



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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UNCONTROLLED DOCUMENT

PART NUMBER
LCM-X320240GXX/C(-X)

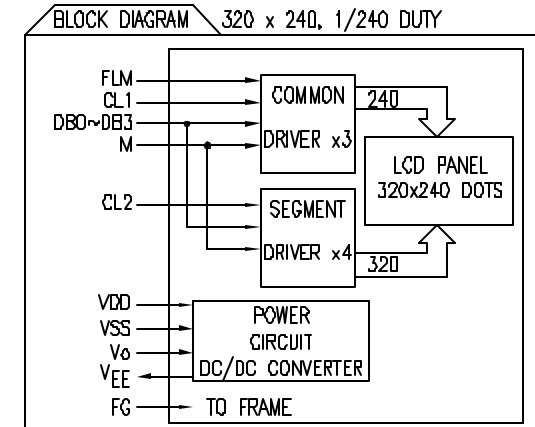
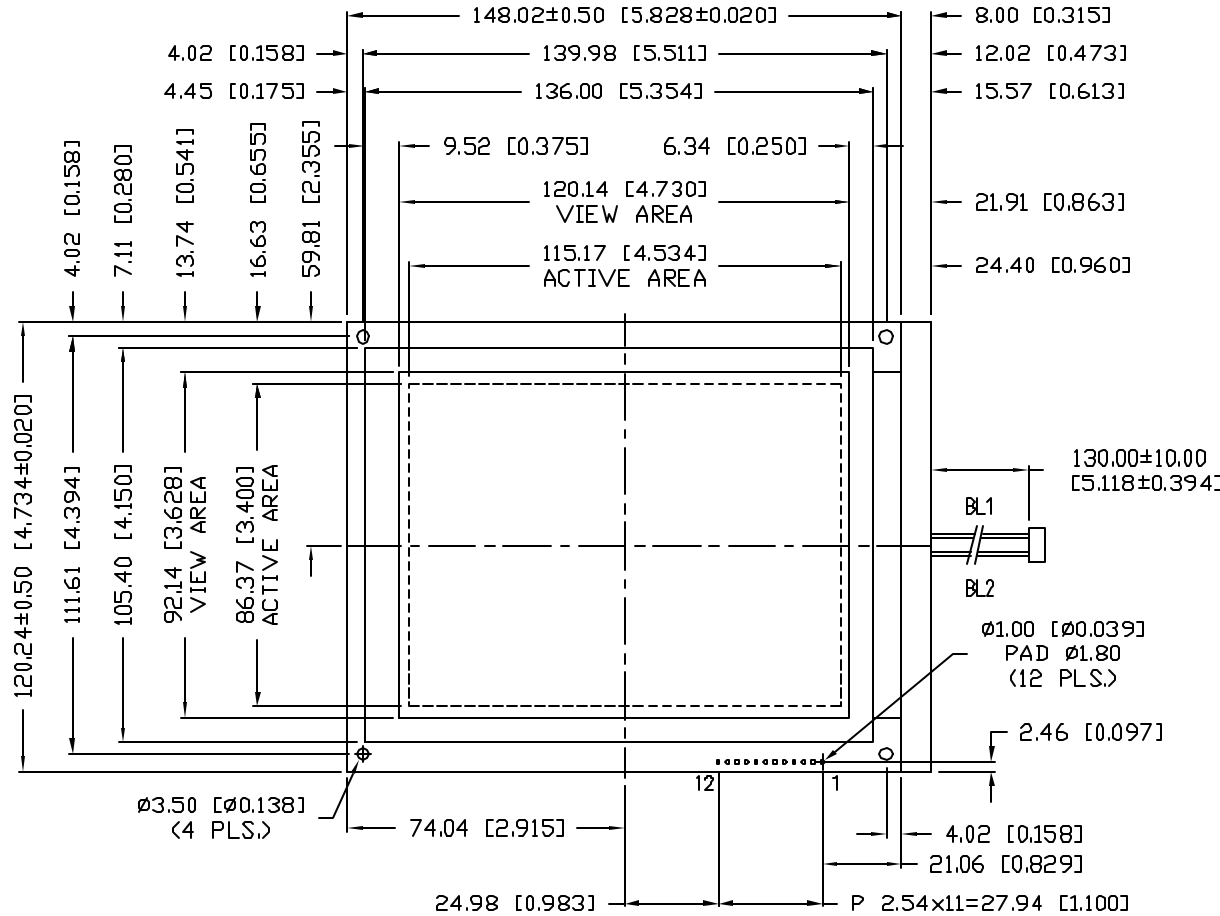
REV.

