

Standard Graphic LCD Module

PSG24064A

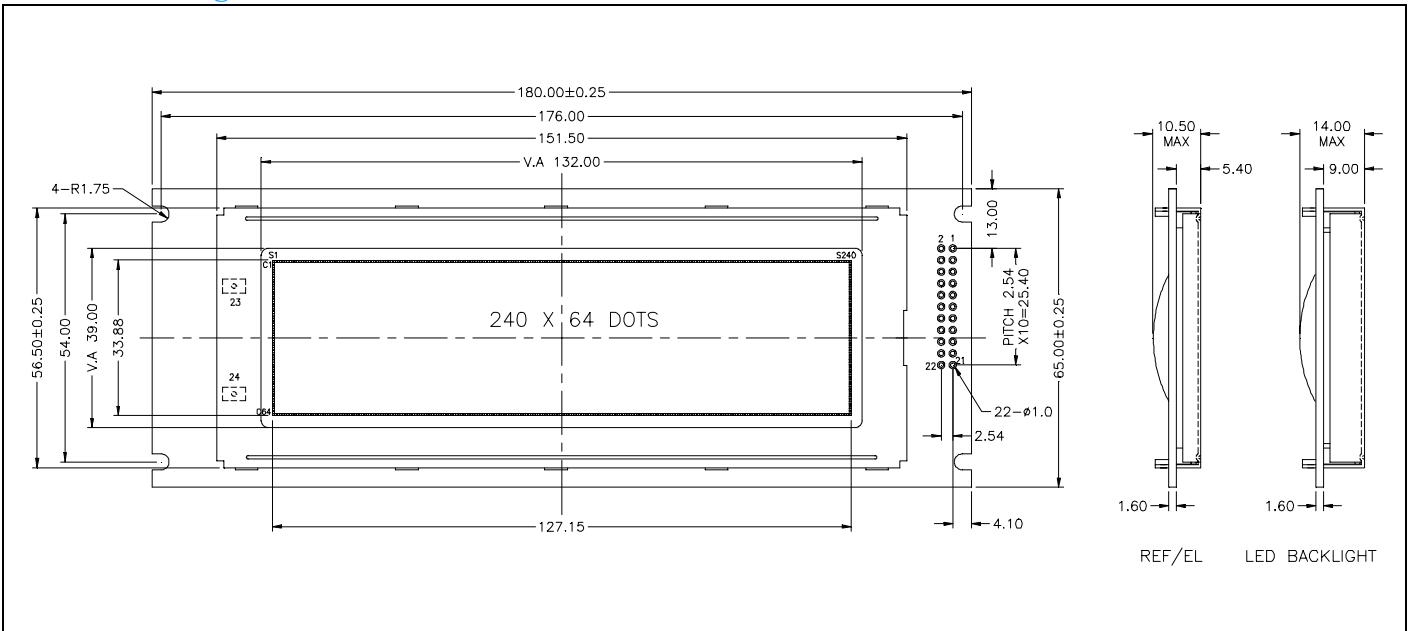
Feature

1. Dot Format ( 240 x 64 )
2. 8-Bit parallel bus interface
3. Built-in LCD controller (T6963)
4. Wide operating temperature range ( Option )
5. High contrast ratio
6. LED or EL Backlight ( Option )
7. Built-in negative voltage circuit ( Option )

