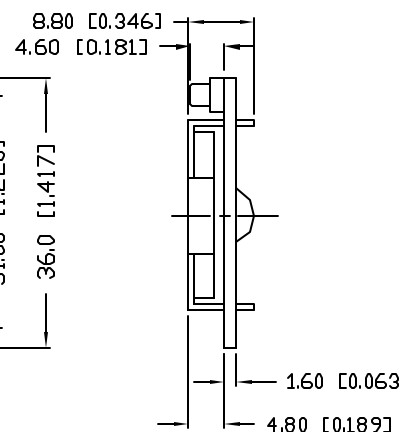
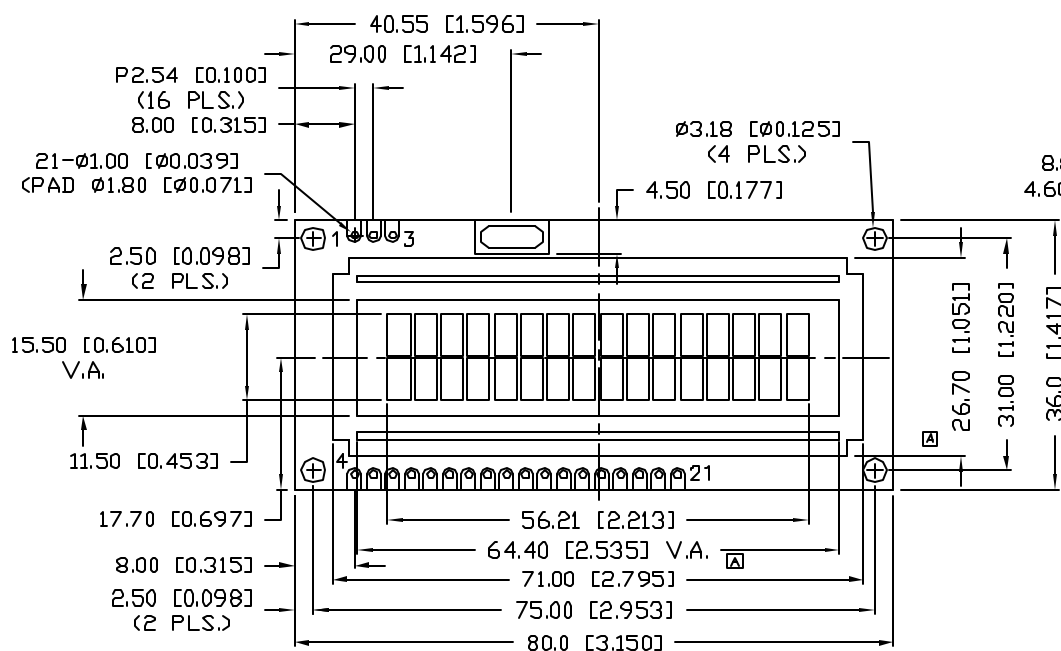


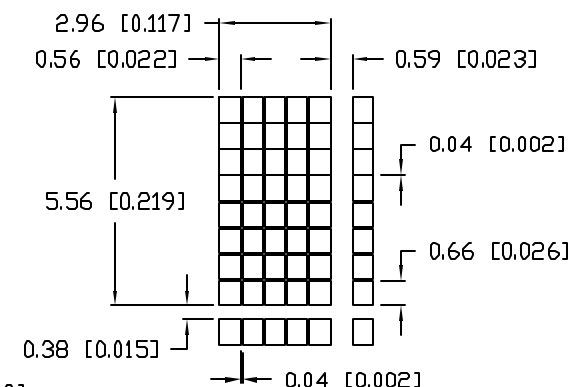
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LCM-E01602DSRREV.  
D

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #10677.	11.10.00
B	E.C.N. #10707.	1.17.01
C	E.C.N. #10723.	3.19.01
D	E.C.N. #11148.	02.13.07



## CHARACTER 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 (±0.039), 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 -0.00 MAX.= +0.00 -DECIMAL PRECISION

