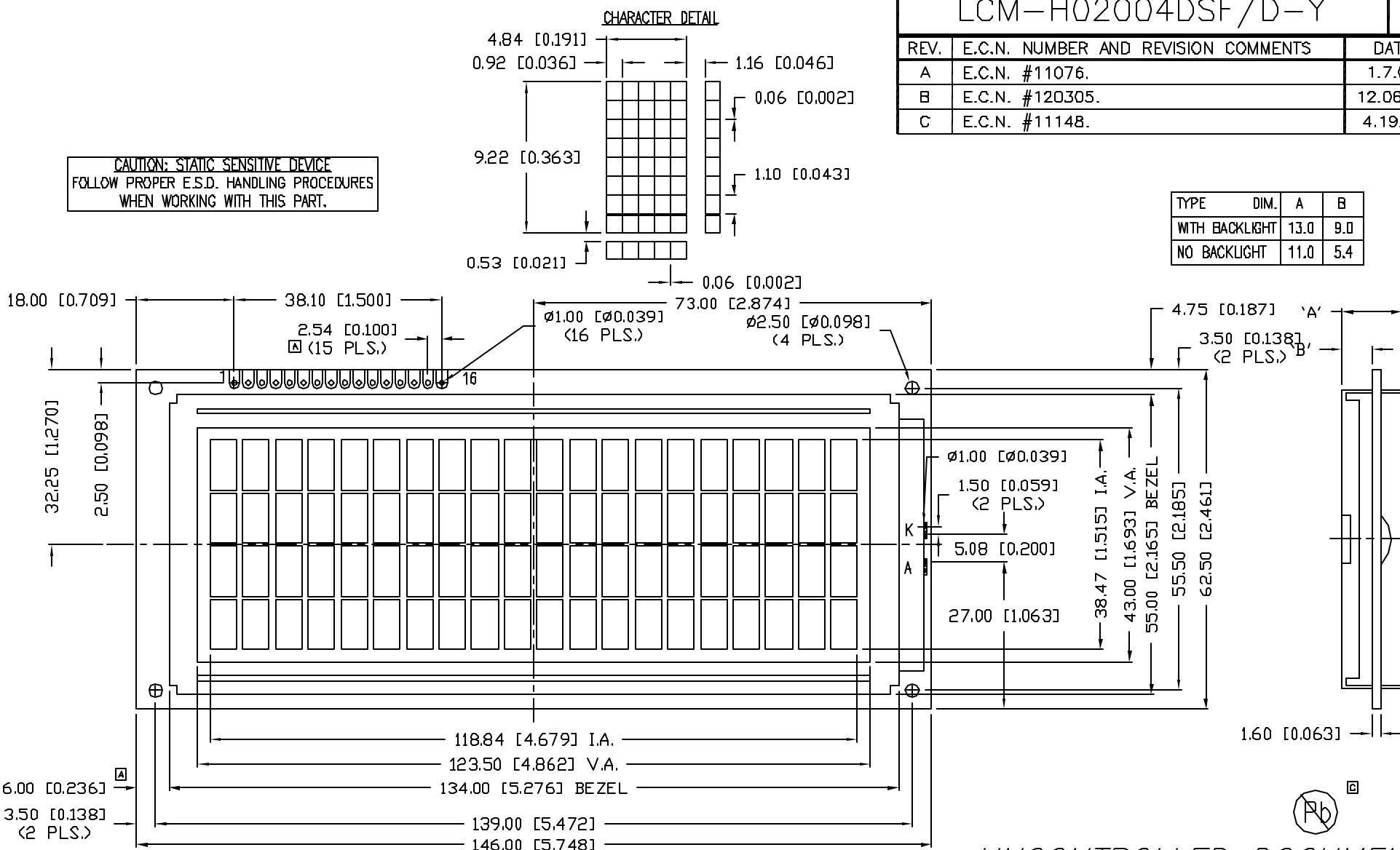


UNCONTROLLED DOCUMENT

PART NUMBER  
LCM-H02004DSF/D-YREV.  
C

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11076.	1.7.04
B	E.C.N. #120305.	12.06.04
C	E.C.N. #11148.	4.19.07

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



\*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.  
C

PART NUMBER

LCM-H02004DSF/D-Y

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

## CONFIDENTIAL INFORMATION

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.

