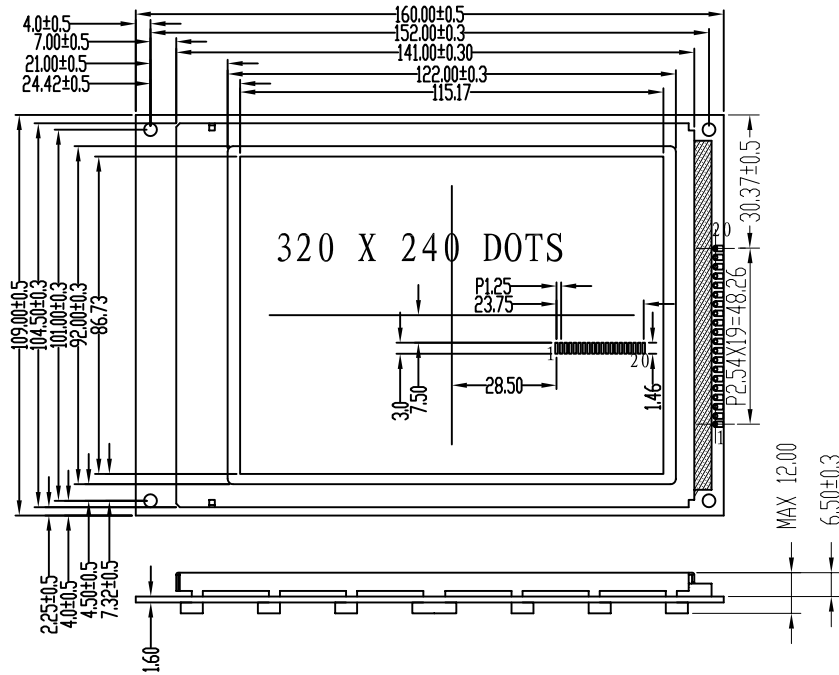
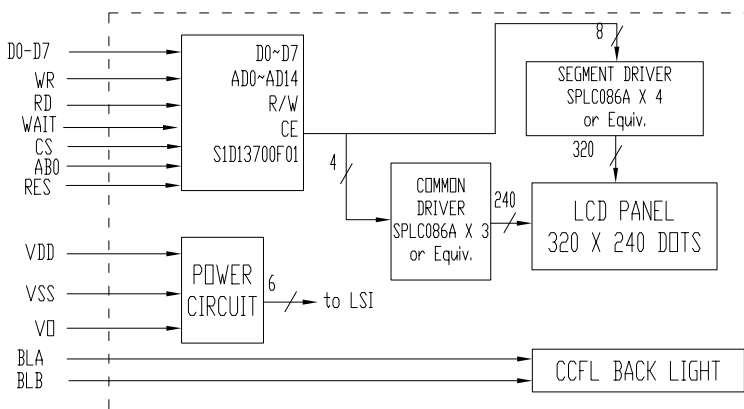


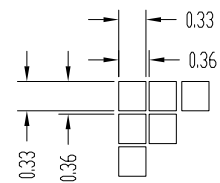
OUTLINE DIMENSION



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 AND CN2		
1	VSS	Ground
2	VDD	Supply voltage for LOGIC
3	VEE	Supply voltage for LCD
4	VD	Supply cathode voltage for module
5	/WR	Write signal
6	/RD	Read signal
7	/CS	Chip selected
8	WAIT	Wait output MPU interface
9	/RES	Reset signal
10	ABO	Command or parameter
11~18	D0~D7	Data bit 0~7
19	BLA	Supply voltage for LED
20	BLB	Supply voltage for LED

ABSOLUTE MAXIMUM RATING

Item	Symbol	Condition	Min.	Max.	Unit
Supply for logic voltage	VDD	25°C	-0.3	7.0	V
LCD driving supply voltage	VDD-VD	25°C	-0.3	30	V
Input voltage	VI	25°C	-0.3	VDD+0.3	V

ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typical	Max.	Unit
Supply voltage for logic	VDD	---	2.7	5.0	5.5	V
Supply current for logic	IDD	---	---	16.4	29	mA
Operation voltage for LCD	VDD-VD	0°C	22.0	23.2	24.4	V
		25°C	21.6	22.3	23.0	V
		50°C	20.2	21.4	22.6	V
Input voltage "H" level	VIH	---	0.7VDD	---	VDD	V
Input voltage "L" level	VIL	---	0	---	0.3VDD	V
Supply voltage for LED	VF	---	---	4.0	4.2	V
Supply current for LED	IF	VF=4.0V	---	160	---	mA

REMARKS:

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