

UNCONTROLLED DOCUMENT

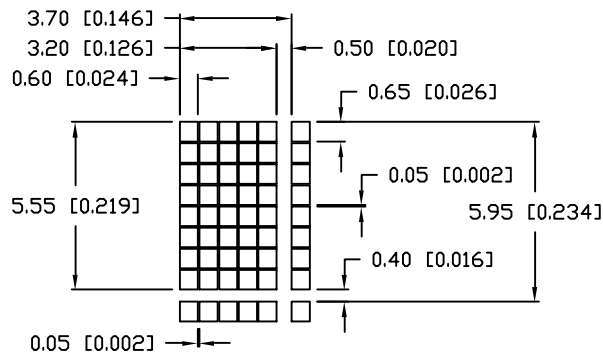
PART NUMBER  
LCM-S02402DSM

REV.

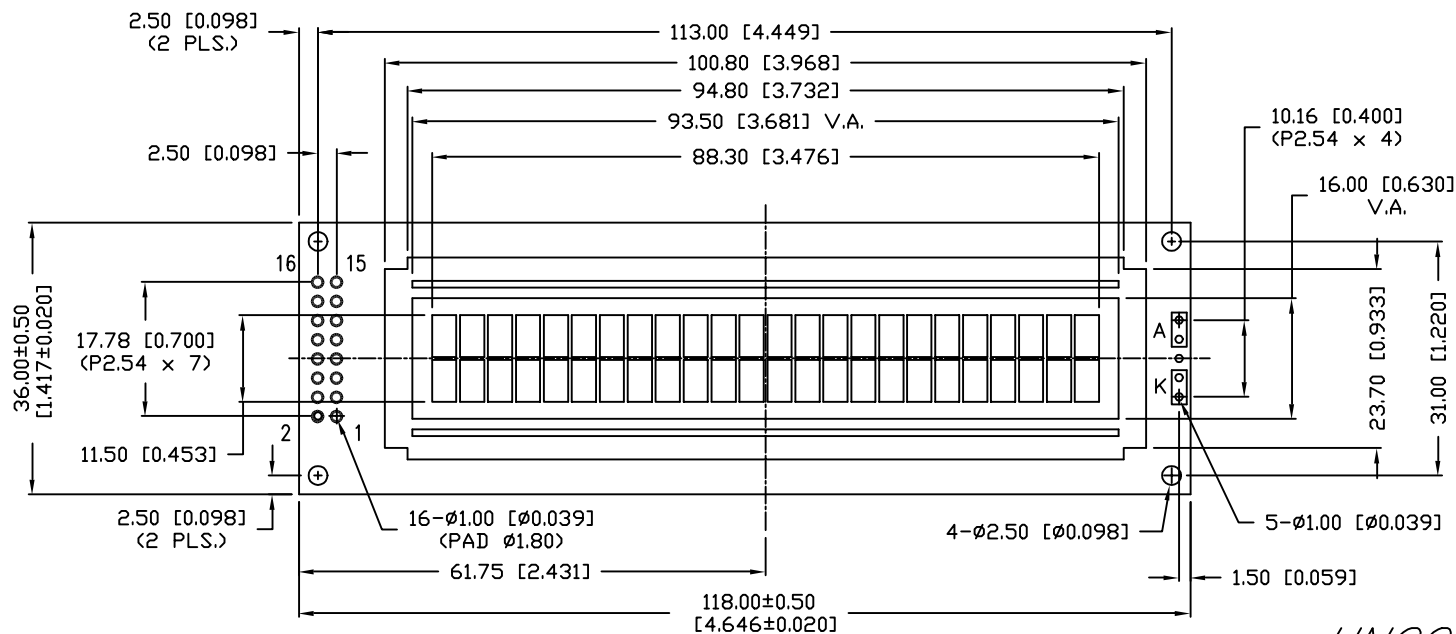
REV. E.C.N. NUMBER AND REVISION COMMENTS

DATE

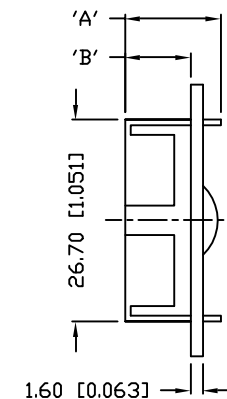
CHARACTER DETAIL



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



TYPE	DIM.	A	B
WITH BACKLIGHT		12.7	8.7
NO BACKLIGHT		8.8	4.8



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

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5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX,  
24 x 2 CHARACTER LCD MODULE,  
STN, TRANSMISSIVE, 1/16 DUTY.

