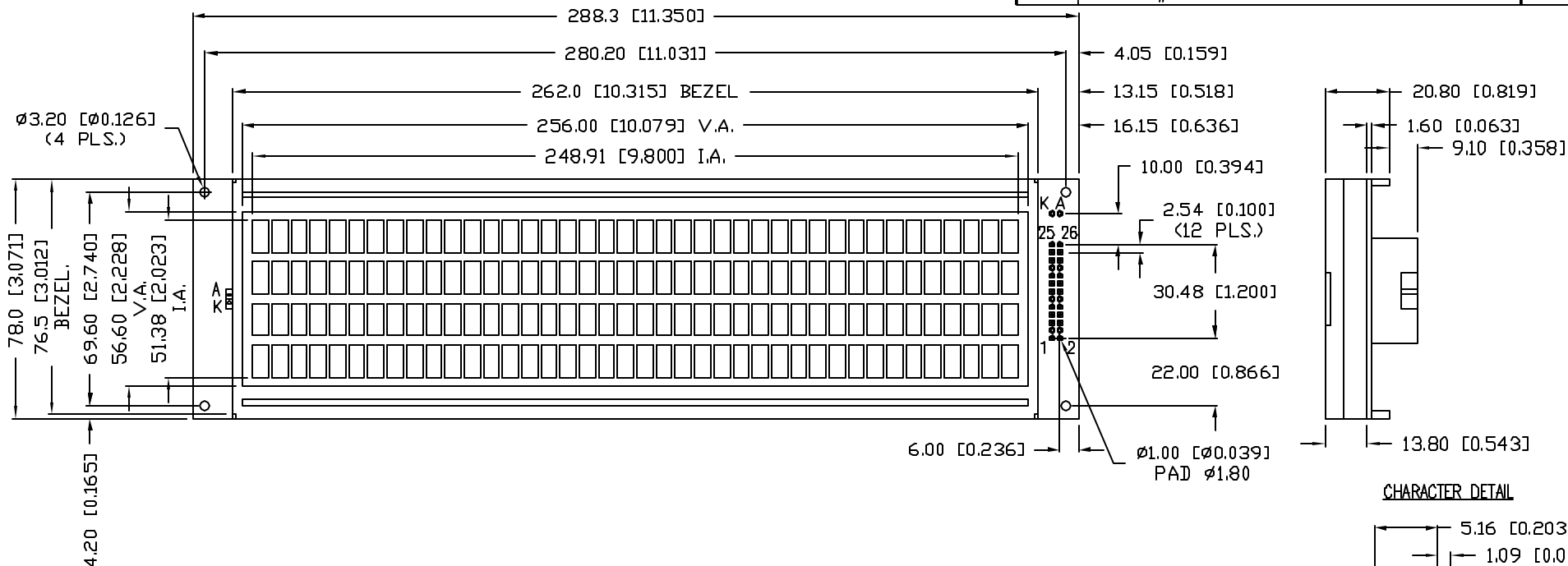


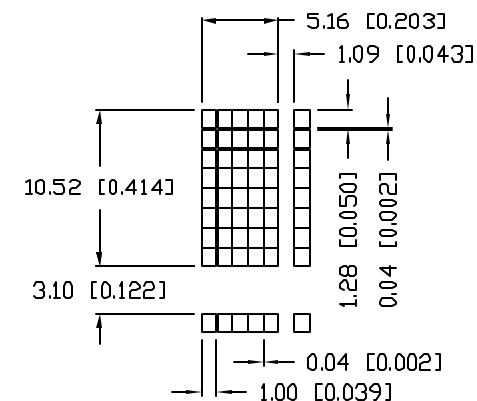
UNCONTROLLED DOCUMENT

PART NUMBER
LCM-H04004DSF/D13TREV.
A

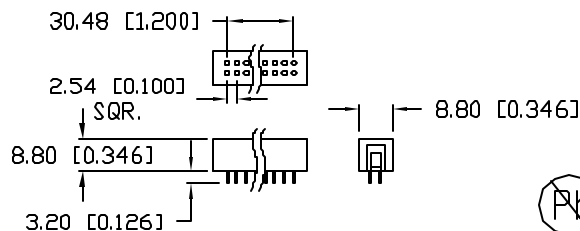
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #11148.	4.19.07



CHARACTER DETAIL



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 (±0.030), 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.=+0.00 DECIMAL PRECISION MAX.=+0.00 DECIMAL PRECISION

REV.

