ALL SHORE INDUSTRIES, INC.

SPECIFICATION FOR
LIQUID CRYSTAL DISPLAY MODULE

MODULE #: ASI-G-162A/W

(1)	NUMBER OF CHARACTER	----------	16 CH X 2 LINES
(2)	MODULE SIZE	----------	122.0W X 44.0H X 15.0D (max.) mm
(3)	EFFECTIVE AREA	----------	99.0W X 24.0H mm
(4)	CHARACTER FONT	----------	5 X 7 DOTS + CURSOR
(5)	CHARACTER SIZE	----------	4.84W X 8.06H mm
(6)	CHARACTER PITCH	----------	6.0W mm
(7)	DOT SIZE	----------	0.92W X 1.10H mm
(8)	DOT PITCH	----------	0.98W X 1.16H mm
(9)	LCD TYPE	----------	STN
(10)	DRIVING METHOD	----------	1 / 16 DUTY MULTIPLEX DRIVE
(11)	VIEWING DIRECTION	----------	6 or 12 O ' CLOCK
(12)	BACK - LIGHT	----------	LED, COLOR: YELLOW-GREEN
(13)	CONTROLLER	----------	SED1278

All Shore Industries, Inc. One Edgewater Plaza, Staten Island, NY 10305

ALL SHORE INDUSTRIES

MODEL NO : ASI-G-162A/W

RECORDS OF REVISION

DOC . FIRST ISSUE
DEC.12,1999

DATE	REVISED DRAWING NO.	SUMMARY

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1. GENERAL SPECIFICATIONS

1 . 1 GENERAL SPECIFICATIONS

PLEASE REFER TO :

CUSTOMER ACCEPTANCE STANDARD SPECIFICATIONS :

AS - OO2A

1 . 2 APPLICATION NOTES FOR CONTROLLER / DRIVER : SED1278

PLEASE REFER TO :

CUSTOMER ACCEPTANCE STANDARD SPECIFICATIONS :
AS-SED1278

1 . 3 THIS INDIVIDUAL SPECIFICATIONS IS PRIOR TO GENERAL SPECIFICATIONS

.

2 . MECHANICAL SPECIFICATIONS

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3 . ABSOLUTE MAXIMUM RATINGS

3 . 1 ELECTRICAL ABSOLUTE MAXIMUM RATINGS . (AT Ta = 25°C)

PARAMETER	SYMBOL	MIN .	MAX .	UNIT	COMMENT
POWER SUPPLY FOR LOGIC	VDD--VSS	0	6	V	
INPUT VOLTAGE	VI	VSS	VDD	V	
STATIC ELECTRICITY	————	—	100	V	NOTE (1)
POWER SUPPLY FOR LED	VLED	—	6.0	V	

NOTE (1) : TEST METHOD AND CONDITIONS : AFTER CHARGING UP 200 PF CAPACITOR BY STATED VOLTAGE, THE CAPACITOR IS CONNECTED WITH INTERFACE PINS OF THE MODULE .

3 . 2 ENVIRONMENTAL ABSOLUTE MAXIMUM RATINGS .

I T E M	OPERATING		STORAGE		COMMENT
	MIN .	MAX .	MIN .	MAX .	
AMBIENT TEMPERATURE	0°C	50°C	-20 °C	70 °C	NOTE (2)
HUMIDITY	NOTE (3)		NOTE (3)		WITHOUT CONDENSATION
VIBRATION NOTE (4)	--	4 . 9 m /s² (0.5G)	--	1 9 . 6 m /s² (2G)	10~300Hz XYZ DIRECTIONS 1 HR EACH
SHOCK NOTE (4)	--	2 9 . 4 m /s² (3G)	--	490.0 m /s² (50G)	10 mSEC XYZ DIRECTIONS 1 TIME EACH
CORROSIVE GAS	NOT ACCEPTABLE		NOT ACCEPTABLE		

NOTE (2) : Ta ≦ 50 °C 90% RH MAX.
Ta > 50 °C : ABOLSUTE HUMIDITY MUST BE LOWER THAN THE HUMIDITY OF 90%RH AT 50 °C (80%RH AT 60 °C)