REV. D	PART NUMBER LCM-E01602DSR	<p>CONFIDENTIAL INFORMATION</p> <p>THE INFORMATION CONTAINED IN THIS DOCUMENT IS THE PROPERTY OF LUMEX INC. EXCEPT AS SPECIFICALLY AUTHORIZED IN WRITING BY LUMEX INC., THE HOLDER OF THIS DOCUMENT SHALL KEEP ALL INFORMATION CONTAINED HEREIN CONFIDENTIAL AND SHALL PROTECT SAME IN WHOLE OR IN PART FROM DISCLOSURE AND DISSEMINATION TO ALL THIRD PARTIES.</p> <p>RELIABILITY NOTE</p> <p>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.</p>	<p>290 E. HELEN ROAD PALATINE, IL 60067-6976 PHONE: +1.847.359.2790 US WEB: www.lumex.com TW WEB: www.lumex.com.tw</p>
5.56 CHARACTER HEIGHT, 16 x 2 CHARACTERS, LCD MODULE, 5 x 8 DOT MATRIX, SERIAL INPUT, STN, REFLECTIVE.		<p>DRAWN BY: JC</p>	<p>CHECKED BY:</p> <p>APPROVED BY:</p> <p>DATE: 10.12.00 PAGE: 1 OF 3 SCALE: N/A</p>

## PIN CONFIGURATION

PIN NO.	SYMBOL	I/O	FUNCTION	
1	Vss	I	POWER SUPPLY	GND (0V)
2	VDD	I		3.3V
3	RXD	I		SERIAL DATA
4~11	P1.0~1.7	I/O	8-BIT BIDIRECTIONAL I/O PORT	
12~17	P3.1~3.5,3.7	I/O	BIDIRECTIONAL I/O PORT WITH INTERNAL PULLUP	
18	XTAL1	I	INPUT TO INVERTING OSCILLATOR AMPLIFIER & INTERNAL CLOCK OPERATING CIRCUIT	
19	RST	I	RESET FOR AT89C2051	
20	Vss	I	GND (0V)	
21	Vcc	I	SUPPLY VOLTAGE FOR AT89C2051	

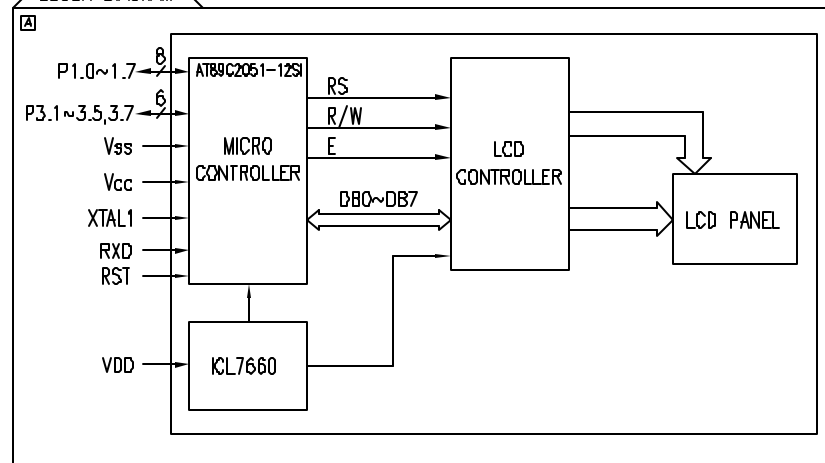
## ELECTRICAL CHARACTERISTICS

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE	Vcc	—	2.7	—	6.0	V
SUPPLY CURRENT	Icc	ACTIVE MODE 12MHz, Vcc=3V	—	—	5.5	mA
SUPPLY VOLTAGE FOR LCD DRIVE	Vo	Ta=25°C	—	0.8	—	V

## ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	STANDARD VALUE		UNIT
		MIN	MAX	
SUPPLY VOLTAGE	Vcc	—	6.6	V
VOLTAGE ON ANY PIN W/RESPECT TO GND	—	-1.0	+7.0	V
DC OUTPUT CURRENT	Iout	Icc	25.0	mA
OPERATING TEMPERATURE	Topr	-20	70	°C
STORAGE TEMPERATURE	Tstg	-30	85	°C

## BLOCK DIAGRAM



## NOTES:

1. 10K~20K POTENTIOMETER ON PCB TO ADJUST CONTRAST.

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REV.

D

PART NUMBER

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5.56 CHARACTER HEIGHT, 16 x 2 CHARACTERS, LCD MODULE,  
5 x 8 DOT MATRIX, SERIAL INPUT, STN, REFLECTIVE.

