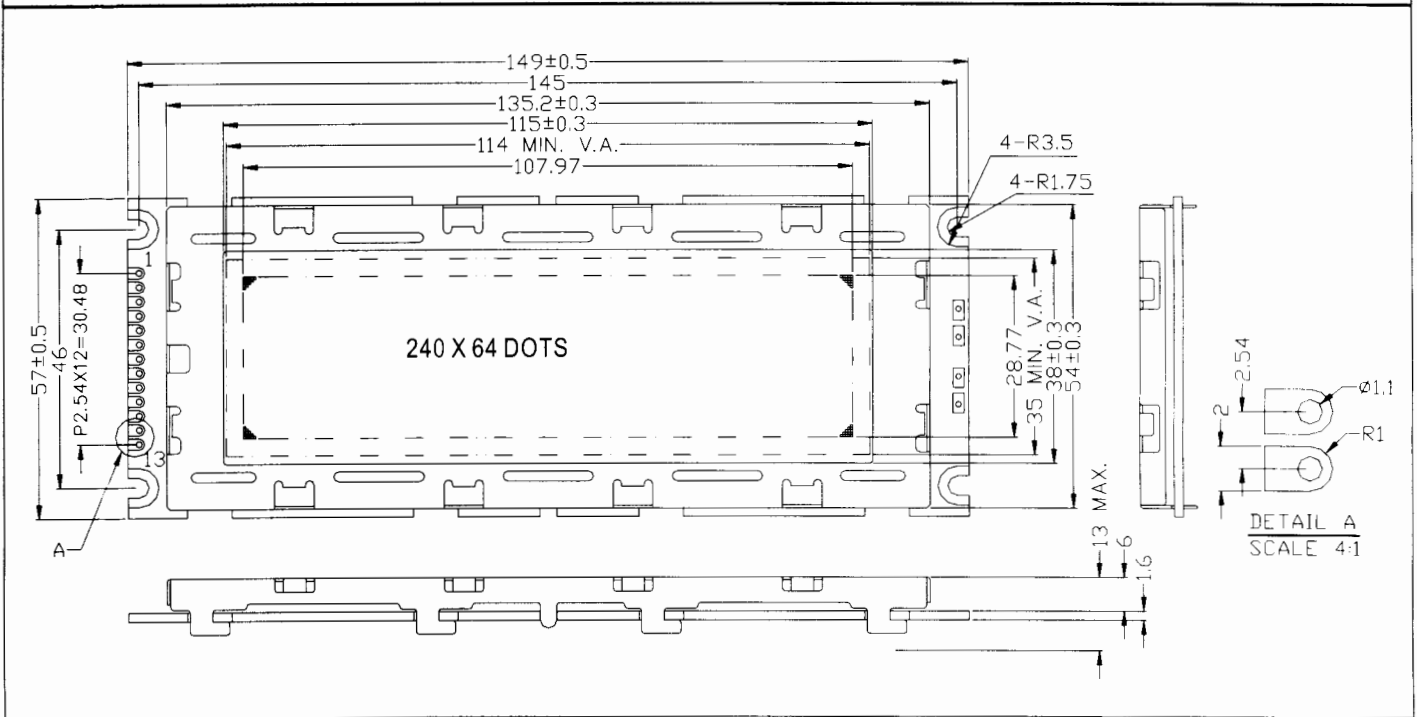
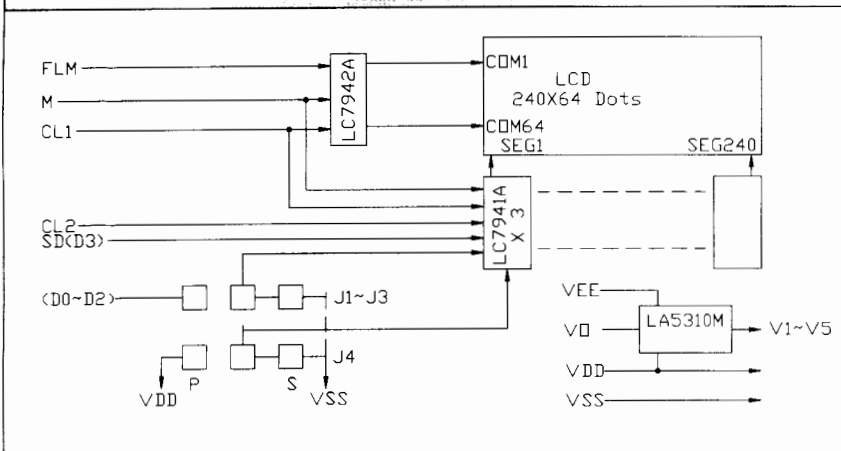


OUTLINE DIMENSION

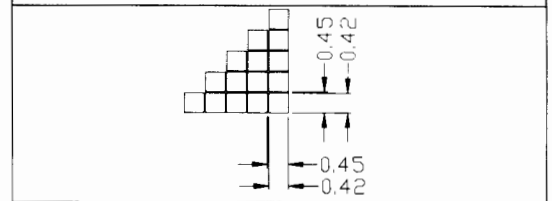


Graphic Type

BLOCK DIAGRAM



DISPLAY PATTERN



MECHANICAL SPECIFICATION

Item	Dimensions (w) X (H)	Unit
Overall Size	149.0 x 57.0	MM
View Area	114.0 x 35.0	MM
Dot Size	0.42 x 0.42	MM
Dot Pitch	0.45 x 0.45	MM

PIN ASSIGNMENT

Pin no.	Symbol	Function
1-3	D0-2	No connection
4	D3	Serial data input
5	FLM	I/O control
6	M	Panel drive voltage output alternation control signal
7	CL1	Load display data latch clock(Falling edge trigger)
8	CL2	Display data input clock
9	NC	No connection
10	VDD	Supply voltage for logic
11	VSS	Ground
12	VEE	Output voltage for LCD
13	VO	Supply voltage for LCD

ABSOLUTE MAXIMUM RATING

Item	Symbol	Condition	Min.	Max.	Unit
Supply for logic voltage	V _{DD}	25°C	-0.3	7.0	V
LCD driving supply voltage	V _{DD} -V _O	25°C	-0.3	28	V
Input voltage	V _I	25°C	-0.3	V _{DD} +0.3	V

ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typical	Max.	Unit
Supply voltage for logic	V _{DD}	---	4.5	5.0	5.5	V
Supply current for logic	I _{DD}	---	---	22	26	mA
Operation voltage for LCD	V _{DD} - V _O	0°C	12.4	13.1	13.8	V
		25°C	12.0	12.7	13.4	V
		50°C	11.7	12.4	13.1	V
Input voltage "H" level	V _{IH}	---	V _{DD} -2.2	---	V _{DD}	V
Input voltage "L" level	V _{IL}	---	0	---	0.8	V
Supply voltage for back light	V _F	---	---	4.2	4.6	V
Supply current for back light	I _F	V _F =4.2V	---	300	500	mA

REMARKS:

- LCD options: STN, FSTN.
- Back light Options: EL Back light feature, other Specs not available on catalog is under request.