NOTE (4) : 1G = 9.8 m /s²

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4 . ELECTRICAL CHARACTERISTICS

Ta = 25°C VDD = 5.0 ± 0.25 V

PARAMETER	SYMBOL		CONDITION	MIN .	TYP .	MAX .	UNIT
H LEVEL INPUT VOLTAGE	VIH		———	2 . 0	—	VDD	V
L LEVEL INPUT VOLTAGE	VIL		———	VSS	—	0 . 8	V
H LEVEL OUTPUT VOLTAGE	VOH		-IOH = 0.2 mA	2 . 4	—	—	V
L LEVEL OUTPUT VOLTAGE	VOL		IOL = 1.2 mA	—	—	0 . 4	V
POWER SUPPLY CURRENT	IDD		VDD = 5.0V	—	1.0	2.0	mA
RECOMMENDED LCD DRIVING VOLTAGE	VDD– VO DUTY = 1/16 ϕ=10°	N.T.	Ta = 0 °C	—	4.9	—	V
			Ta = 25 °C	—	4.5	—	V
			Ta = 50 °C	—	4.1	—	V
POWER SUPPLY CURRENT FOR LED	ILED		VDD = 5.0V	—	230	360	mA

5 . OPTICAL CHARACTERISTICS .

Ta = 25°C VDD = 5.0 V

I T E M		SYMBOL	CONDITION	MIN .	TYP .	MAX .	UNIT	NOTE
VIEWING AREA	STN	ϕ 2 - ϕ 1	K = 2.0	30	40	--	deg .	2
CONTRAST RATIO	STN	K	ϕ = 10 ° θ = 0°	4.0	5.0	--	--	2
RESPONSE TIME	N.T.	tr (rise)	ϕ = 10° θ = 0°	--	200	350	Ms	2
		tf (fall)		--	300	400	ms	2
THE BRIGHTNESS OF BACK-LIGHT		B	ϕ = 0° θ = 0°	6.0	--	--	cd/m^2	2,3

NOTE (2): SEE CUSTOMER ACCEPTANCE STANDARD SPECIFICATION FOR DEFINITION OF OPTICAL CHARACTERISTICS

NOTE (3): UNDER NORMAL TEMPERATURE AND HUMIDITY IN A DARK ROOM

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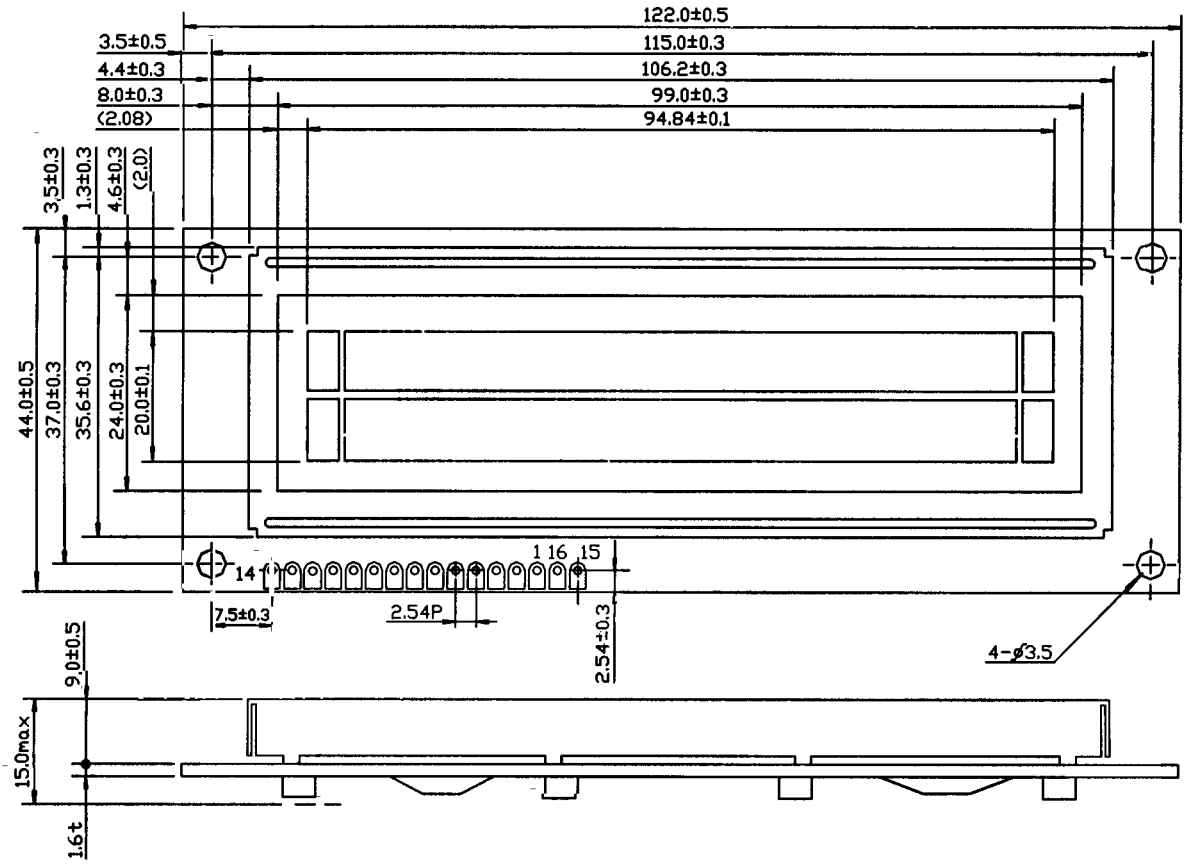
6 . OUTLINE DIMENSION



