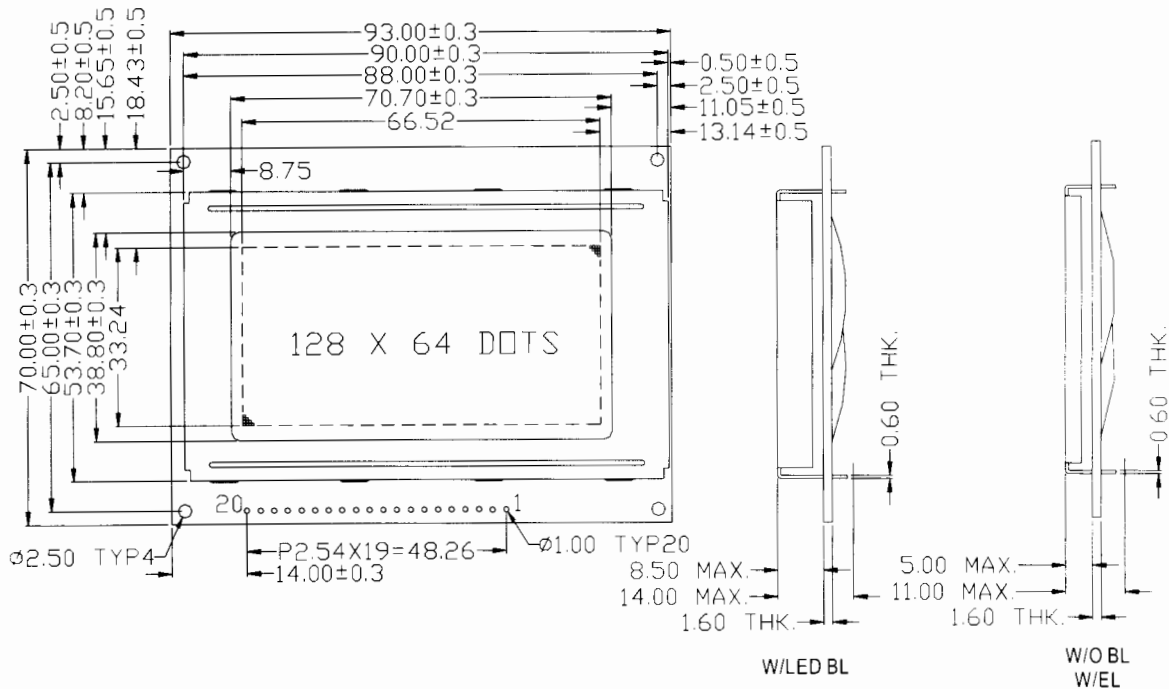
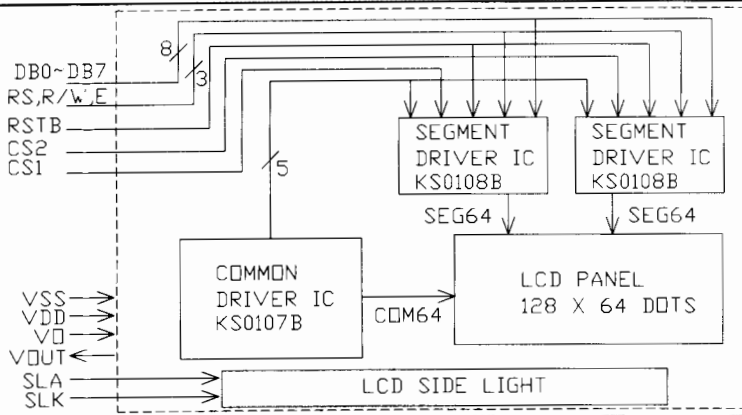


### OUTLINE DIMENSION

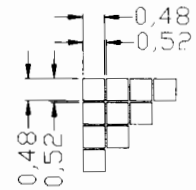


Graphic Type

### BLOCK DIAGRAM



### DISPLAY PATTERN



### MECHANICAL SPECIFICATION

Item	Dimensions (W) X (H)	Unit
Overall Size	93.0 X 70.0	MM
View Area	70.7 X 38.8	MM
Dot Size	0.48 X 0.48	MM
Dot Pitch	0.52 X 0.52	MM

### PIN ASSIGNMENT

Pin no.	Symbol	Function
1	VSS	Ground
2	VDD	Supply voltage for logic
3	VO	Input voltage for LCD
4	RS	H: Data signal, L: Instruction signal
5	R/W	H: Read mode, L: Write mode
6	E	Chip enable signal
7-14	DB0-7	Data bus 0~7
15	CS1	Chip select signal for KS0108B(1)
16	CS2	Chip select signal for KS0108B(2)
17	RSTB	Reset signal
18	VO	Output voltage for LCD
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°C	-0.3	7.0	V
LCD driving supply voltage	V <sub>LCD</sub>	25°C	-0.3	V <sub>DD</sub> +0.3	V
Input voltage	V <sub>I</sub>	25°C	-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>	---	---	2.2	4.0	mA
Operation voltage for LCD	V <sub>DD</sub> - V <sub>O</sub>	0°C	7.9	8.3	8.7	V
		25°C	7.7	8.1	8.5	V
		50°C	7.5	7.9	8.3	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 back light	V <sub>F</sub>	---	---	4.2	4.6	V
Supply current for back light	I <sub>F</sub>	V <sub>F</sub> =4.2V	---	800	1200	mA

### REMARKS:

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