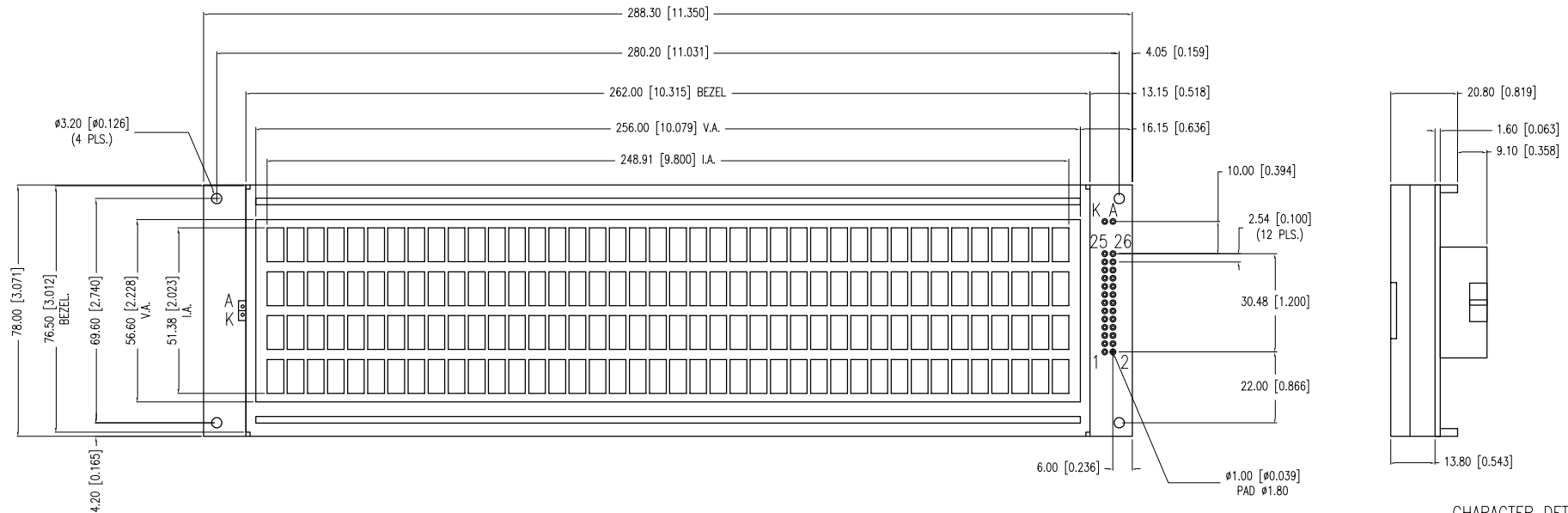
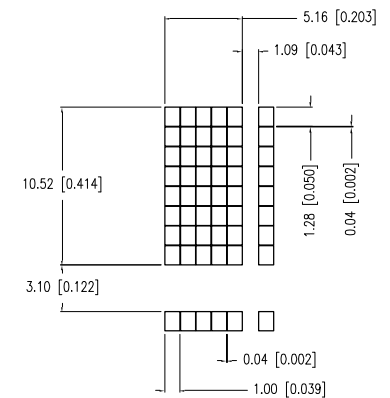


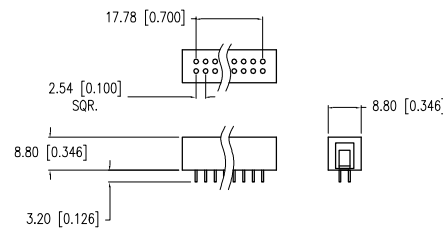
PART NUMBER	LCM-H04004DSF/D12T	REV.	A
DATE	E.C.N. NUMBER AND REVISION COMMENTS		REV.
4.19.07	E.C.N. #11148.		A



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 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±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



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

THE SPECIFICATIONS MAY CHANGE AT ANY TIME WITHOUT NOTICE DUE TO NEW MATERIALS OR PRODUCT IMPROVEMENT.

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DATE:	01.01.01	DRAWN BY:	JC
PAGE:	1 OF 2	CHKD BY:	JD
SCALE:	N/A	APRVD BY:	YA
UNIT:	mm [INCH]		(R) (A)

UNCONTROLLED DOCUMENT

PART NUMBER	LCM-H04004DSF/D12T	REV.	A
DATE	E.C.N. NUMBER AND REVISION COMMENTS		REV.
—	SEE PAGE 1.		—

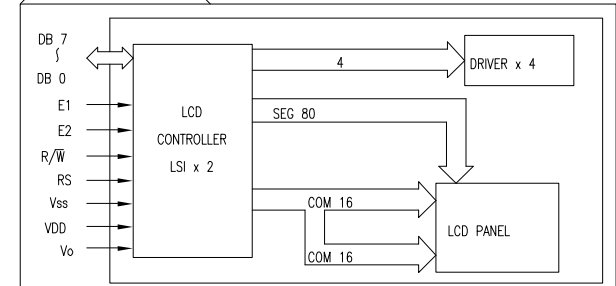
ABSOLUTE MAXIMUM RATINGS

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

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



ELECTRICAL CHARACTERISTICS

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

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}
	LOW	V_{IL}	—	0	—	0.6
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
	CURRENT	I_f	—	—	780	1020
	POWER CONSUMPTION	PD	—	—	3.3	5
	LUMINOUS	L	$I_f=780\text{mA}$	80	120	—
	COLOR	—	—	—	—	nm

*ONLY APPLIES TO MODULES WITH BACKLIGHT

*UNLESS OTHERWISE SPECIFIED TOLERANCES PER DECIMAL PRECISION ARE: X=±1 (±0.039), X.X=±0.5 (±0.020), X.XX=±0.25 (±0.010), X.XXX=±0.127 (±0.005). LEAD SIZE=±0.05 (±0.002), LEAD LENGTH=±0.75 (±0.030). MIN= +DECIMAL PRECISION MAX.= +0.00 -DECIMAL PRECISION



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SCALE: N/A	APRVD BY: YA
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