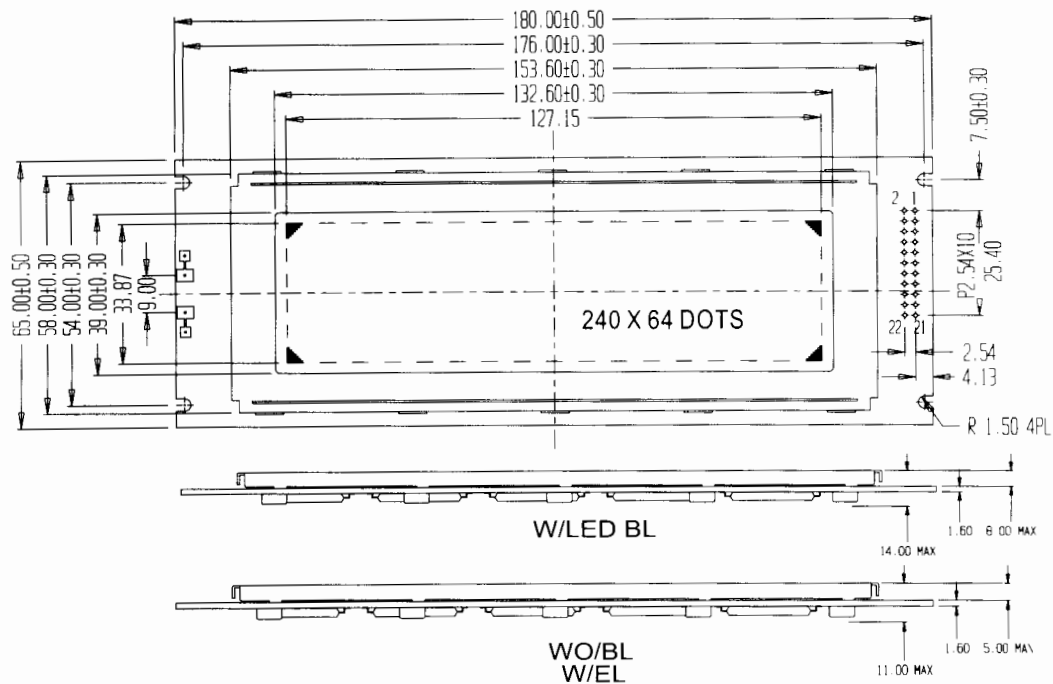
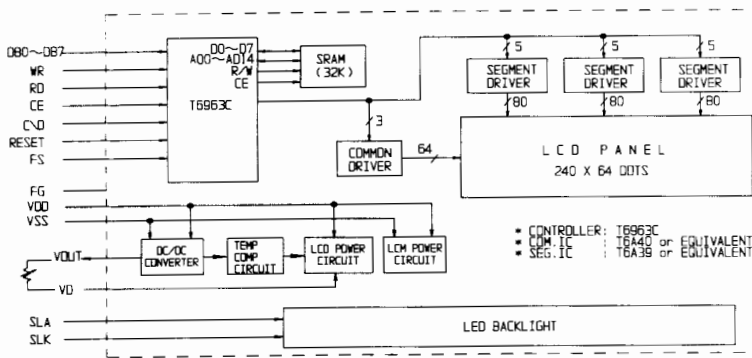


OUTLINE DIMENSION

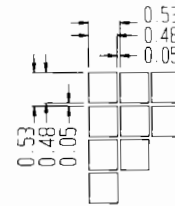


Graphic Type

BLOCK DIAGRAM



DISPLAY PATTERN



MECHANICAL SPECIFICATION

Item	Dimensions (w) X (H)	Unit
Overall Size	180 X 66.0	MM
View Area	132.6 X 39.0	MM
Dot Size	0.48 X 0.48	MM
Dot Pitch	0.53 x 0.53	MM

PIN ASSIGNMENT

Pin no.	Symbol	Function
1	FG	Frame Ground
2	Vss	Ground
3	VDD	Supply voltage for logic
4	VO	Input voltage for LCD
5	WR	Write signal
6	RD	Read signal
7	CE	Chip enable signal
8	C/D	Instruction/Data signal
9	NC	No connection
10	RESET	Reset signal
11~18	DB0~DB7	Data bus 0~7
19	FS	Font select signal
20	VOUT	Output voltage for LCD
21	BL+	Back light anode
22	BL-	Back light cathode

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.