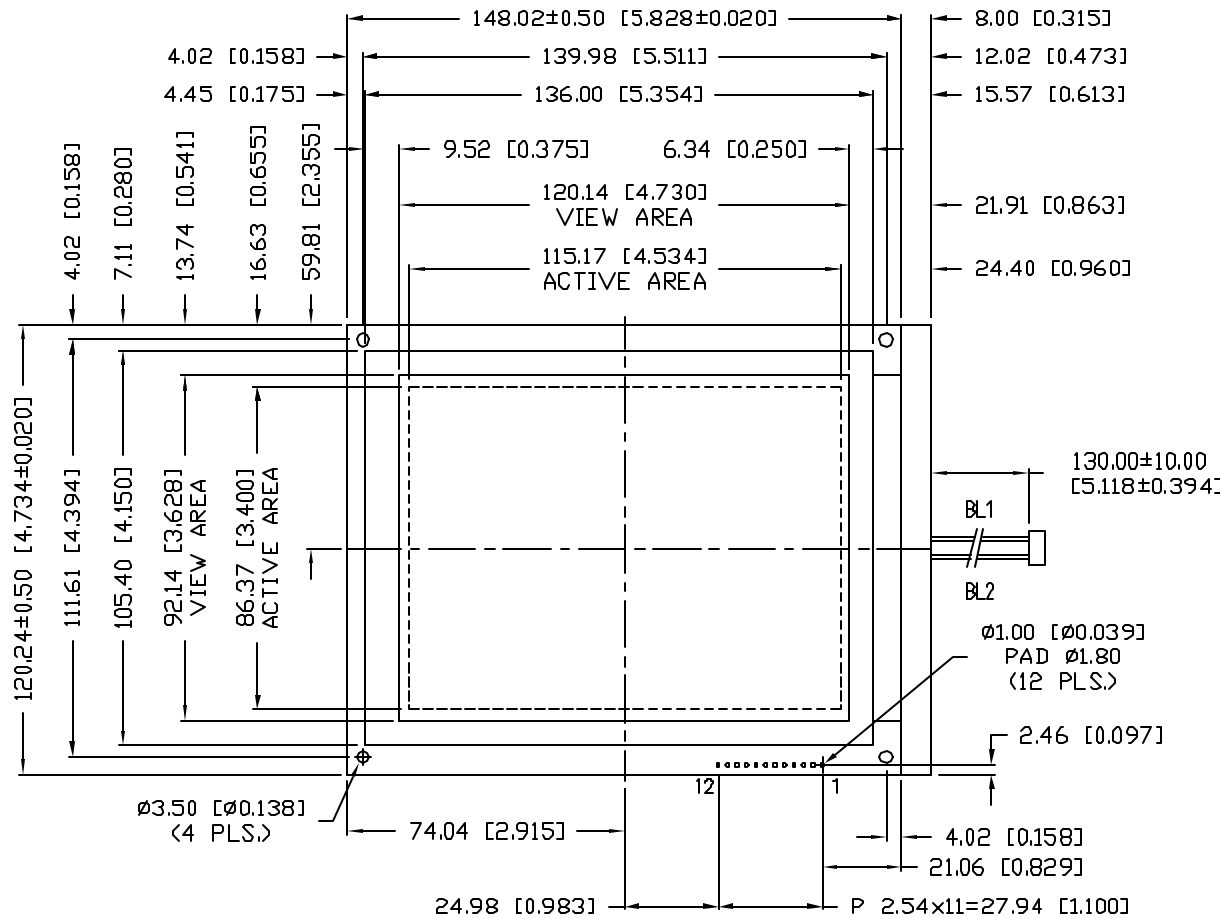
REV.

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

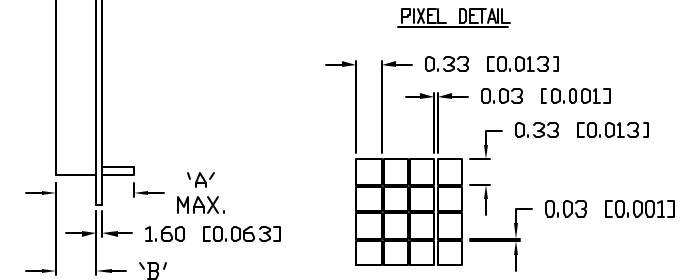
DATE

P/N PREFIX/SUFFIX TABLE			
LCM-X	GXX/C	DESCRIPTION	
STANDARD	S	SR/C	STN, REFLECTIVE
HIGH TEMP.	H	WF/C-C	FSTN, TRANSFLECTIVE(W/CFL BACKLIGHT)

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



TYPE	DIM.	A	B
WITH BACKLIGHT		20.5	10.5
NO BACKLIGHT		10.2	5.2



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

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LUMEX
INCORPORATED

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320 x 240 DOT MATRIX GRAPHIC MODULE, 1/4 VGA,
WITH NEGATIVE CHARGE PUMP, 1/64 DUTY, MONOCHROME.

