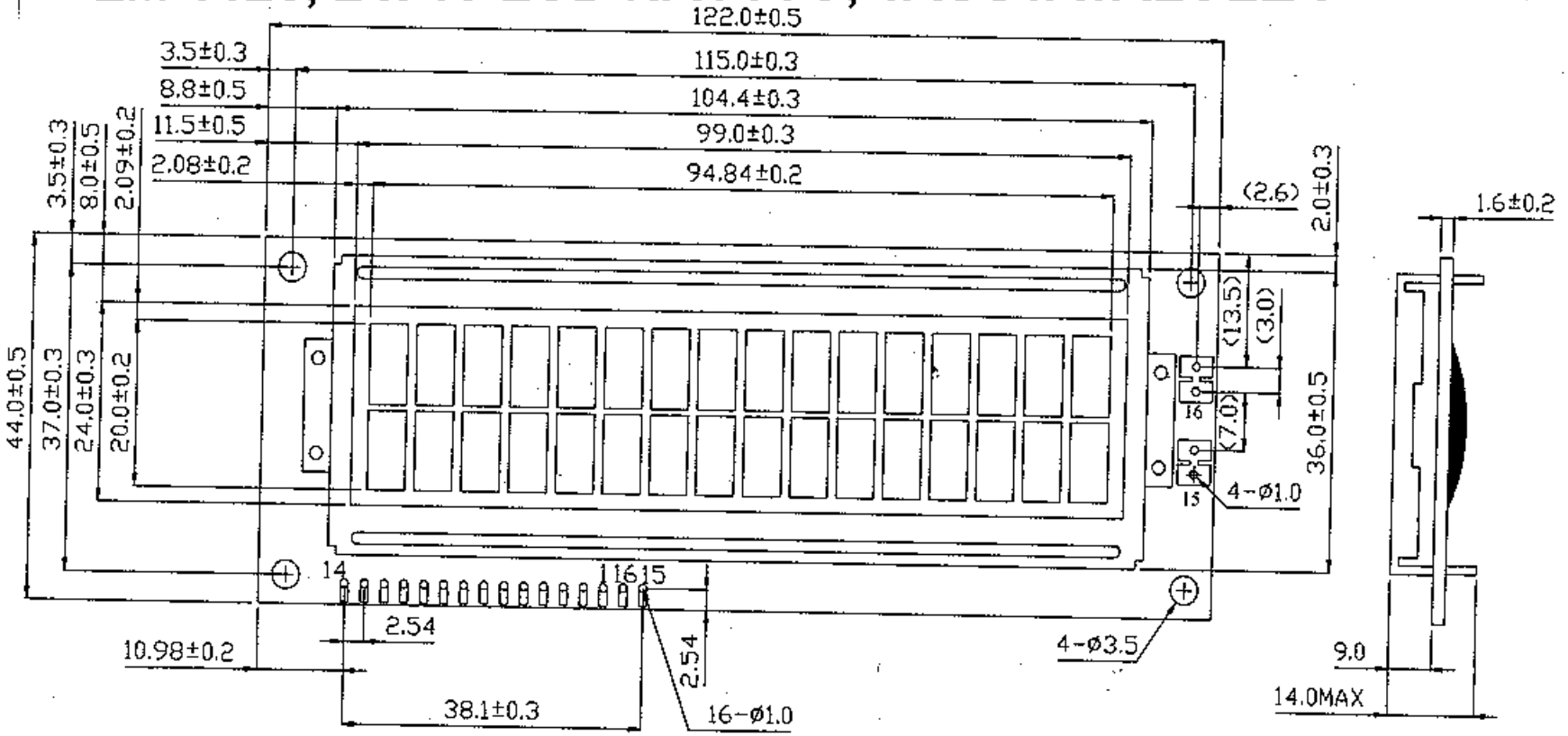
LM 1125, 2 x 16 LCD NÄYTTÖ, TAUSTAVALOLLA



15 = TAUSTAVALON KATODI 16 = TAUSTAVALON ANODI
KÄYTTÖJÄNNITE 5V, VIRRANRAJOITUSVASTUKSET OVAT NÄYTÖN PIIRILEVYLLÄ.

NOTE : (1)UNIT : mm
(2)NO SPECIFIED TOLERANCE IS ±0.5
(3)SCALE : NTS

VDD = +5V

VSS = GND = MIINUS

INTERFACE PIN CONNECTION

PIN NO	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
SYMBOL	VSS	VDD	VO	R/S	R/W	E	DB0	DB1	DB2	DB3	DB4	DB5	DB6	DB7	**K**	**A**