A

PART NUMBER

LCM-H04004DSF/D13T

10.52mm CHARACTER HEIGHT, 40 x 4 LCD MODULE,
STN, WIDE TEMPERATURE, 12:00 VIEW, TRANSFLECTIVE,

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: 4.24.03

PAGE: 1 OF 2

SCALE: N/A

UNCONTROLLED DOCUMENT

ABSOLUTE MAXIMUM RATINGS

ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	$V_{DD}-V_{SS}$	$T_a=25^{\circ}\text{C}$	-0.3	7.0	V
SUPPLY VOLTAGE FOR LCD DRIVE	$V_{DD}-V_o$	-	-0.3	12.0	V
INPUT VOLTAGE	V_i	$T_a=25^{\circ}\text{C}$	-0.3	V_{DD}	V
OPERATING TEMPERATURE	T_{opr}	LCM-H	-20	70	$^{\circ}\text{C}$
STORAGE TEMPERATURE	T_{stg}	LCM-H	-30	85	$^{\circ}\text{C}$

PIN CONFIGURATION

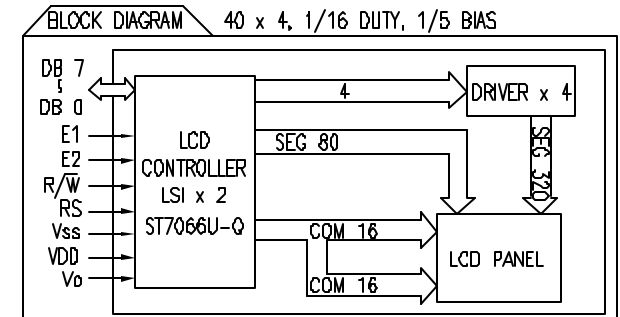
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	A	-	BACKLIGHT ANODE
2	K	-	BACKLIGHT CATHODE
3	E2	-	ENABLE 2
4	V_o	-	CONTRAST ADJUSTMENT
5	R/W	H/L	H: DATA READ L: DATA WRITE
6	N/C	-	NO CONNECTION
7	RS	-	REGISTER SELECT
8	V_{SS}	-	GROUND
9	E1	-	ENABLE 1
10	V_{SS}	-	GROUND
11	DB0	-	DATA BIT
12	V_{SS}	-	GROUND
13	DB1	-	DATA BIT
14	V_{SS}	-	GROUND
15	DB2	-	DATA BIT
16	V_{SS}	-	GROUND
17	DB3	-	DATA BIT
18	V_{SS}	-	GROUND
19	DB4	-	DATA BIT
20	V_{SS}	-	GROUND
21	DB5	-	DATA BIT
22	V_{DD}	-	+5VDC- PARALLEL WITH PIN 24
23	DB6	-	DATA BIT
24	V_{DD}	-	+5VDC- PARALLEL WITH PIN 22
25	DB7	-	DATA BIT
26	N/C	-	NO CONNECTION

PART NUMBER
LCM-H04004DSF/D13T

REV.

A

REV. E.C.N. NUMBER AND REVISION COMMENTS DATE
A SEE PAGE #1



ELECTRICAL CHARACTERISTICS

 $V_{DD}=4.5\text{V to }5.5\text{V}$, $T_A=25^{\circ}\text{C}$

ITEM	SYMBOL	CONDITION	STANDARD VALUE			UNIT
			MIN.	TYP.	MAX.	
SUPPLY VOLTAGE FOR LOGIC	$V_{DD}-V_{SS}$	-	4.5	5.0	5.5	V
SUPPLY CURRENT FOR LOGIC	I_{DD}	$V_{DD}=5\text{V}$	-	6.0	10.0	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	$I_f=780\text{mA}$	-	4.2	4.6 V
	CURRENT	I_f	-	-	780	1020 mA
	POWER CONSUMPTION	PD	-	-	3.3	5 W
	LUMINOUS	L	$I_f=780\text{mA}$	80	120	- cd/m ²
	COLOR	-	-	-	-	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

UNCONTROLLED DOCUMENT

*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.

A

PART NUMBER

LCM-H04004DSF/D13T

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, 12:00 VIEW, TRANSFLECTIVE,

DRAWN BY: JC CHECKED BY: APPROVED BY: DATE: 4.24.03
PAGE: 2 OF 2
SCALE: N/A