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: 3-31-99

SA/DU

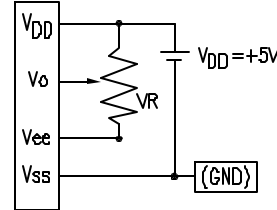
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SCALE: N/A

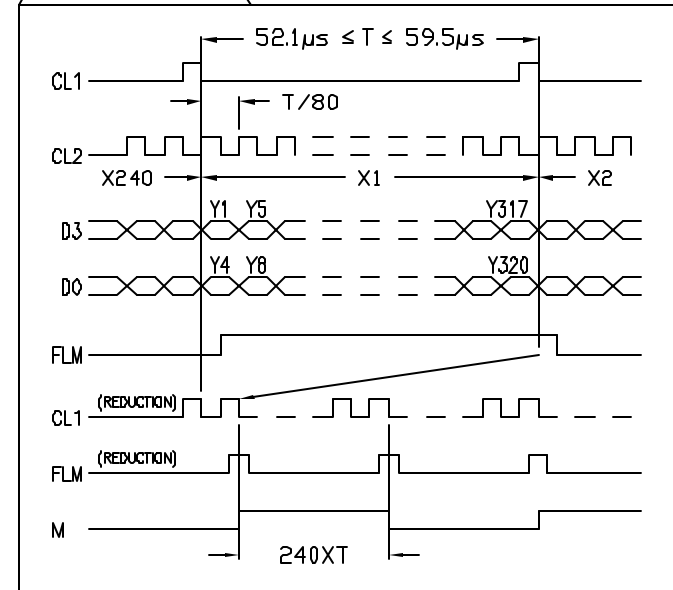
PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	-	GND
2	V _{DD}	-	POWER SUPPLY FOR LOGIC CIRCUIT
3	V _o	-	LCD CONTRAST VOLTAGE
4	FLM	H/L	THE FLM SIGNAL INDICATES THE BEGINNING OF EACH DISPLAY CYCLE.
5	CL1	H->L	DATA LATCH PULSE
6	CL2	H->L	DATA SHIFT CLOCK PULSE
7	M	H/L	CONTROL SIGNAL FOR AC DRIVING
8~11	D0~D3	H/L	DATA BUS
12	V _{EE}	-	POWER SUPPLY FOR LCD DRIVING CIRCUIT

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



INTERFACE SIGNALS



ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT	
			MIN.	TYP.	MAX.		
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	-	4.5	5.0	5.5	V	
SUPPLY CURRENT FOR LOGIC	I _{DD}	NOTE 1	-	16.0	-	mA	
SUPPLY VOLTAGE FOR LCD DRIVER	V _{DD} -V _o	V _{DD} =5V	22.4	23.5	24.3	V	
SUPPLY CURRENT FOR LCD	I _{EE}	NOTE 1	-	5.0	-	mA	
INPUT VOLTAGE*	HIGH	V _{IH}	-	2.2	-	V _{DD}	V
	LOW	V _{IL}	-	-	0.6	V	
OUTPUT VOLTAGE*	HIGH	V _{OH}	-	2.4	-	V	
	LOW	V _{OL}	-	-	0.4	V	
CCFL DRIVING VOLTAGE	V _{CCFL}	Ta=25°C	-	300	-	V _{rms}	
CCFL FREQUENCY	f _{CCFL}	-	-	70	85	KHz	
CCFL CURRENT	I _{CCFL}	Ta=25°C	4	5	6	mA	
CCFL STARTING DISCHARGE VOLTS	-	Ta=5°C	1000	-	-	V	
BRIGHTNESS	-	SURFACE AREA	-	80	-	cd/m ²	
CCFL OPERATING LIFETIME	-	Ta=25°C	-	10K	-	HOURS	

NOTE 1: V_{DD}-V_{SS}=5.0V
V_{DD}-V_o=23.0V

*APPLIED TO TERMINALS FLM, CL1, CL2, D0~D3.

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	Ta=25°C	-	6.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _o	Ta=25°C	-	27.0	V
INPUT VOLTAGE	V _I	Ta=25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-S	0	50	°C
		LCM-H	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-S	-20	70	°C
		LCM-H	-30	85	°C

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