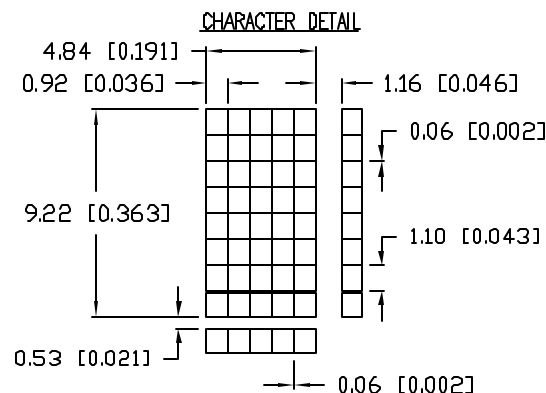
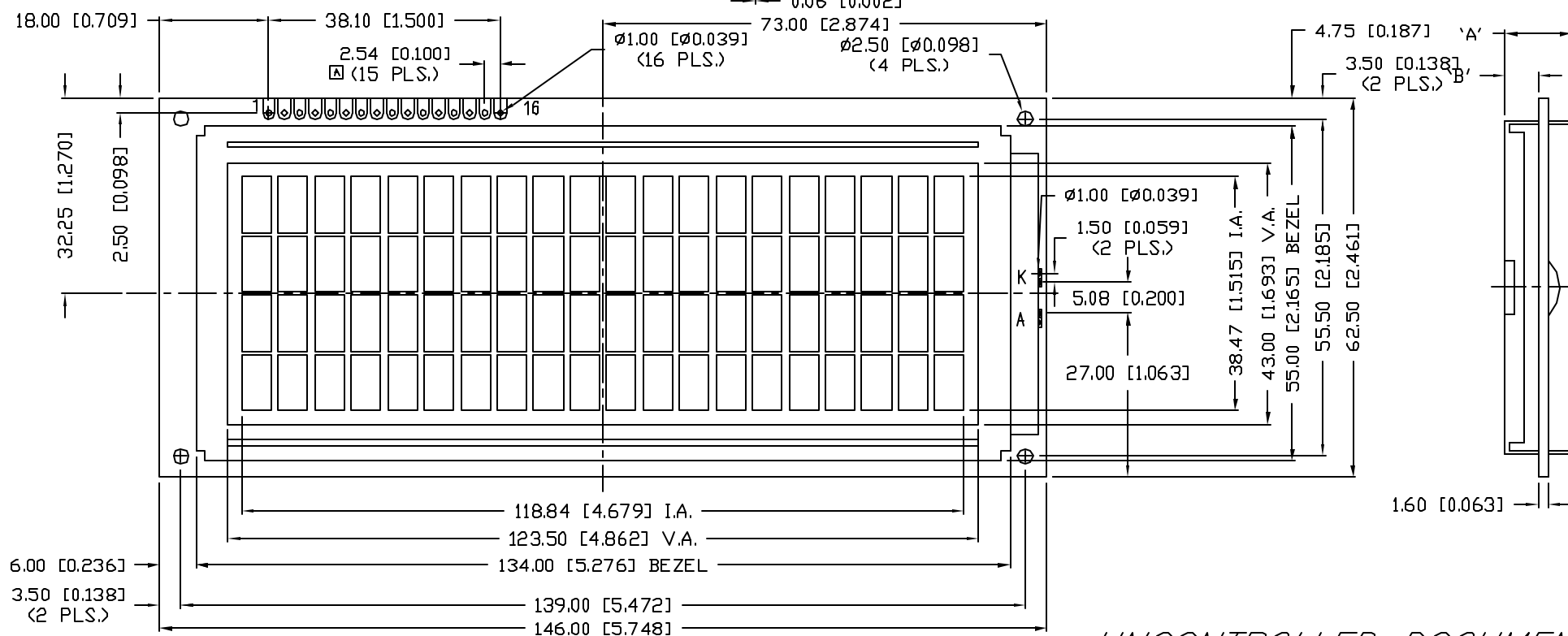


CAUTION: STATIC SENSITIVE DEVICE
FOLLOW PROPER E.S.D. HANDLING PROCEDURES
WHEN WORKING WITH THIS PART.



