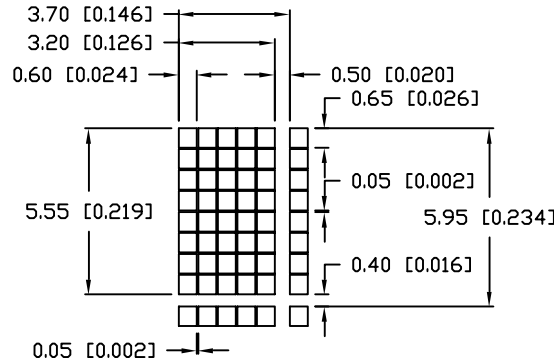
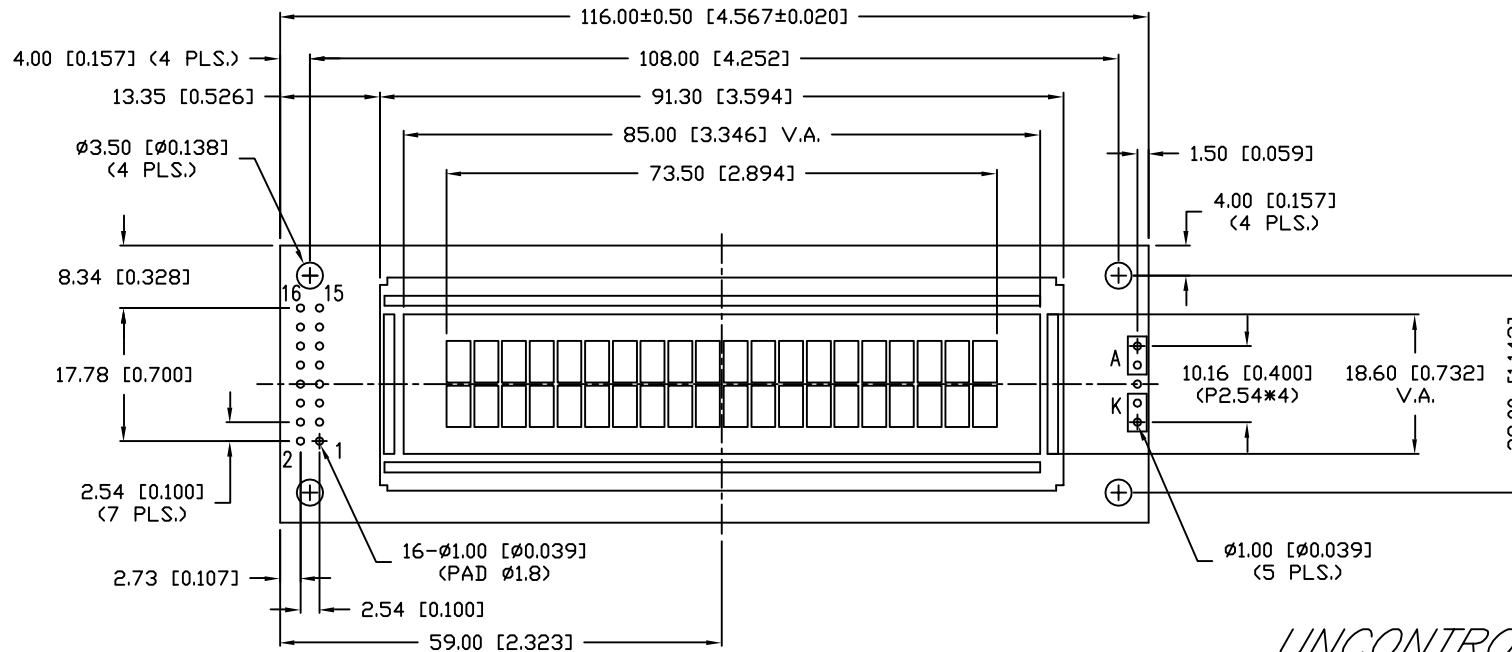


