

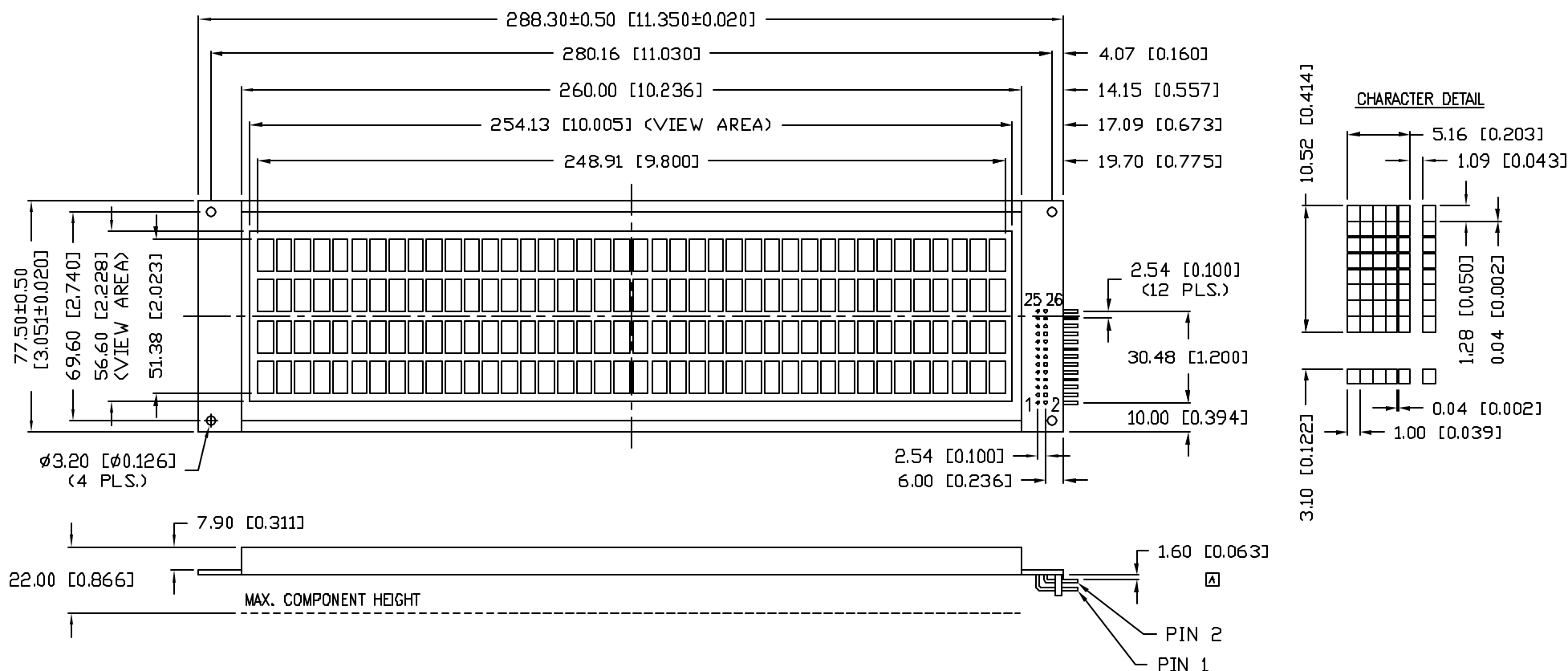
UNCONTROLLED DOCUMENT

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

PART NUMBER
LCM-H04004DSR/D1T

REV.
B

REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #10575.	12.15.99
B	E.C.N. #11148.	4.19.07



*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.030), 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.
B

PART NUMBER
LCM-H04004DSR/D1T

10.52mm CHARACTER HEIGHT, 40 x 4 LCD MODULE,
STN, WIDE TEMPERATURE, TOP VIEW, REFLECTIVE,
TEMP. COMPENSATION CIRCUIT, NEGATIVE CHARGE PUMP.

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: JC
CHECKED BY:
APPROVED BY: DATE: 8.4.99
PAGE: 1 OF 2
SCALE: N/A

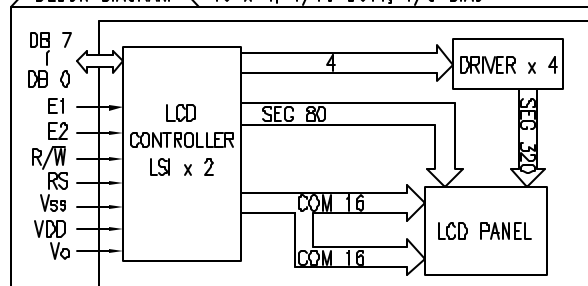
PIN CONFIGURATION

PIN NO.	SYMBOL	LEVEL	FUNCTION
1	N/C	—	NO CONNECTION
2	V BIAS	—	(INTERNAL)
3	E2	—	ENABLE 2
4	Vo	—	CONTRAST ADJUSTMENT
5	R/W	H/L	H: DATA READ L: DATA WRITE
6	KEY	—	(PIN REMOVED)
7	RS	—	REGISTER SELECT
8	Vss	—	GROUND
9	E1	—	ENABLE 1
10	Vss	—	GROUND
11	DB0	—	DATA BIT
12	Vss	—	GROUND
13	DB1	—	DATA BIT
14	Vss	—	GROUND
15	DB2	—	DATA BIT
16	Vss	—	GROUND
17	DB3	—	DATA BIT
18	Vss	—	GROUND
19	DB4	—	DATA BIT
20	Vss	—	GROUND
21	DB5	—	DATA BIT
22	VDD	—	+5VDC— PARALLEL WITH PIN 24
23	DB6	—	DATA BIT
24	VDD	—	+5VDC— PARALLEL WITH PIN 22
25	DB7	—	DATA BIT
26	N/C	—	NO CONNECTION

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
SUPPLY VOLTAGE FOR LOGIC	VDD-Vss	Ta=25°C	MIN	MAX	V
SUPPLY VOLTAGE FOR LCD DRIVE	VDD-Vo	—	4.2@50°C	4.8@0°C	V
INPUT VOLTAGE	VI	Ta=25°C	Vss	VDD	V
OPERATING TEMPERATURE	Topr	LCM-H	-20	70	°C
STORAGE TEMPERATURE	Tstg	LCM-H	-30	85	°C

BLOCK DIAGRAM 40 x 4, 1/16 DUTY, 1/5 BIAS



ELECTRICAL CHARACTERISTICS

VDD=4.7V to 5.3V, TA=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	-	4.0	10	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

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.038), 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 -0.00 -DECIMAL PRECISION

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

10.52mm CHARACTER HEIGHT, 40 x 4 LCD MODULE,
STN, WIDE TEMPERATURE, TOP VIEW, REFLECTIVE,
TEMP. COMPENSATION CIRCUIT, NEGATIVE CHARGE PUMP.

DRAWN BY:

JC

CHECKED BY:

APPROVED BY:

DATE: 8.4.99

PAGE: 2 OF 2

SCALE: N/A