

UNCONTROLLED DOCUMENT

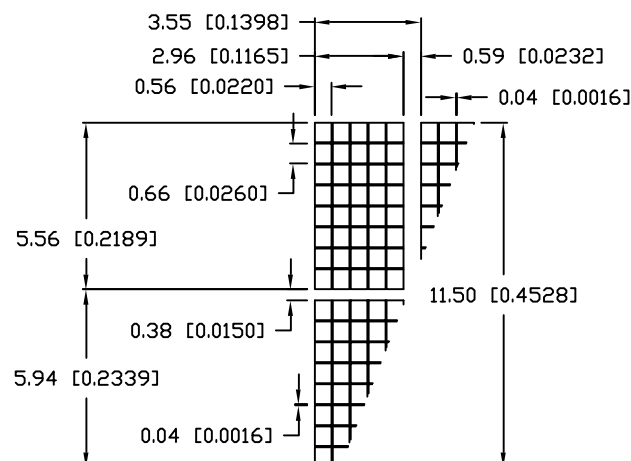
PART NUMBER  
LCM-S01602DSF/C

REV.

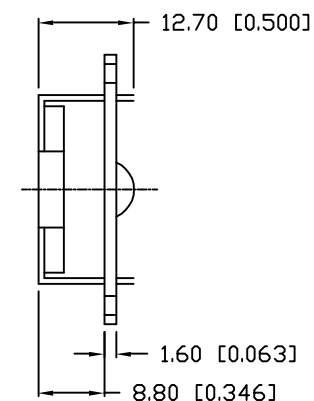
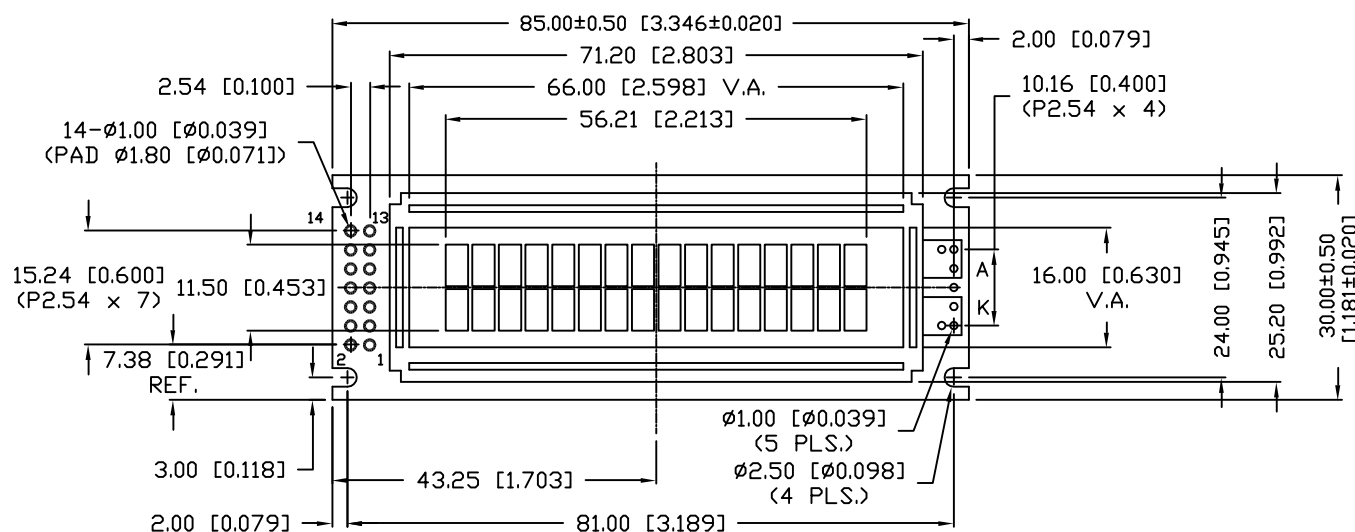
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REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11148.	10.10.07

## 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), 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.= +DECIMAL PRECISION -0.00 MAX.= +0.00 -DECIMAL PRECISION

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## CONFIDENTIAL INFORMATION

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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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16 x 2 LCD, 5 x 8 DOT MATRIX, STN, TRANSFLECTIVE,  
BACKLIGHT, 1/16 DUTY, 1/5 BIAS.

DRAWN BY:

CT

CHECKED BY:

APPROVED BY:

DATE: 10.30.01

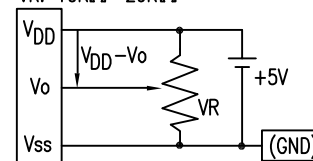
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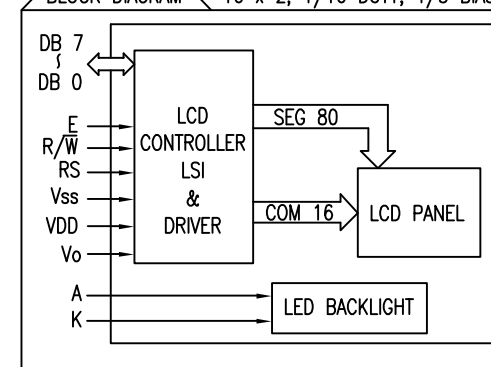
## PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V <sub>DD</sub>	—	POWER SUPPLY 5V GND (0V) FOR LCD DRIVE
2	V <sub>SS</sub>	—	
3	V <sub>O</sub>	—	
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.

V<sub>DD</sub>-V<sub>O</sub>: LCD DRIVING VOLTAGE  
VR: 10KΩ-20KΩ



## BLOCK DIAGRAM 16 x 2, 1/16 DUTY, 1/5 BIAS



## ELECTRICAL CHARACTERISTICS

V<sub>DD</sub>=4.7V to 5.3V, T<sub>A</sub>=25°C

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC	V <sub>DD</sub> -V <sub>SS</sub>	—	—	5.0	—	V
SUPPLY CURRENT FOR LOGIC	I <sub>DD</sub>	V <sub>DD</sub> =5V	—	2.0	3.0	mA
INPUT VOLTAGE	HIGH LOW	V <sub>IH</sub>	—	2.2	—	V <sub>DD</sub> V
		V <sub>IL</sub>	—	0	—	0.6 V
OUTPUT VOLTAGE	HIGH LOW	V <sub>OH</sub>	—	2.4	—	V
		V <sub>OL</sub>	—	—	0.4	V
LED BACKLIGHT	VOLTAGE	V <sub>f</sub>	I <sub>f</sub> =160mA	—	4.2	4.6 V
	CURRENT	I <sub>f</sub>	—	—	160	mA
	POWER CONSUMPTION	PD	—	—	656	mW
	LUMINOUS	L	I <sub>f</sub> =160mA	70	—	cd/m <sup>2</sup>
	COLOR	—	—	—	—	nm

## 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	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V <sub>DD</sub> -V <sub>O</sub>	—	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V <sub>I</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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5.56mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 16 x 2 LCD  
MODULE, 1/16 DUTY, 1/5 BIAS.

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