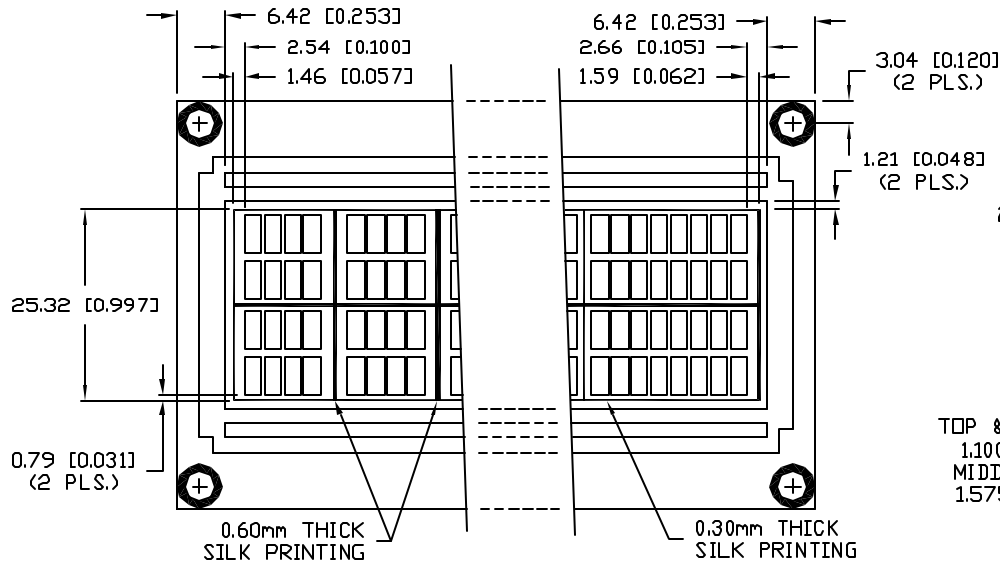


PART NUMBER
LCM-S10404DSF-Y1P

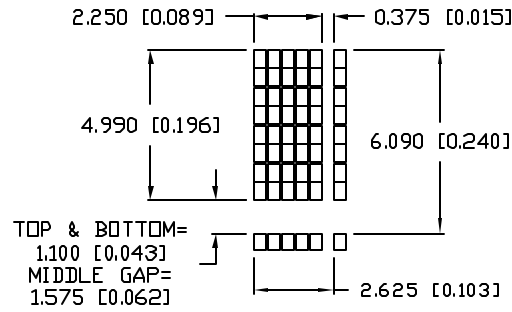
REV.

A

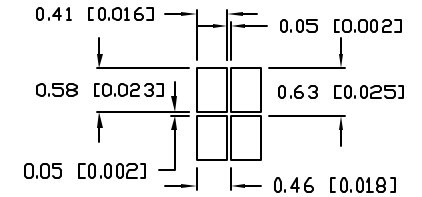
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
A	E.C.N. #10489./	12-22-98