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## RELIABILITY NOTE

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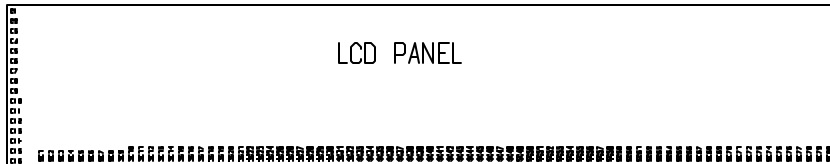
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SCALE: N/A

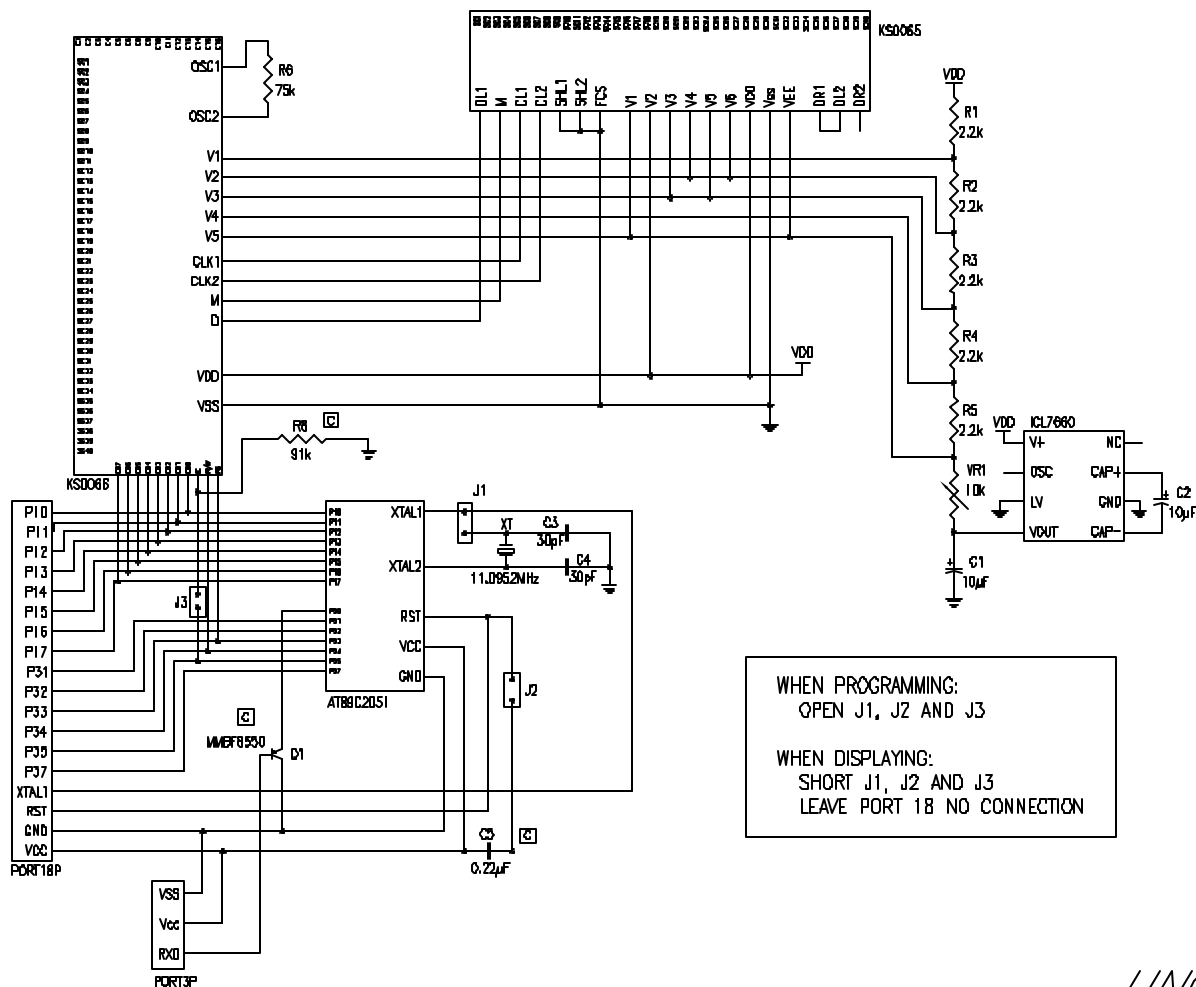
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DM1625



LCD PANEL

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REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
	SEE PAGE 1.	



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REV.	PART NUMBER
D	LCM-E01602DSR
5.56 CHARACTER HEIGHT, 16 x 2 CHARACTERS, LCD MODULE, 5 x 8 DOT MATRIX, SERIAL INPUT, STN, REFLECTIVE.	

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