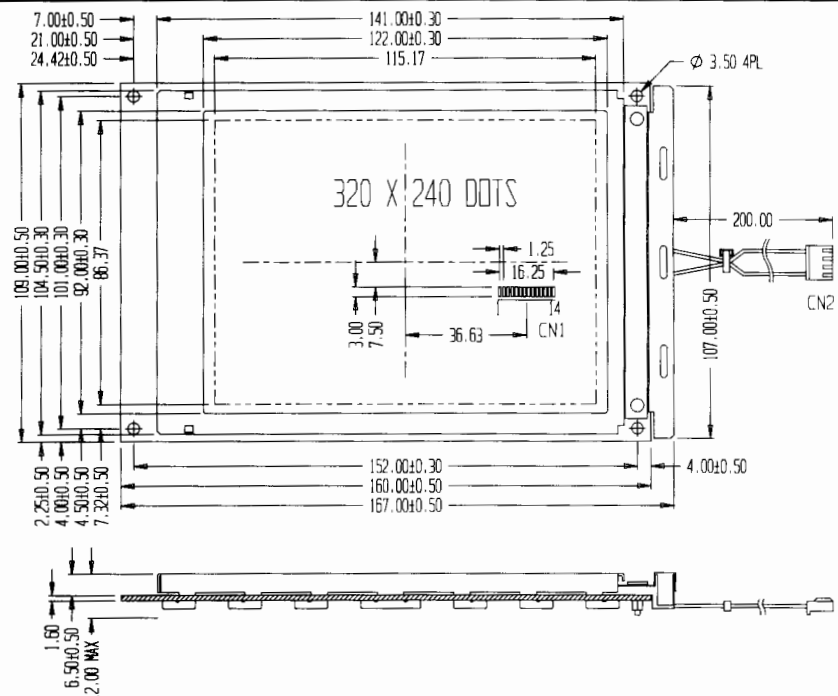
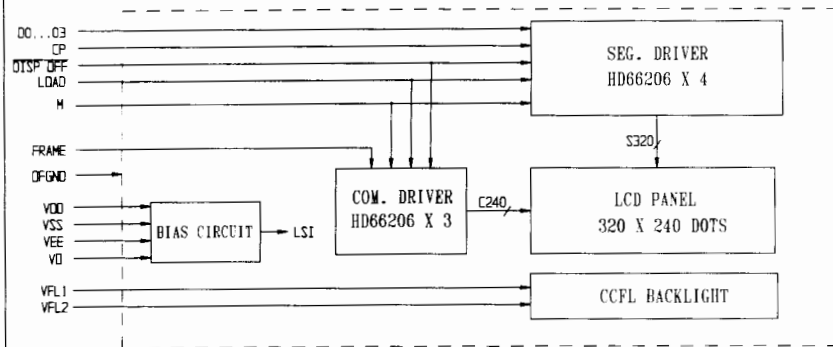


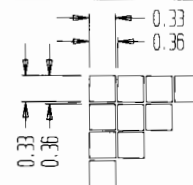
OUTLINE DIMENSION



BLOCK DIAGRAM



DISPLAY PATTERN



MECHANICAL SPECIFICATION

Item	Dimensions (W) X (H)	Unit
Overall Size	167 X 109	MM
View Area	122 X 92.0	MM
Dot Size	0.33 X 0.33	MM
Dot Pitch	0.36 X 0.36	MM

PIN ASSIGNMENT

CN1		
1~4	DO~D3	Data bit 0~3
5	DISPOFF	Display on/off
6	Frame	Frame signal
7	M	Alternator for LCD drive
8	LOAD	Data latch signal
9	CP	Clock signal for shifting serial data
10	VDD	Supply voltage for logic
11	VSS	Ground
12	VEE	Supply voltage for LCD
13	VO	Variable voltage for LCD
14	FGND	Frame ground
CN2		
1	VFL1	Supply voltage for CCFL
2	NC	No connection
3	NC	No connection
4	VFL2	Supply voltage for CCFL

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	30	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}	---	---	10	16	mA
Operation voltage for LCD	V _{DD} - V _O	0°C	22.1	23.3	24.5	V
		25°C	21.2	22.4	23.6	V
		50°C	20.2	21.4	22.6	V
Input voltage "H" level	V _{IH}	---	0.7V _{DD}	---	V _{DD}	V
Input voltage "L" level	V _{IL}	---	0	---	0.3V _{DD}	V
Supply voltage for CCFL	V _F	---	---	220	---	Vrms
Supply current for CCFL	I _F	V _F =220 Vrms	---	5m	---	Arms

REMARKS:

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