



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!



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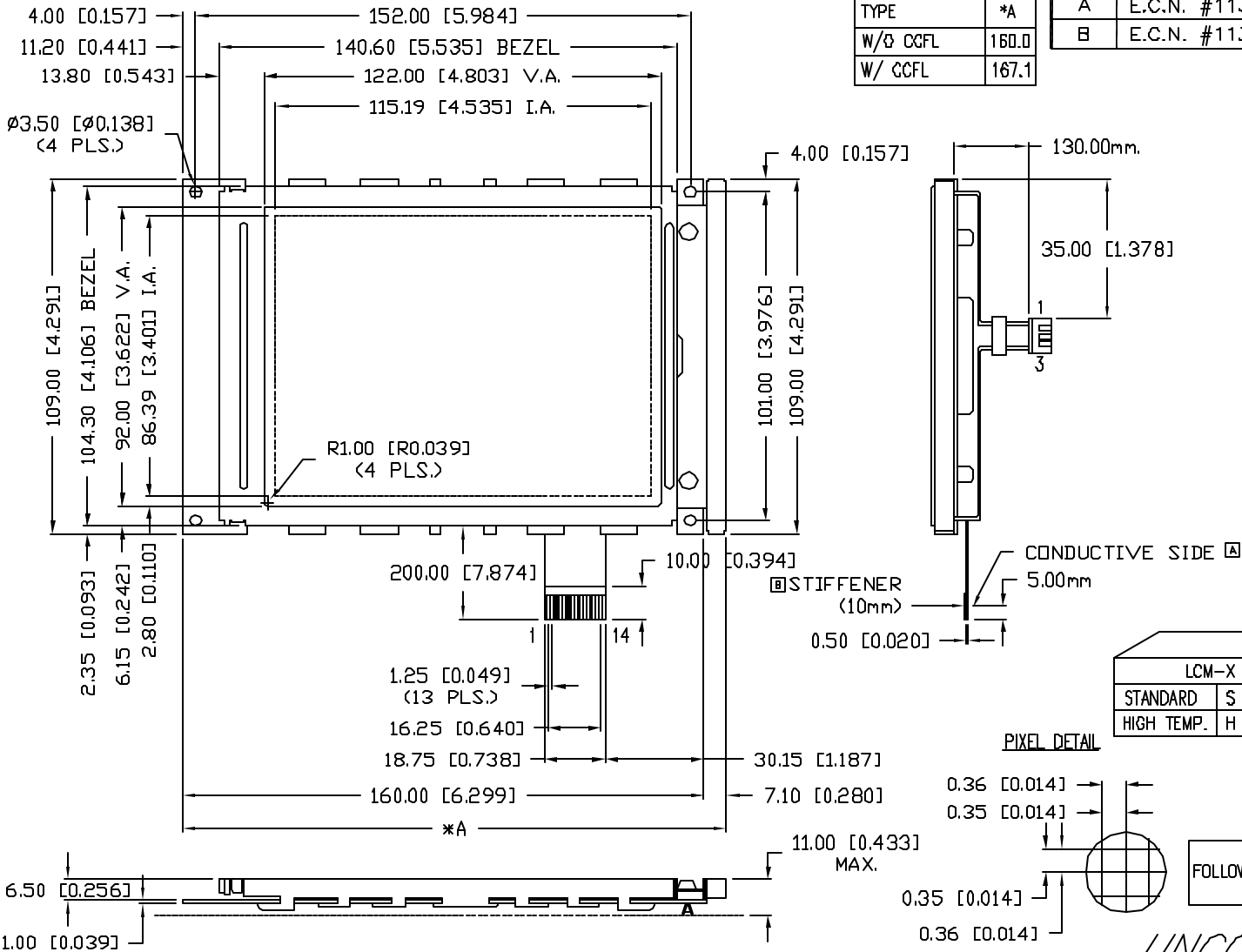


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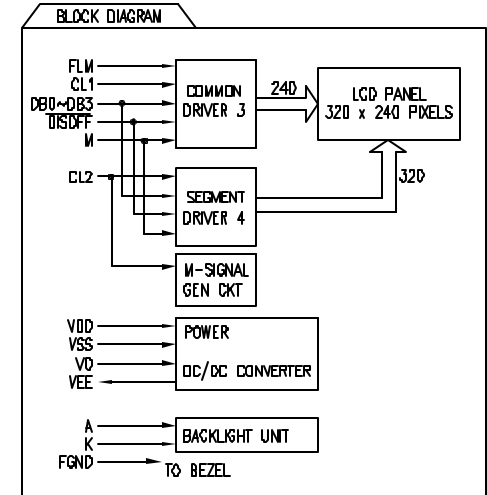
PART NUMBER
LCM-X320240GXX/B

REV.
B

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11370	11.21.06
B	E.C.N. #11385	01.10.07

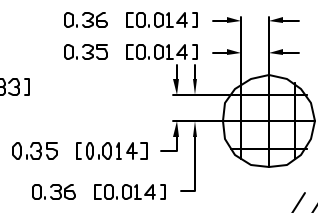


TYPE	*A
W/Ø CCFL	160.0
W/ CCFL	167.1



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

PIXEL DETAIL



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

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*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.038), XX=±0.5 (±0.020), XXX=±0.25 (±0.010), XXXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN= +DECIMAL PRECISION MAX= +0.00 -DECIMAL PRECISION

REV. B	PART NUMBER LCM-X320240GXX/B
320 x 240 DOT MATRIX, 1/4 VGA GRAPHIC MODULE, DC-DC, 1/240 DUTY.	