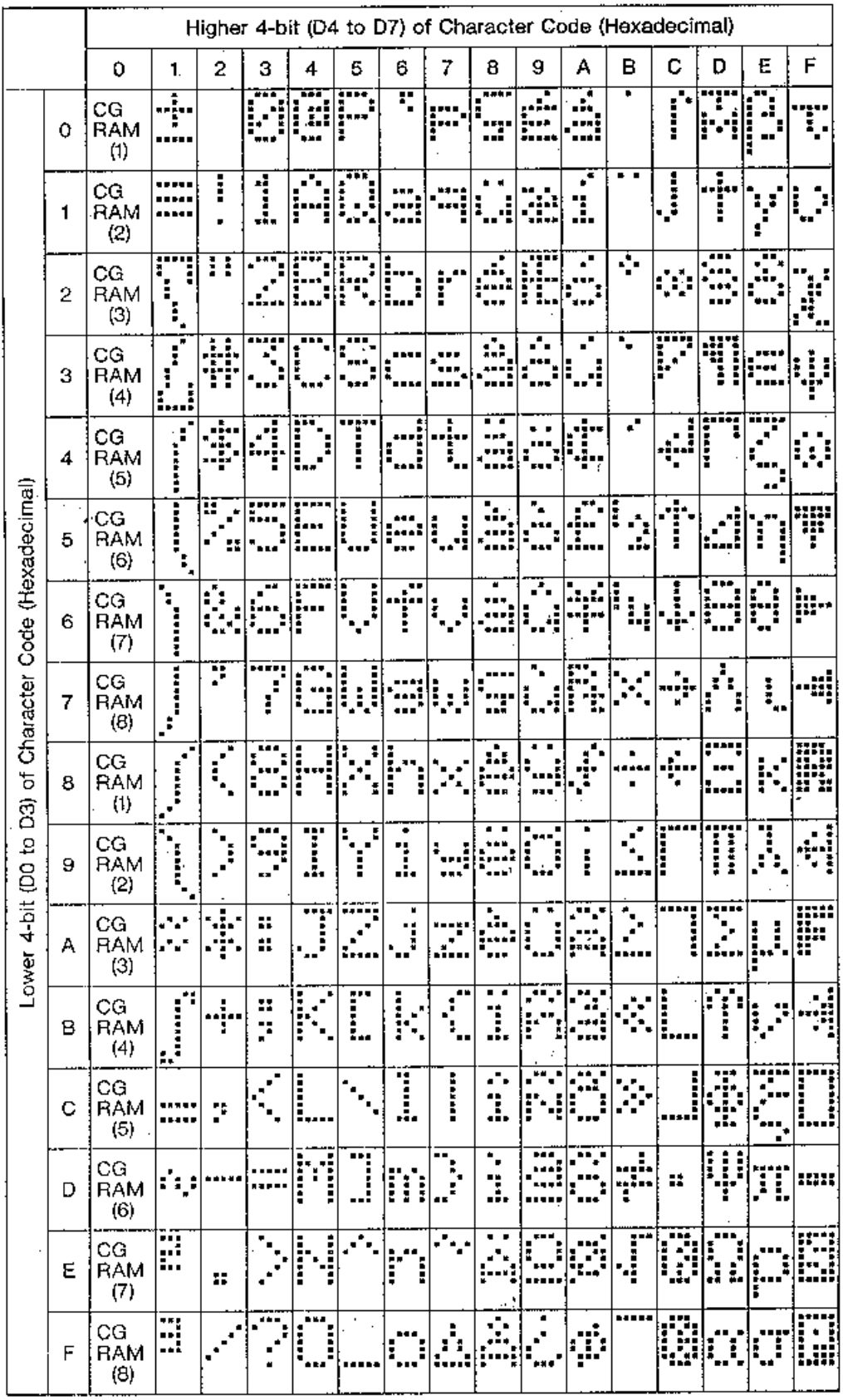
7.OUTLINE DIMENSION

CHARACTER GENERATOR ROM

INSTRUCTIONS

Instruction	Code										Description	Execution Time (max) (when fcp or fosc is 250 KHZ)
	RS	R/W	DB7	DB6	DB5	DB4	DB3	DB2	DB1	DB0		
Clear Display	0	0	0	0	0	0	0	0	0	1	Clears entire display and sets DD RAM address 0 in address counter.	1.64 ms
Return Home	0	0	0	0	0	0	0	0	1	*	Sets DD RAM address 0 in address counter. Also returns display being shifted to original position. DD RAM contents remain unchanged.	1.64 ms
Entry Mode Set	0	0	0	0	0	0	0	1	I/D	S	Sets cursor move direction and specifies shift of display. These operations are performed during data write and read.	40 μs
Display ON/OFF Control	0	0	0	0	0	0	1	D	C	B	Sets ON/OFF of entire display (D), cursor ON/OFF (C), and blink of cursor position character (B).	40 μs
Cursor or Display Shift	0	0	0	0	0	1	S/C	R/L	*	*	Moves cursor and shifts display without changing DD RAM contents.	40 μs
Function Set	0	0	0	0	1	DL	N	F	*	*	Sets interface data length (DL) number of display lines (L) and character font (F).	40 μs
Set CG RAM Address	0	0	0	1	ACG						Sets CG RAM address. CG RAM data is sent and received after this setting.	40 μs
Set DD RAM Address	0	0	1	ADD							Sets DD RAM address. DD RAM data is sent and received after this setting.	40 μs
Read Busy Flag & Address	0	1	BF	AC							Reads Busy flag (BF) indicating internal operation is being performed and reads address counter contents.	0 μs
Write Data to CG or DD RAM	1	0	Write Data								Writes data into DD RAM or CG RAM.	40 μs tADD=6 μs (Note2)