Interface pin connection

PIN NO.	***1***	***2***	***3***	***4***	***5***	***6***	***7***	***8***
SYMBOL	Vss	VDD	Vo	RS	R/$\overline{W}$	E	DB0	DB1
PIN NO.	***9***	***10***	***11***	***12***	***13***	***14***	***15***	***16***
SYMBOL	DB2	DB3	DB4	DB5	DB6	DB7	A	K

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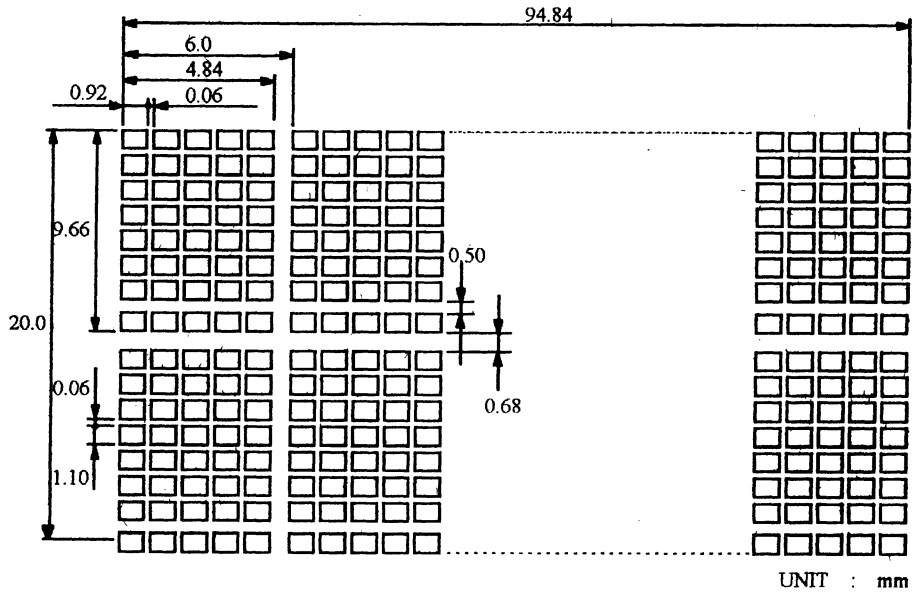
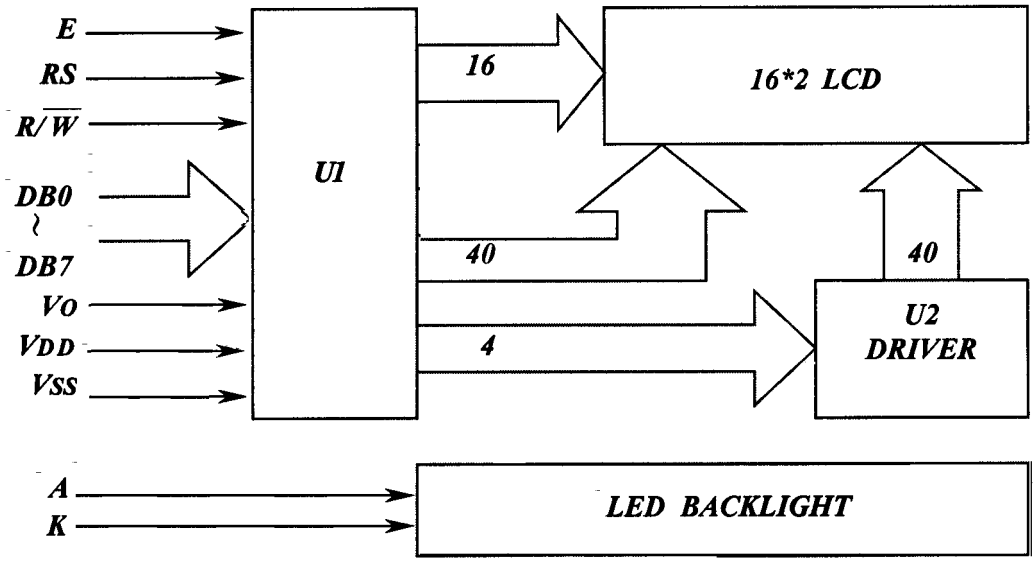
7 . DETAIL DRAWING OF DOT MATRIX