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

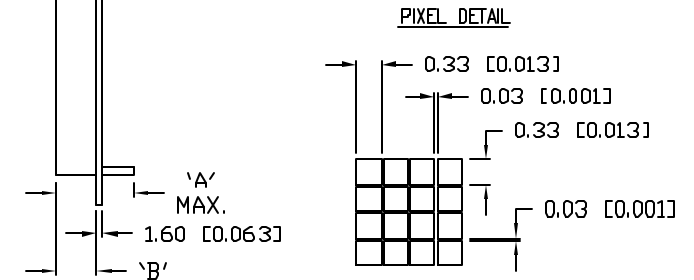
DATE

P/N PREFIX/SUFFIX TABLE			
LCM-X	GXX/C	DESCRIPTION	
STANDARD	S	SR/G	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")

REV.

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290 E. HELLEN ROAD
PALATINE, ILLINOIS 60067
PHONE: 1-847-359-2790
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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

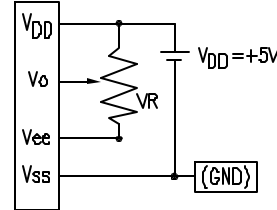
SA/DU

PAGE: 1 OF 2
SCALE: N/A

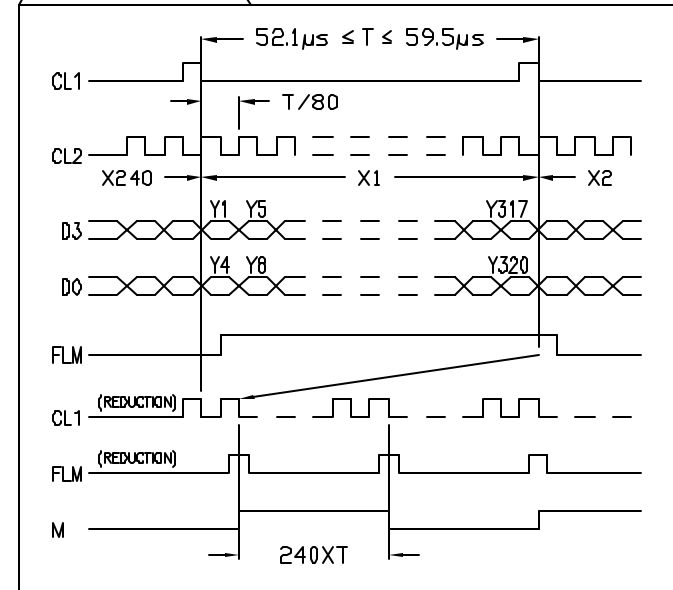
PIN CONFIGURATION

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}	T _a =25°C	-	300	-	V _{rms}	
CCFL FREQUENCY	f _{CCFL}	-	-	70	85	KHz	
CCFL CURRENT	I _{CCFL}	T _a =25°C	4	5	6	mA	
CCFL STARTING DISCHARGE VOLTS	-	T _a =5°C	1000	-	-	V	
BRIGHTNESS	-	SURFACE AREA	-	80	-	cd/m ²	
CCFL OPERATING LIFETIME	-	T _a =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}	T _a =25°C	-	6.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _o	T _a =25°C	-	27.0	V
INPUT VOLTAGE	V _I	T _a =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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