## 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.



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

DRAWN BY:

CHECKED BY:

APPROVED BY:

DATE: 5.15.03

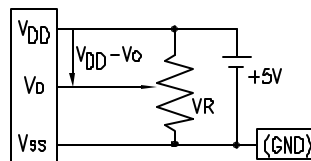
PAGE: 1 OF 2

SCALE: N/A

JC

PIN CONFIGURATION				
PIN NO.	SYMBOL	LEVEL	FUNCTION	
1	V <sub>SS</sub>	-	POWER SUPPLY	GND (0V)
2	V <sub>DD</sub>	-		5V
3	V <sub>O</sub>	-		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	A	-	ANODE	LED BACKLIGHT
16	K	-	CATHODE	LED BACKLIGHT

V<sub>DD</sub>-V<sub>O</sub>: LCD DRIVING VOLTAGE  
VR: 10K $\Omega$ -20K $\Omega$



ELECTRICAL CHARACTERISTICS			V <sub>DD</sub> =4.75V to 5.25V, 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	—	1.0	2.2	mA	
INPUT VOLTAGE	HIGH	V <sub>IH</sub>	—	2.2	—	V <sub>DD</sub>	V	
	LOW	V <sub>IL</sub>	—	0	—	0.6	V	
OUTPUT VOLTAGE	HIGH	V <sub>OH</sub>	I <sub>OH</sub> =-0.205mA	2.4	—	—	V	
	LOW	V <sub>OL</sub>	I <sub>OL</sub> =1.6mA	—	—	0.4	V	
*LED BACKLIGHT	VOLTAGE		V <sub>f</sub>	I <sub>f</sub> =550mA	—	4.2	4.5	V
	CURRENT		I <sub>f</sub>	—	—	550	600	mA
	POWER CONSUMPTION		P <sub>D</sub>	—	—	2310	—	mW
	LUMINOUS		L	I <sub>f</sub> =550mA	70	—	—	cd/m <sup>2</sup>
	COLOR		—	—	—	—	—	nm

\*ONLY APPLIES TO MODULES WITH BACKLIGHT

DORAM 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

\*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 MAX.=+0.00 -DECIMAL PRECISION

REV.

C

PART NUMBER

LCM-H02004DSF/D-Y

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

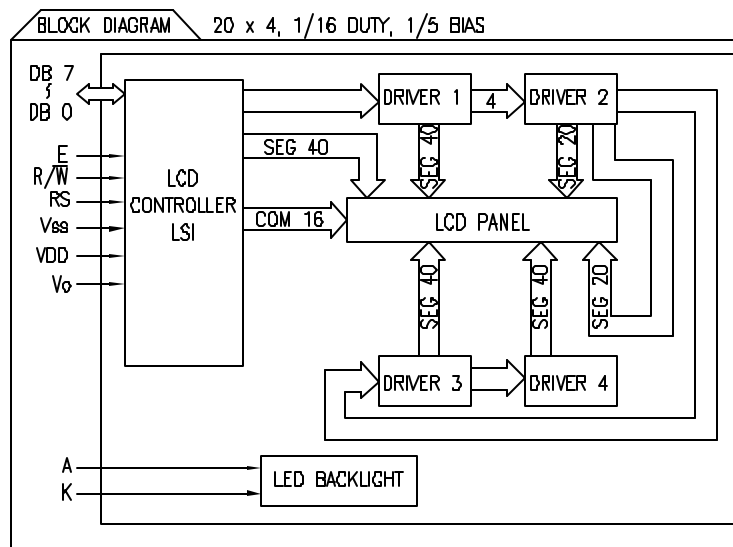
## CONFIDENTIAL INFORMATION

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.

## 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.

PART NUMBER		REV.
LCM-H02004DSF/D-Y		C
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
	SEE PAGE 1.	



## 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	-0.3	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	V <sub>DD</sub> -V <sub>O</sub>	-	0	4.9	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-H	-20	70	°C
STORAGE TEMPERATURE	T <sub>stg</sub>	LCM-H	-30	80	°C



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

DRAWN BY:

JC

CHECKED BY:

APPROVED BY:

DATE: 5.15.03

PAGE: 2 OF 2

SCALE: N/A

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Lumex:

[LCM-H02004DSF/D-Y](#)