TYPE	DIM.	A	B
WITH BACKLIGHT	13.0	9.0	
NO BACKLIGHT	11.0	5.4	



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REV.

PART NUMBER

LCM-S02004DSF/D-YE

9.22mm CHARACTER HEIGHT, 20 x 4 CHARACTERS,
5 x 8 DOT MATRIX LCD MODULE,
STN YELLOW, 1/16 DUTY, 1/5 BIAS.

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RELIABILITY NOTE

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

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APPROVED BY:

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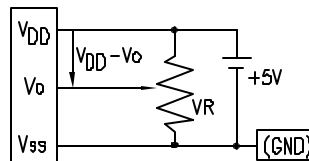
SCALE: N/A

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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

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



ELECTRICAL CHARACTERISTICS

V_{DD}=4.75V to 5.25V, 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}	$V_{DD}=5V$	—	1.0	2.2	mA	
INPUT VOLTAGE	HIGH	V_{IH}	—	2.2	—	V_{DD}	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	
*LED BACKLIGHT	VOLTAGE		V_f	$I_f=550mA$	—	4.2	4.5	V
	CURRENT		I_f	—	—	550	600	mA
	POWER CONSUMPTION		P_D	—	—	2310	—	mW
	LUMINOUS		L	$I_f=550mA$	70	—	—	cd/m ²
	COLOR		—	—	—	—	—	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

DDRAM ADDRESS

LINE1:	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	10	11	12	13
LINE2:	40	41	42	43	44	45	46	47	48	49	4A	4B	4C	4D	4E	4F	50	51	52	53
LINE3:	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F	20	21	22	23	24	25	26	27
LINE4:	54	55	56	57	58	59	5A	5B	5C	5D	5E	5F	60	61	62	63	64	65	66	67

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ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	-0.3	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V _{DD} -V _O	-	0	4.9	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LCM-H	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LCM-H	-30	80	°C

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Level	File	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	0A00	0B00	0C00	0D00	0E00	0F00
1111	11-RAM (1)	±		00P	'	f	5e	â									
111H	11-RAM (2)	≡	!	1A0	a	40a	i										
111L	11-RAM (3)	7	"	2ER	b	re	e	ô	*	ø	ø						
11EH	11-RAM (4)	2	#	3C8	c	e	â	ô									
11EL	11-RAM (5)	Y	*	4DT	d	t	â	ô									
11EH	11-RAM (6)	Y	%	5EU	e	u	â	ô	e	'	a	t	a	n	"		
11HL	11-RAM (7)	Y	&	6FU	f	u	â	ô	a	"	4	t	ô	ô			
11HH	11-RAM (8)	Y	'	7EU	e	u	â	ô	a	"	x	→	A	L	=		
11LL	11-RAM (9)	Y	(	8HX	h	x	e	9	f	÷	÷	e	k	M			
11LH	11-RAM (A)	Y	>	9IY	i	y	e	ô									
11HL	11-RAM (B)	*	*	:	J	Z	j	z	e	ô	a	2	T	2	p	F	
11HH	11-RAM (C)	Y	+	:	K	L	k	(	i	f	a	*	L	T	v	→	
1111	11-RAM (D)	≡	,	<	L	\	1	1	i	n	ô	*	1	ô	2	L	
111H	11-RAM (E)	v	—	=	M	J	m	ô	i	â	ô	*	.	4	π	—	
111L	11-RAM (F)	#	.	>	N	'	n	'	a	ô	ô	J	ô	n	p	E	
11EH	11-RAM (7)	#	/	?	O	_	o	Δ	â	ô	ô	T	ô	ô	ô	E	

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