8 . BLOCK DIAGRAM



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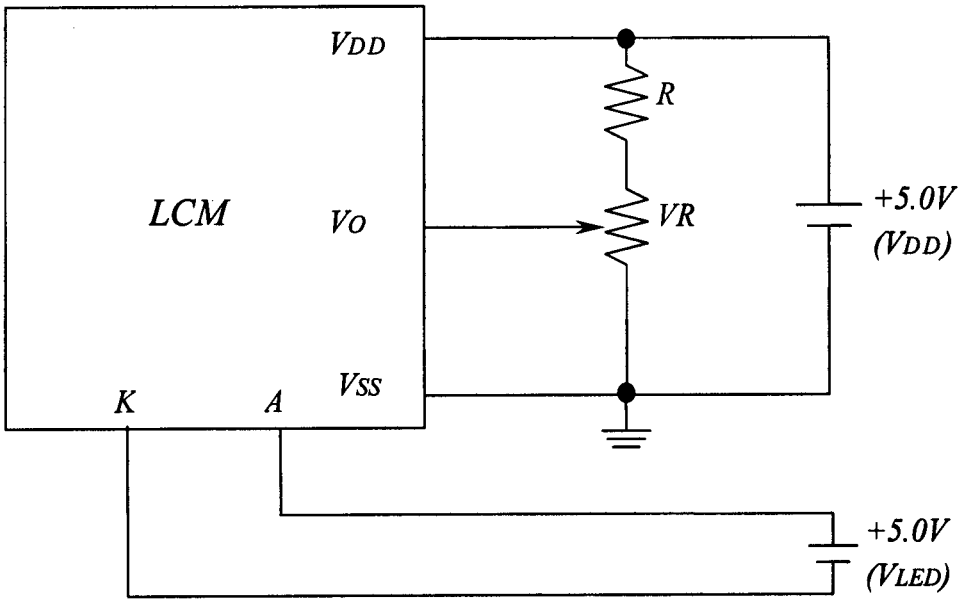
10. POWER SUPPLY



11 DISPLAY DATA RAM ADDRESS

Character	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LINE 1	80	81	82	83	84	85	86	87	88	89	8A	8B	8C	8D	8E	8F
LINE 2	C0	C1	C2	C3	C4	C5	C6	C7	C8	C9	CA	CB	CC	CD	CE	CF