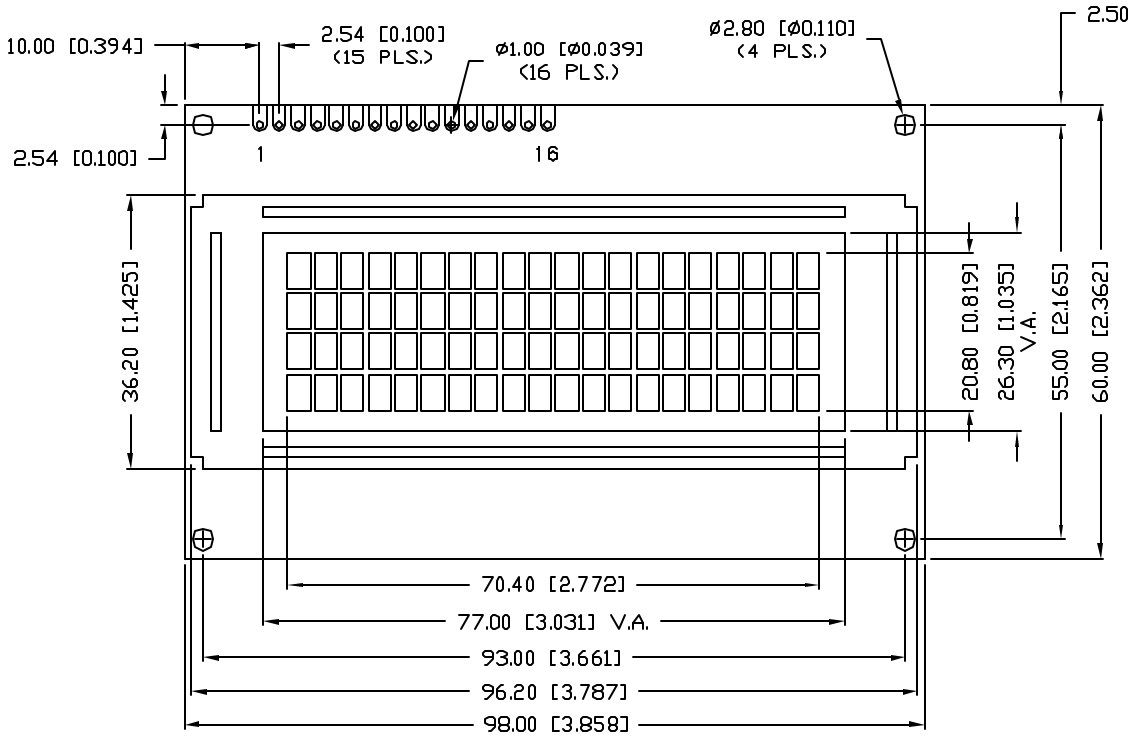
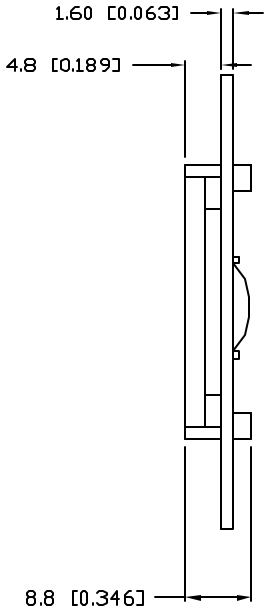
PART NUMBER	REV.
LCM-S02004DSF-U	

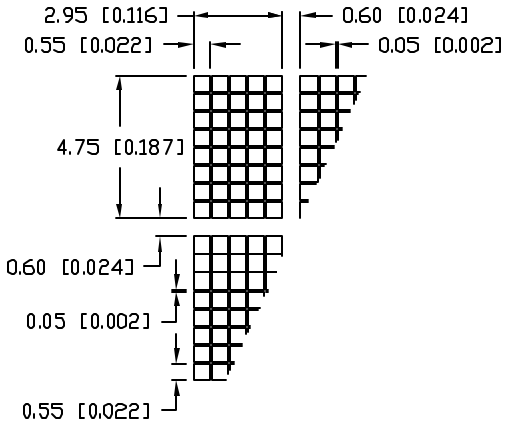
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE

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





CHARACTER DETAIL



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

REV.	PART NUMBER	CONFIDENTIAL INFORMATION	LUMEX INCORPORATED	290 E. HELLEN ROAD PALATINE, ILLINOIS 60067 PHONE: 1-847-359-2790 WEB: HTTP://WWW.LUMEX.COM
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4.75mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 20 x 4 LCD TRANSFLECTIVE, 6:00 VIEW, BLUE GREEN EL BACKLIGHT, MODULE, 1/16 DUTY, 1/5 BIAS.

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: 6-18-98
SA/DU/BC			PAGE: 1 OF 2
			SCALE: N/A

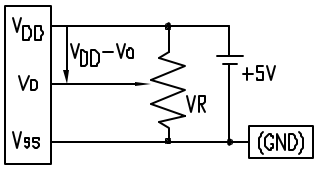
PART NUMBER	REV.
LCM-S02004DSF-U	

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

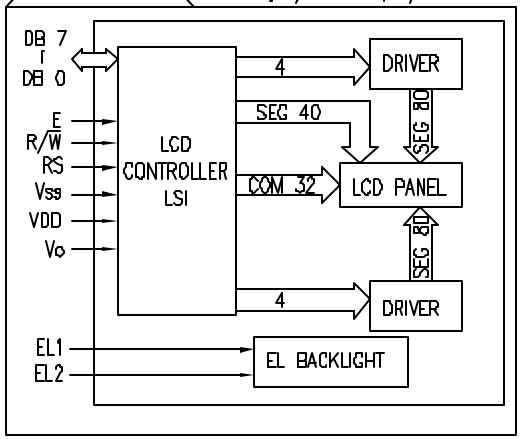
PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	Vss	–	POWER SUPPLY	GND (0V)
2	V_{DD}	–		5V
3	Vo	–		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	EL1	–		EL BACKLIGHT
16	EL2	–		EL BACKLIGHT

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



BLOCK DIAGRAM 20 x 4, 1/16 DUTY, 1/5 BIAS



ELECTRICAL CHARACTERISTICS

V_{DD}=4.7V to 5.3V, T_A=25°C

ITEM			SYMBOL	CONDITION	STANDARD VALUE			UNIT
					MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC			V_{DD}-Vss	–	–	5.0	–	V
SUPPLY CURRENT FOR LOGIC			I_{DD}	V_{DD}=5V	–	2.0	3.0	mA
INPUT VOLTAGE		HIGH	V_{IH}	–	2.2	–	VDD	V
		LOW	V_{IL}	–	0	–	0.6	V
OUTPUT VOLTAGE		HIGH	V_{OH}	I_{OH}=-0.205mA	2.4	–	–	V
		LOW	V_{OL}	I_{OL}=1.6ma	–	–	0.4	V
EL BACKLIGHT	VOLTAGE		V_{EL}	F_{EL}=400Hz	–	100	150	Vrms
	CURRENT		I_{EL}	V_{EL}=100Vrms	–	3.7	–	mArms
	FREQUENCY		F_{EL}	–	–	400	800	Hz
	LUMINOUS		L	100Vrms, 400Hz	50	–	–	cd/m²
	EXPECTED LIFE		–	–	–	5000	–	HOURS

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V_{DD}-Vss	Ta=25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V_{DD}-Vo	–	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V_I	Ta=25°C	Vss	V_{DD}	V
OPERATING TEMPERATURE	Topr	LCM-S	0	50	°C
STORAGE TEMPERATURE	Tstg	LCM-S	-20	70	°C

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