Read Data From CG or DD RAM	1	1	Read Data								Reads data from DD RAM or CG RAM.	40 μs tADD=6 μs (Note2)
	I/D = 1: Increment I/D = 0: Decrement S = 1: Accompanies display shift S/C = 1: Display shift S/C = 0: Cursor move R/L = 1: Shift to the right R/L = 0: Shift to the left DL = 1: 8 bits , DL = 0: 4 bits N = 1: 2 lines , N = 0: 1 line F = 1: 5x10 dots , F = 0: 5x7 dots BF = 1: Internally operating BF = 0: Can accept instruction										DD RAM: Display data RAM CG RAM: Character generator RAM ACG: CG RAM address ADD: DD RAM address : Corresponds to cursor address. AC: Address counter used for both DD and CG RAM address.	Execution time changes when frequency changes. Example : When fcp or fosc is 270 KHZ : $40\mu s \times \frac{250}{270} = 37\mu S$

*NO Effect

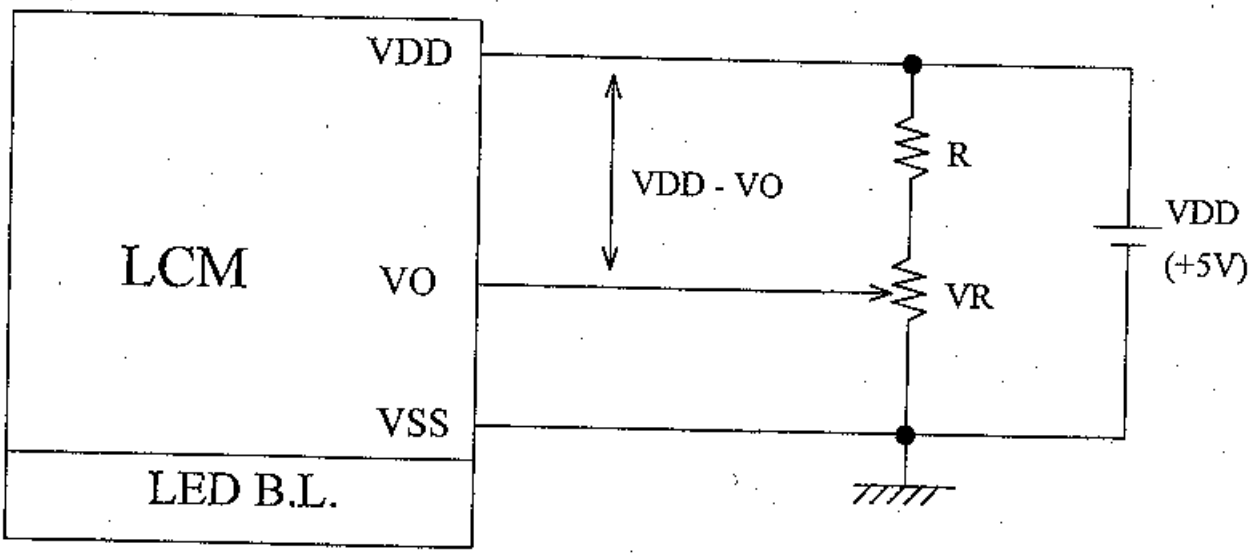

Higher 4-bit (D4 to D7) of Character Code (Hexadecimal)
0
1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
Lower 4-bit (D0 to D3) of Character Code (Hexadecimal)
CG RAM (1)
CG RAM (2)
CG RAM (3)
CG RAM (4)
CG RAM (5)
CG RAM (6)
CG RAM (7)
CG RAM (8)
CG RAM (1)
CG RAM (2)
CG RAM (3)
CG RAM (4)
CG RAM (5)
CG RAM (6)
CG RAM (7)
CG RAM (8)

INTERFACE OF PIN CONNECTIONS

TYPE A **VSS = GND, VDD = +5V**

Pin No	1	2	3	4	5	6	7	
Symbol	VSS	VDD	VO	RS	R/W	E	DBO	
Pin No	8	9	10	11	12	13	14	
Symbol	DB1	DB2	DB3	DB4	DB5	DB6	DB7	

8. POWER SUPPLY FOR LCM AND LED BACKLIGHT.



VDD -VO : LCD DRIVING VOLTAGE
VR : 10KΩ ~ 20KΩ
RECOMMEND RESISTOR R : VDD - VO ≧ 1.5V