**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.

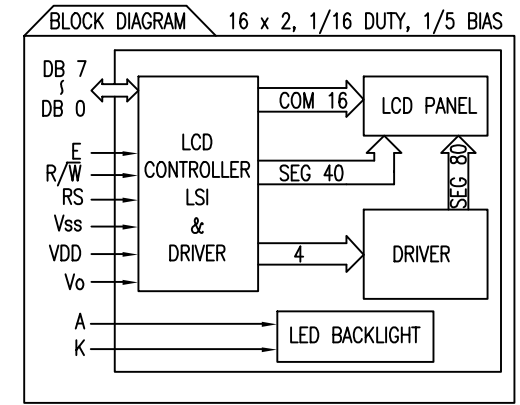
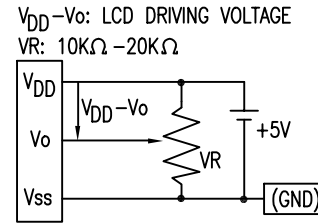
DRAWN BY: CHECKED BY: APPROVED BY: DATE: 8-18-98

SA/BC

PAGE: 1 OF 2

SCALE: N/A

PIN CONFIGURATION						
PIN NO.	SYMBOL	LEVEL	FUNCTION			
1	V <sub>SS</sub>	-	POWER SUPPLY	GND (0V)		
2	V <sub>DD</sub>	-		5V		
3	V <sub>O</sub>	-		FOR LCD DRIVE		
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT			
5	R/W	H/L	H: DATA READ (MODULE-->MPU) L: DATA WRITE (MODULE<<--MPU)			
6	E	H,H->L	ENABLE			
7~14	DB0~DB7	H/L	DATA BUS-SOFTWARE SELECTABLE 4 OR 8 BIT MODE.			
15	A	-	ANODE	LED BACKLIGHT		
16	K	-	CATHODE	LED BACKLIGHT		



ELECTRICAL CHARACTERISTICS V<sub>DD</sub>=4.5V to 5.5V, T<sub>A</sub>=25°C

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT	APPLICABLE TERMINAL	
			MIN.	TYP.	MAX.			
SUPPLY VOLTAGE FOR LOGIC	V <sub>DD</sub> -V <sub>SS</sub>	-	4.7	5.0	5.3	V	V <sub>DD</sub>	
SUPPLY CURRENT FOR LOGIC	I <sub>DD</sub>	V <sub>DD</sub> =5V	-	2.5	5.0	mA	V <sub>DD</sub>	
INPUT VOLTAGE	HIGH	V <sub>IH</sub>	-	2.2	-	V	RS,R/W,E	
	LOW	V <sub>IL</sub>	-	0	-	0.6	DB0~DB7	
OUTPUT VOLTAGE	HIGH	V <sub>OH</sub>	I <sub>OH</sub> =-0.205mA	2.4	-	V	DB0~DB7	
	LOW	V <sub>OL</sub>	I <sub>OL</sub> =1.6ma	-	-	0.4	RS,R/W,E	
*LED BACKLIGHT	VOLTAGE	V <sub>f</sub>	I <sub>f</sub> =160mA	-	4.2	4.5	V	-
	CURRENT	I <sub>f</sub>	-	-	160	400	mA	-
	POWER CONSUMPTION	PD	-	-	660	-	mW	-
	LUMINOUS	L	I <sub>f</sub> =160mA	70	-	-	cd/m <sup>2</sup>	-
COLOR	-	-	-	-	-	nm	-	

\*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V <sub>DD</sub> -V <sub>SS</sub>	T <sub>a</sub> =25°C	4.5	5.5	V
SUPPLY VOLTAGE FOR LCD DRIVE	V <sub>DD</sub> -V <sub>O</sub>	T <sub>a</sub> =25°C	4.2	4.8	V
INPUT VOLTAGE	V <sub>r</sub>	T <sub>a</sub> =25°C	V <sub>SS</sub>	V <sub>DD</sub>	V
OPERATING TEMPERATURE	T <sub>opr</sub>	LCM-S	0	50	°C
STORAGE TEMPERATURE	T <sub>stg</sub>	LCM-S	-20	70	°C

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