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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.



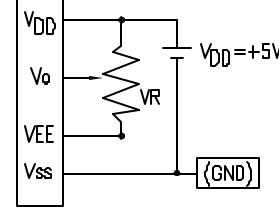
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			PAGE: 1 OF 3
			SCALE: N/A

PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1~4	DO~D3	H/L	DATA BUS
5	DISP.OFF	H/L	H: ON, L: OFF
6	FLM	H	THE FLM SIGNAL INDICATES THE BEGINNING OF EACH DISPLAY CYCLE.
7	NC	-	-
8	CL1	H->L	DATA LATCH PULSE
9	CL2	H->L	DATA SHIFT CLOCK PULSE
10	V _{DD}	-	POWER SUPPLY FOR LOGIC CIRCUIT
11	V _{SS}	-	GND
12	V _{EE}	-	POWER SUPPLY FOR LCD DRIVING CIRCUIT
13	V _o	-	LCD CONTRAST VOLTAGE
14	FGND	-	FLM GND

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



ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT	
			MIN.	TYP.	MAX.		
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	-	4.75	5.0	5.5	V	
SUPPLY CURRENT FOR LOGIC	I _{DD}	NOTE 1	-	16.0	25	mA	
SUPPLY VOLTAGE FOR LCD DRIVER	V _{EE} -V _{SS}	-	22.4	23.5	24.3	V	
SUPPLY CURRENT FOR LCD	I _{EE}	NOTE 1	-	5.0	-	mA	
INPUT VOLTAGE*	HIGH LOW	V _{IH}	-	2.2	-	V _{DD}	V
		V _{IL}	-	-	-	0.6	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=23.5V

*APPLIED TO TERMINALS FLM, CL1, CL2, DO~D3, DISPOFF.

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	-	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _o	T _a =25°C	-	30	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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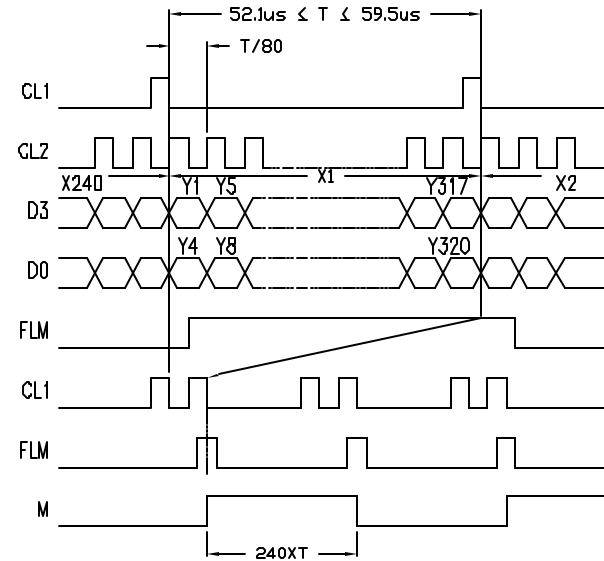
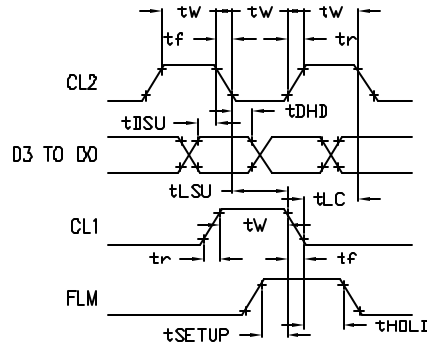
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TIMING SPECIFICATIONS

PARAMETER	SYMBOL	MIN	MAX	UNIT
CLOCK FREQUENCY	f _{CP}	-	8	MHz
CLOCK PULSE WIDTH	t _w	45	-	ns
RISE, FALL TIME	t _r , t _f	-	15	ns
DATA SET-UP TIME	t _{DSU}	20	-	ns
DATA HOLD TIME	t _{DHD}	20	-	ns
CL1 SET-UP TIME	t _{LSU}	80	-	ns
CL1 -> CL2 TIME	t _{LC}	80	-	ns
FLM SET-UP TIME	t _{setup}	100	-	ns
FLM HOLD TIME	t _{hold}	100	-	ns
M DELAY TIME	t _{DF}	-	300	ns



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