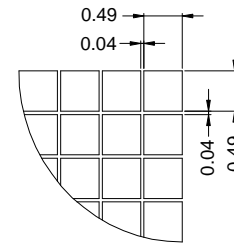
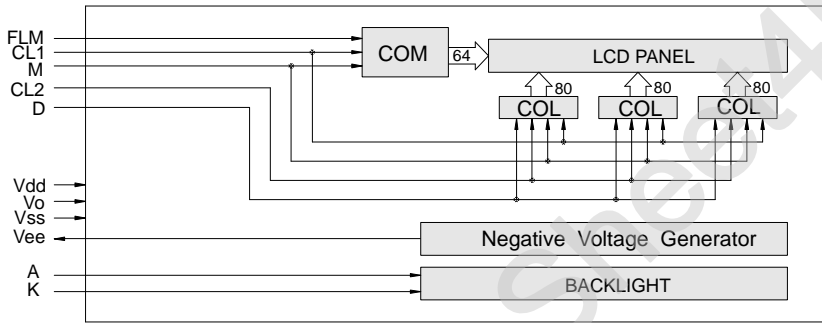
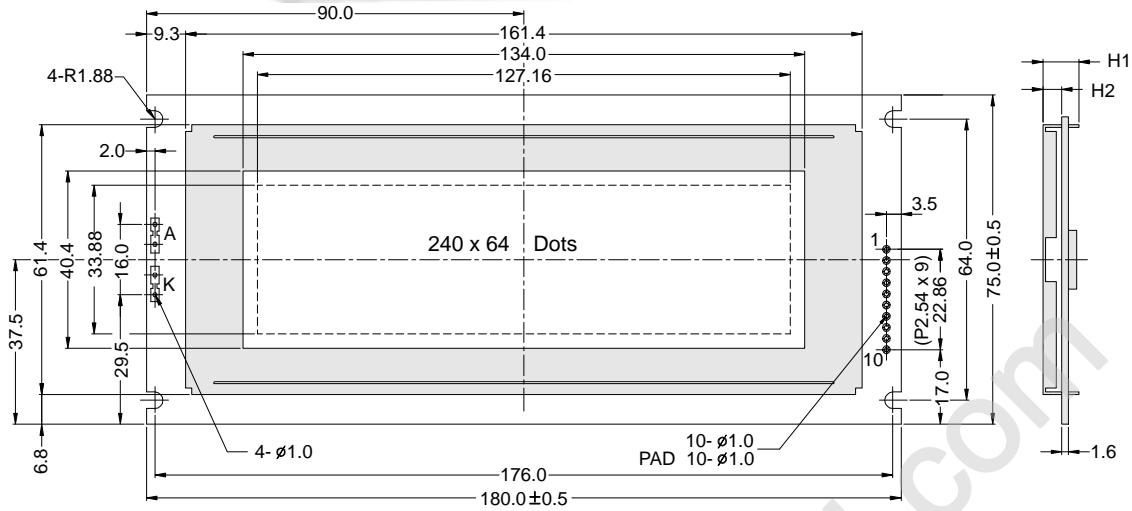




OUTLINE DIMENSION & BLOCK DIAGRAM



The tolerance unless classified $\pm 0.3\text{mm}$

MECHANICAL SPECIFICATION

Overall Size	180.0 x 75.0	Module	H2 / H1
View Area	134.0 x 40.4	W/O B/L	4.5 / 8.6
Dot Size	0.49 x 0.49	EL B/L	4.5 / 8.6
Dot Pitch	0.53 x 0.53	LED CCFL B/L	9.2 / 13.3

PIN ASSIGNMENT

Pin no.	Symbol	Function
1	D	Serial data input
2	FLM	Shift direction select
3	M	Alternation control signal
4	CL1	Display data input clock
5	CL2	Display data input clock
6	NC	No connection
7	Vdd	Power supply(+)
8	Vss	Power supply(GND)
9	Vee	Negative voltage output
10	Vo	Contrast Adjust

ABSOLUTE MAXIMUM RATING

Item	Symbol	Condition	Min.	Max.	Units
Supply for logic voltage	Vdd-Vss	25°C	-0.3	7.0	V
LCD driving supply voltage	Vdd-Vee	25°C	0	22.0	V
Input voltage	Vin	25°C	-0.3	Vdd+0.3	V

ELECTRICAL CHARACTERISTICS

Item	Symbol	Condition	Min.	Typical	Max.	Units			
Power supply voltage	Vdd-Vss	25°C	4.5	-	5.5	V			
LCD operation voltage	Vop	Top	N	W	N	W	V		
		-20°C	-	14.3	-	14.7	-	V	
		0°C	9.7	-	10.2	-	10.7	V	
		25°C	8.9	13.2	9.4	13.6	9.9	14	V
		50°C	8.6	-	9.1	-	9.6	-	V
70°C	-	12	-	12.4	-	12.8	V		
LCM current consumption (No B/L)	Idd	Vdd=5V	-	2.5	-	mA			
Backlight current consumption	LED/edge	VB/L=3.5V	-	80	-	mA			
	LED/array	VB/L=4.2V	-	650	-	mA			

REMARK

LCD option: STN, TN, FSTN

Backlight Option: LED, EL Backlight feature, other Specs not available on catalog is under request.