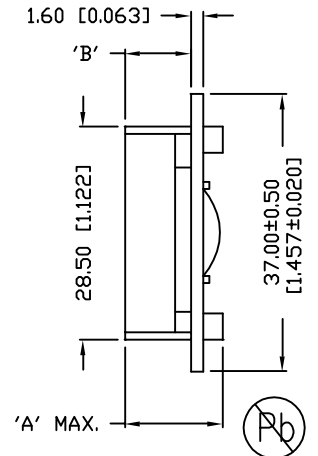
CHARACTER DETAIL



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



TYPE	DIM.	A	B
WITH BACKLIGHT	12.7	8.8	
NO BACKLIGHT	8.9	4.8	



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UNCONTROLLED DOCUMENT

REV.	PART NUMBER
	LCM-S02002DSF-S5

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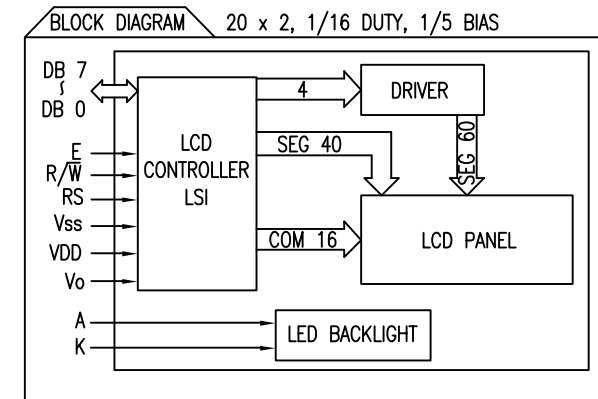
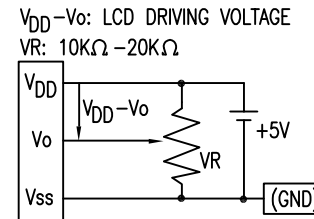
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PALATINE, IL 60067-6976
PHONE: +1.847.359.2790
US WEB: www.lumex.com
TW WEB: www.lumex.com.tw

5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX,
20 x 2 LCD MODULE, 1/16 DUTY, 1/5 IAS,
EUROPEAN FONT IC.

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: JN	CHECKED BY:	APPROVED BY:	DATE: 9.17.07
			PAGE: 1 OF 4
			SCALE: N/A

PIN CONFIGURATION			
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	-	POWER SUPPLY GND (0V) 5V FOR LCD DRIVE
2	V _{DD}	-	
3	V _O	-	
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 _{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} -V _{SS}	-	-	5.0	-	V
SUPPLY CURRENT FOR LOGIC	I _{DD}	V _{DD} =5V	-	2.0	3.0	mA
INPUT VOLTAGE	HIGH	V _{IH}	-	2.2	-	V _{DD} V
	LOW	V _{IL}	-	0	-	0.6 V
OUTPUT VOLTAGE	HIGH	V _{OH}	-	2.4	-	V
	LOW	V _{OL}	-	-	0.4	V
*LED BACKLIGHT	VOLTAGE	V _f	I _f =210mA	-	4.2	4.6 V
	CURRENT	I _f	-	-	210	mA
	POWER CONSUMPTION	PD	-	-	882	mW
	LUMINOUS	L	I _f =210mA	70	-	cd/m ²
	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 _{DD} -V _{SS}	T _a =25°C	4.7	5.3	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	-	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
		LCM-S	0	50	°C
OPERATING TEMPERATURE	T _{opr}	LCM-H	-20	70	°C
		LCM-S	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-H	-30	85	°C
		LCM-S	-20	70	°C


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5.55mm CHARACTER HEIGHT, 5 x 8 DOT MATRIX, 20 x 2 LCD MODULE, 1/16 DUTY, 1/5 IAS, EUROPEAN FONT IC.	<p>DRAWN BY: JN</p> <p>CHECKED BY:</p> <p>APPROVED BY:</p> <p>DATE: 9.17.07 PAGE: 2 OF 4 SCALE: N/A</p>		

UPPER 4 BIT 4 BIT LOWER	LLLL	LLLH	LLHL	LLHH	LHLL	LHLH	LHHL	LHHH	HLLL	HLLH	HLHL	HLHH	HHLL	HHLH	HHHL	HHHH
LLLL				0	1	2	3	4	5	6	7	8	9	A	B	C
LLLH			!	1	A	Q	3	4	0	E	I	L	T	E	U	V
LLHL			"	2	B	R	B	H	U	E	I	U	B	'	U	0
LLHH			#	3	C	S	C	E	U	E	I	T	B	'	U	8
LHLL			\$	4	D	T	T	0	E	I	L	L	F	'	U	0
LHLH			%	5	E	U	U	U	E	I	L	L	F	'	U	0
LHHL			&	6	F	V	V	U	U	E	I	L	L	F	'	U
LHHH			'	7	G	W	W	W	U	E	I	L	L	F	'	U


TABLE CONTINUED
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UPPER 4 BIT LOWER	LLLL	LLLH	LLHL	LLHH	LHLL	LHLH	LHHL	LHHH	HLLL	HLLH	HLHL	HLHH	HHLL	HHLH	HHHL	HHHH
HLLL			0	1	2	3	4	5	6	7	8	9	A	B	C	D
HLLH			E	F	G	H	I	J	K	L	M	N	O	P	Q	R
HLHL			S	T	U	V	W	X	Y	Z	[]	{	}	~	^
HLHH			+	=	<	>	?	@	#	\$	%	&	*	()	~
HHLL			~	^	^	^	^	^	^	^	^	^	^	^	^	^
HHLH			^	^	^	^	^	^	^	^	^	^	^	^	^	^
HHHL			^	^	^	^	^	^	^	^	^	^	^	^	^	^
HHHH			^	^	^	^	^	^	^	^	^	^	^	^	^	^

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