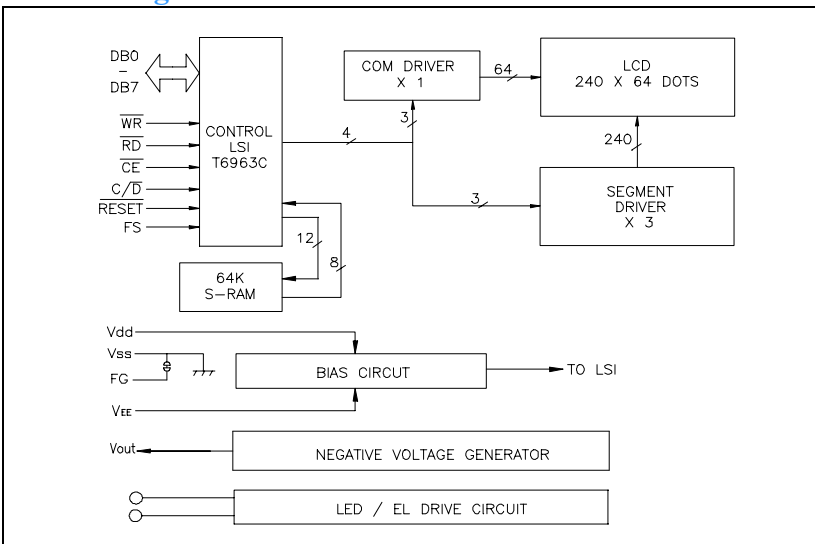


Mechanical Figure

Unit: mm

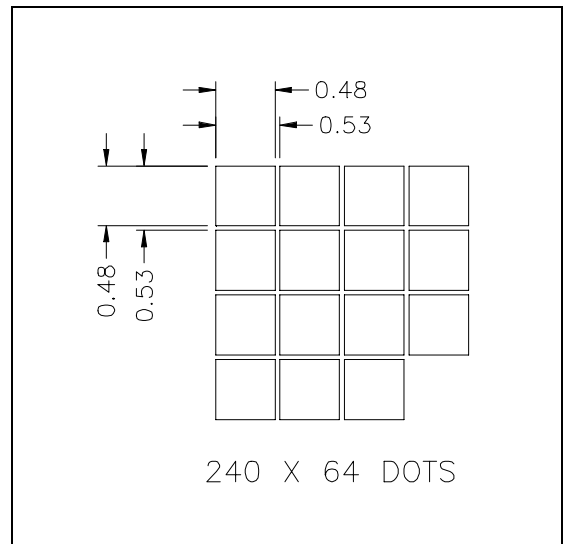


Block Diagram



Dots Size

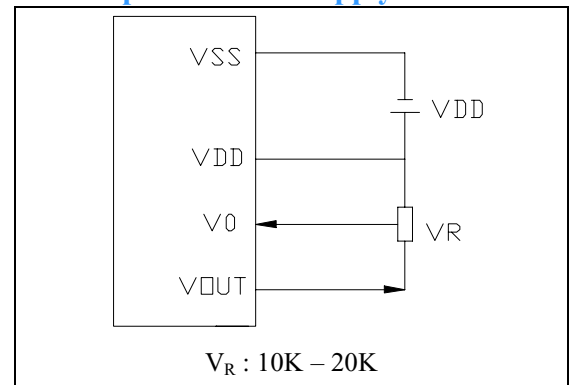
Unit: mm



## Specification

ITEM	Standard Value	Unit
Number of dots	240x64 Dots	-
Module Dimension	180.0(W)x56.5(H)x10.5/14.0(T)	mm
Viewing Area	132.0 (W)x 39.0 (H)	mm
Dot Size	0.48 (W)x 0.48 (H)	mm
Dot Pitch	0.53 (W)x 0.53 (H)	mm
LCD Type	STN	
Driver Method	1/64 Duty , 1/9 Bias	
Viewing Direction	6 O'clock	
Controller IC	T6963C	

## Example of Power Supply



## Absolute Maximum Ratings

ITEM	Symbol	MIN.	TYP.	MAX.	Unit
Operating Temperature	$T_{op}$	0	-	+60	C
Storage Temperature	$T_{ST}$	-20	-	+70	C
Input Voltage	$V_I$	-0.3	-	$V_{DD}+0.3$	V
Supply Voltage For Logic	$V_{DD}-V_{SS}$	-0.3	-	7.0	V
Supply Voltage For LCD	$V_{DD}-V_5$	-0.3	-	17.0	V

## Electrical Characteristics

ITEM	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply Voltage For Logic	$V_{DD}-V_{SS}$	$T_a=25\text{ C}$	-	5.0	5.5	V
Supply Voltage For LCD	$V_{DD}-V_{EE} (V_{OP})$		11.0	12.5	17.0	V
Input High Voltage			$0.8 V_{DD}$	-	$V_{DD}$	V
Input Low Voltage			0	-	$0.2 V_{DD}$	V
Output High Voltage		$I_{OH}=-0.5\text{mA}$	$0.8 V_{DD}$	-	$V_{DD}$	V
Output Low Voltage			0	-	$0.2 V_{DD}$	V

## Pin Assignment

Pin Assignment				Value			Unit
Pin	Symbol	Level	Function	MIN.	TYP.	MAX.	Unit
1	FG	-	Frame Ground				
2	$V_{SS}$	0V	Power Supply for Logic (GND)		0		
3	$V_{dd}$	+5V	Power Supply for Logic (+5V)	4.5	5.0	5.5	V
4	$V_{EE}$	-	Power Supply for LCD Drive	-	-	-	V
5	/WR	L	Write Signal ("L" Active)				
6	/RD	L	Read Signal ("L" Active)				
7	/CE	L	Chip Enable Signal ("L" Active)				
8	C/(/D)	H/L	H: Command Write/Status Read; L: Data Write/Read				
9	NC	-	No Connector				
10	/RESET	L	Reset Signal ("L" Active)				
11	DB0	H/L	Data Bus				
12	DB1	H/L					
13	DB2	H/L					
14	DB3	H/L					
15	DB4	H/L					
16	DB5	H/L					
17	DB6	H/L					
18	DB7	H/L					
19	FS	H/L	Font Switch				
20	NC	-	No Connector				
21	LED(+)	-	Power Supply for LED Backlight (+) / EL	4.05	4.25	4.45	V
22	LED(-)	-	Power Supply for LED Backlight (-) / EL	-	0	-	V