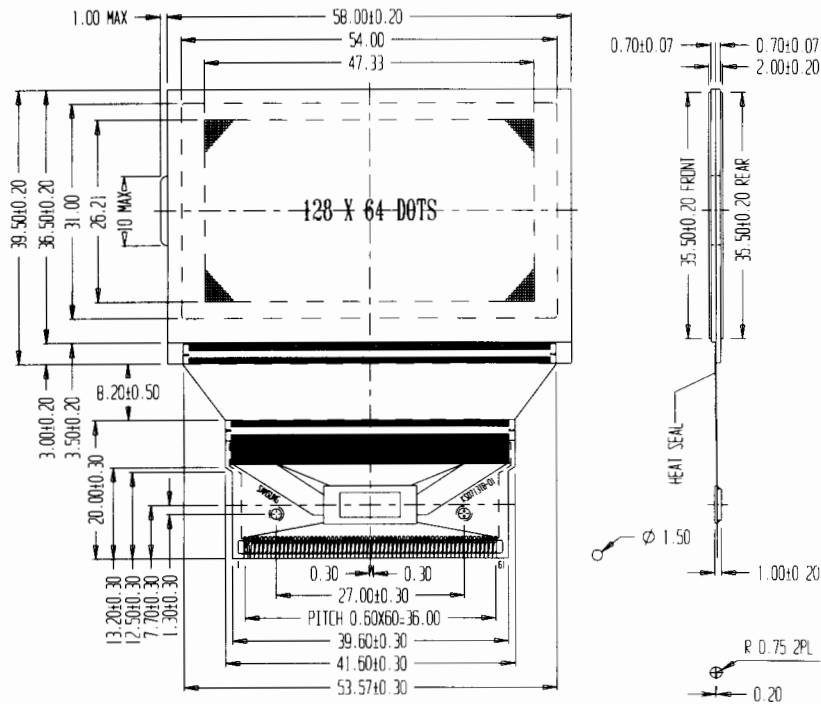
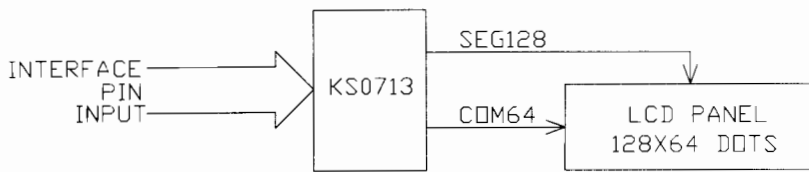


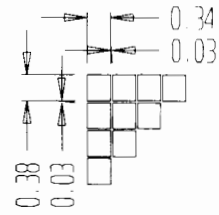
### OUTLINE DIMENSION



### BLOCK DIAGRAM



### DISPLAY PATTERN



### MECHANICAL SPECIFICATION

Item	Dimensions (W) X (H)	Unit
Overall Size	59.0 X 39.5	MM
View Area	54.0 X 31.0	MM
Dot Size	0.34 X 0.38	MM
Dot Pitch	0.37 X 0.41	MM

### PIN ASSIGNMENT

Pin no.	Symbol	Pin no.	Symbol	Pin no.	Symbol	Pin no.	Symbol
1	DUMMY	16~23	DB0 ~DB7	38	VOUT	57	INTRS
2	FRS	24	VSS	39	C3+	58	VSS
3	M	25	TEST L1	40	C3-	59	TEMPS
4	CL	26	TEST L2	41	C1+	60	VDD
5	DISP	27	VDD	42	C1-	61	DUMMY
6	VSS	28	DUTY 0	43	C2+		
7	CS1B	29	DUTY 1	44	CS2-		
8	CS2	30	VSS	45	VSS		
9	VDD	31	MS	46	VR		
10	RESET B	32	CLS	47~51	V0~V4		
11	RS	33	VDD	52	VSS		
12	VSS	34	MI	53	BSTS		
13	RW_WR	35	PS	54	DCDC5B		
14	E_RD	36	VSS	55	VDD		
15	VDD	37	VDD	56	HPM		

### 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	-18	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	Value	Unit
Supply voltage for logic and for converter voltage	V <sub>DD</sub>	25°C	2.8+/-0.1	V
Supply voltage for LCD	V <sub>LCD</sub>	25°C	9.0+/-0.1	V
Consumption voltage of the whole LCD module	V <sub>OUT</sub>	25°C	10.0+/-0.2	V
Input voltage	V <sub>I</sub>	25°C	680(max)	uA

### REMARKS:

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