CHARACTER DETAIL



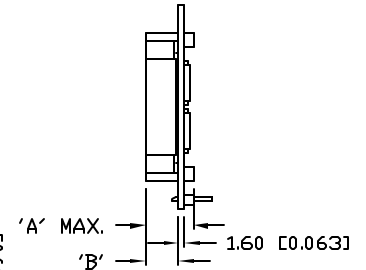
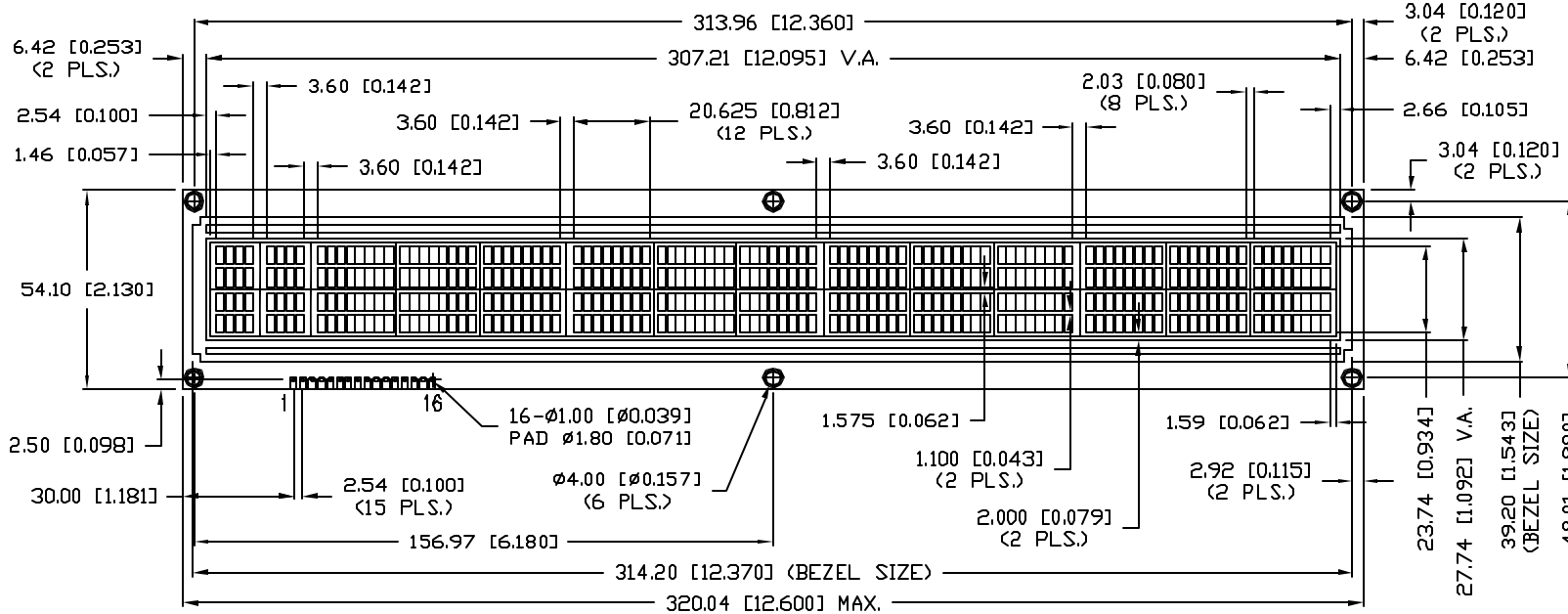
PIXEL DETAIL



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

NOTES:

- 0.3mm THICK SILK SCREEN ON FRONT PANEL UNLESS OTHERWISE SPECIFIED.
- 16 PIN SINGLE ROW HEADER, SAMTEC PART#: MTSW-116-07-S-S-215 OR EQUIVALENT.



TYPE	DIM.	A	B
WITH BACKLIGHT		12.7	8.8
NO BACKLIGHT		8.8	4.8

*UNLESS OTHERWISE SPECIFIED TOLERANCE IS ±0.25mm (±0.010")

REV.

A

PART NUMBER

LCM-S10404DSF-Y1P

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.

LUMEX
INCORPORATED

290 E. HELLEN ROAD
PALATINE, ILLINOIS 60067
PHONE: 1-847-359-2790
WEB: HTTP://WWW.LUMEX.COM

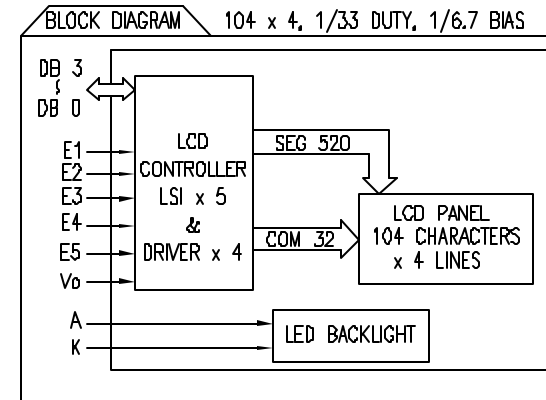
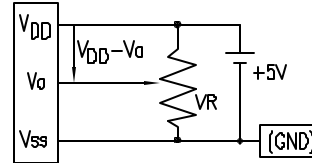
4.99mm CHARACTER HEIGHT, 104 x 4 CHARACTER LCD MODULE, TOP VIEW, STN, YELLOW-GREEN BACKGROUND, TRANSFLECTIVE W/LED BACKLIGHT, 1/33 DUTY, 16 PINS.

DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE: 9-30-98
			PAGE: 1 OF 2
SA/DU/BC			SCALE: N/A

PART NUMBER		REV.
LCM-S10404DSF-Y1P		A
REV.	E.C.N. NUMBER AND REVISION COMMENTS	DATE
	SEE PAGE 1./	

PIN CONFIGURATION			
PIN NO.	SYMBOL	LEVEL	FUNCTION
1	V _{SS}	-	POWER SUPPLY GND (0V)
2	V _{DD}	-	
3	V ₀	-	
4	RS	H/L	REGISTER SELECT SIGNAL H: DATA INPUT L: INSTRUCTION INPUT
5	R/ \bar{W}	H/L	H: DATA READ (MODULE \rightarrow MPU) L: DATA WRITE (MODULE \leftarrow MPU)
6	E1	H,H \rightarrow L	ENABLE 1
7	E2	H,H \rightarrow L	ENABLE 2
8	E3	H,H \rightarrow L	ENABLE 3
9	E4	H,H \rightarrow L	ENABLE 4
10	E5	H,H \rightarrow L	ENABLE 5
11~14	DB0~DB3	H/L	DATA BUS LINE
15	A	-	ANODE LED BACKLIGHT
16	K	-	CATHODE LED BACKLIGHT

V_{DD}-V₀: LCD DRIVING VOLTAGE
VR: 10K Ω -20K Ω



ELECTRICAL CHARACTERISTICS		V _{DD} =4.5V to 5.5V, 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	-	2.5	3.0	mA
INPUT VOLTAGE	HIGH	V _{IH}	-	2.2	-	V _{DD}
	LOW	V _{IL}	-	-0.3	-	0.6
OUTPUT VOLTAGE	HIGH	V _{OH}	I _{OH} =-0.205mA	2.4	-	-
	LOW	V _{OL}	I _{OL} =1.6mA	-	-	0.4
*LED BACKLIGHT	FORWARD VOLTAGE	V _f	-	-	4.3	5.0
	FORWARD CURRENT	I _f	V _f =5V	-	-	1200
	REVERSE VOLTAGE	V _r	-	-	8	-
	REVERSE CURRENT	I _r	V _r =8V	-	-	12000
	POWER DISSIPATION	PD	-	-	-	6
	LUMINOUS INTENSITY	I _v	-	-	100	150

*ONLY APPLIES TO MODULES WITH BACKLIGHT

ABSOLUTE MAXIMUM RATINGS					
ITEM	SYMBOL	TEST CONDITION	STANDARD VALUE		UNIT
			MIN	MAX	
SUPPLY VOLTAGE FOR LOGIC	V _{DD} -V _{SS}	T _a =25°C	4.5	5.5	V
SUPPLY VOLTAGE FOR LCD DRIVE	V ₀	T _a =25°C	V _{DD} -13.5	V _{DD} +0.3	V
INPUT VOLTAGE	V _I	T _a =25°C	V _{SS}	V _{DD}	V
OPERATING TEMPERATURE	T _{opr}	LGM-S	-10	60	°C
		LGM-H	-20	70	°C
STORAGE TEMPERATURE	T _{stg}	LGM-S	-20	70	°C
		LGM-H	-30	85	°C

REV.	PART NUMBER
A	LCM-S10404DSF-Y1P

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.

LUMEX
INCORPORATED

290 E. HELLEN ROAD
PALATINE, ILLINOIS 60067
PHONE: 1-847-359-2790
WEB: HTTP://WWW.LUMEX.COM

4.99mm CHARACTER HEIGHT, 104 x 4 CHARACTER LCD MODULE, TOP VIEW, STN, YELLOW-GREEN BACKGROUND, TRANSLFECTIVE W/LED BACKLIGHT, 1/33 DUTY, 16 PINS.

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.

DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE: 9-23-98
			PAGE: 2 OF 2
SA/BC			SCALE: N/A