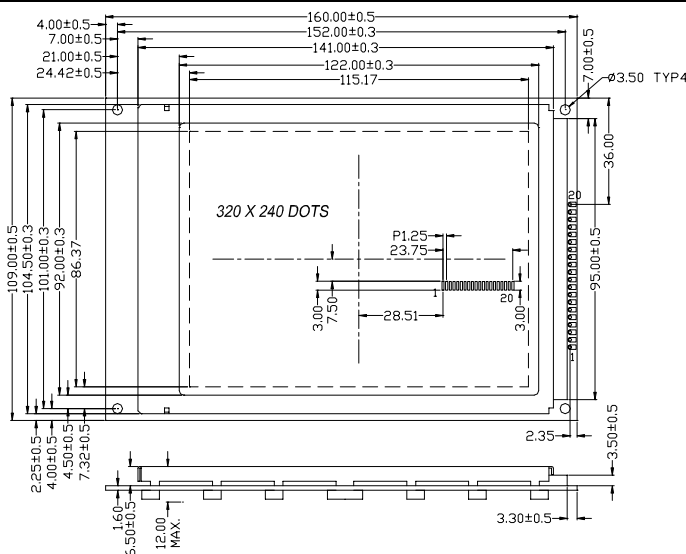
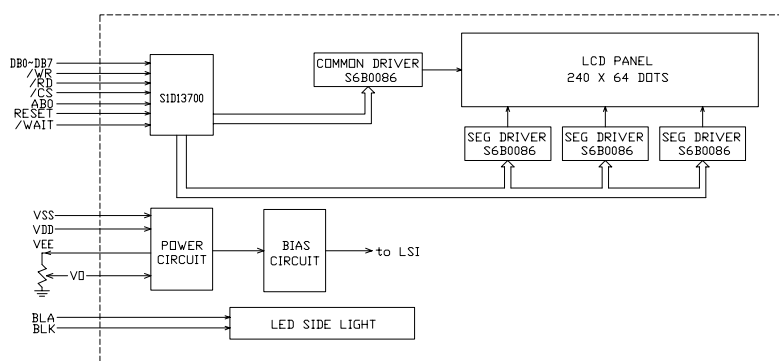


### OUTLINE DIMENSION

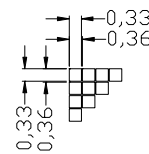


Tolerance: ± 0.20mm, unless otherwise specified.

### BLOCK DIAGRAM



### DISPLAY PATTERN



### MECHANICAL SPECIFICATION

Item	Dimensions(W)X(H)	Unit
Overall Size	160.0x109.0	MM
View Area	122.0x92.0	MM
Dot Size	0.33x0.33	MM
Dot Pitch	0.36x0.36	MM

Graphic Type

### PIN ASSIGNMENT

Pin	Symbol	Description
1	VSS	Ground
2	VDD	Supply voltage for logic
3	VEE	LCD supply voltage
4	VO	Contrast adjust
5	/WR	Write strobe for MPU interface
6	/RD	Read strobe for MPU interface
7	/CS	Chip select for MPU interface
8	/WAIT	Wait output for MPU interface
9	/RESET	Reset input
10	AB0	Command or parameter
11~18	D0~D7	Data bit 0~7
19	BLA	Back light anode
20	BLK	Back light cathode

### ABSOLUTE MAXIMUM RATING

Item	Symbol	Condition	Min	Max	Unit
Supply for logic voltage	V <sub>DD</sub>	25	-0.3	7.0	V
LCD driving supply voltage	V <sub>EE</sub>	25	0	30.0	V
Input voltage	V <sub>I</sub>	25	-0.3	V <sub>DD</sub> +0.3	V

### ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typical	Max.	Unit
Supply voltage for logic	V <sub>DD</sub>	---	4.5	5.0	5.5	V
Supply current for logic	I <sub>DD</sub>	---	---	170	---	mA
Operation voltage for LCD	V <sub>EE</sub>	25	---	21.5	---	V
Input voltage "H" level	V <sub>IH</sub>	---	0.7V <sub>DD</sub>	---	V <sub>DD</sub>	V
Input voltage "L" level	V <sub>IL</sub>	---	0	---	0.3V <sub>DD</sub>	V
Supply voltage for BL	V <sub>F</sub>	---	---	3.1	---	V
Supply current for BL	I <sub>F</sub>	V <sub>F</sub> =3.1V	---	240	---	mA

### REMARKS:

- LCD options: STN, FSTN.
- Back light type: LED Back light feature.