

PART NUMBER
LCM-S320240GSN/B-C

Technical drawing of a 13-inch LCD module showing front, side, and pixel detail views with dimensions in mm and inches.

Front View Dimensions:

- Top: 4.00 [0.157] (Mounting hole offset), 11.20 [0.441] (Mounting hole offset), 13.80 [0.543] (Mounting hole offset), 152.00 [5.984] (Total width), 140.60 [5.535] BEZEL (Bezel width), 122.00 [4.803] V.A. (Viewing Area width), 115.19 [4.535] I.A. (Image Area width).
- Left: 109.00 [4.291] (Total height), 104.30 [4.106] BEZEL (Bezel height), 92.00 [3.622] V.A. (Viewing Area height), 86.39 [3.401] I.A. (Image Area height).
- Bottom: 2.35 [0.093] (Mounting hole offset), 6.15 [0.242] (Mounting hole offset), 2.80 [0.110] (Mounting hole offset), 200.00 [7.874] (Total width), 10.00 [0.394] (Mounting hole offset), 1.25 [0.049] (13 PLS.) (Pixel pitch), 16.25 [0.640] (Pixel pitch), 18.75 [0.738] (Pixel pitch), 160.00 [6.299] (Total width), 167.1 [6.579] (Total width).
- Right: 4.00 [0.157] (Mounting hole offset), 101.00 [3.976] (Total height), 109.00 [4.291] (Total height).

Side View Dimensions:

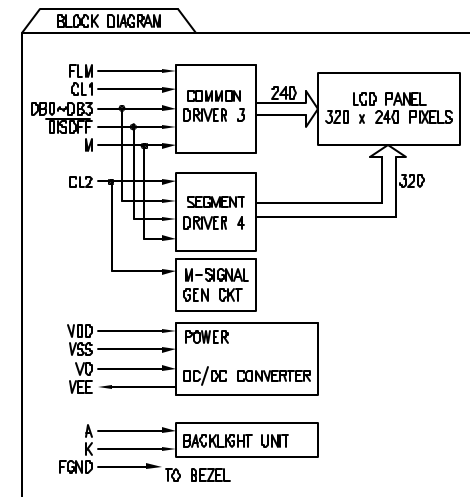
- Top: 130.00mm (Total width), 35.00 [1.378] (Mounting hole offset).
- Bottom: 5.00mm (CONDUCTIVE SIDE), 0.50 [0.020] (Mounting hole offset).

Pixel Detail:

- Pixel pitch: 0.36 [0.014] (Horizontal), 0.35 [0.014] (Vertical).

Other Dimensions:

- 1.00 [0.039] (Mounting hole offset).
- 11.00 [0.433] MAX. (Mounting hole offset).
- 7.10 [0.280] (Mounting hole offset).
- 30.15 [1.187] (Mounting hole offset).
- 14 (Mounting hole offset).
- STIFFENER (10mm) (Mounting hole offset).



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

UNCONTROLLED DOCUMENT

*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=+0.00, MAX=-0.00

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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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DRAWN BY:

CHECKED BY:

APPROVED BY:

DATE: 11.21.06

JC

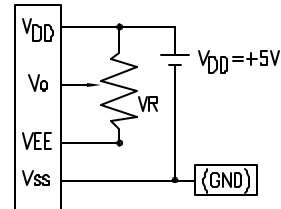
PAGE: 1 OF 2

SCALE: N/A

PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1~4	D0~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	-	FRAME

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



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}	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=23.5V

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

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	Ta=25°C	-	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _o	Ta=25°C	-	30	V
INPUT VOLTAGE	V _I	Ta=25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-S	0	50	°C
STORAGE TEMPERATURE	T _{stg}	LCM-S	-20	70	°C

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REV.

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320 x 240 DOT MATRIX, 1/4 VGA GRAPHIC MODULE,

DC-DC, 1/240 DUTY. NEGATIVE IMAGE WITH CCFL BACKLIGHT.

DRAWN BY:

JC

CHECKED BY:

APPROVED BY:

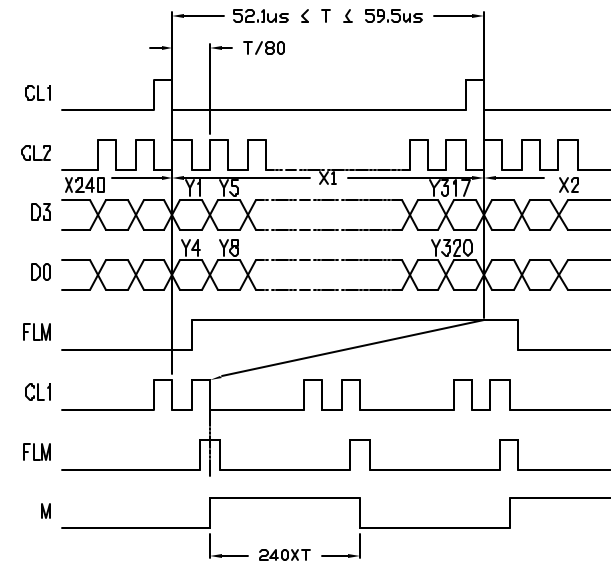
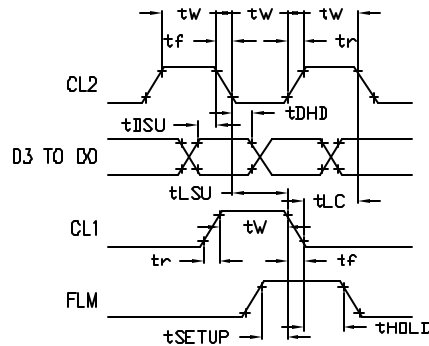
DATE: 7.10.03

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SCALE: N/A

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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DC-DC, 1/240 DUTY. NEGATIVE IMAGE WITH CCFL BACKLIGHT.

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