

Standard Graphic LCD Module

PSG12832A

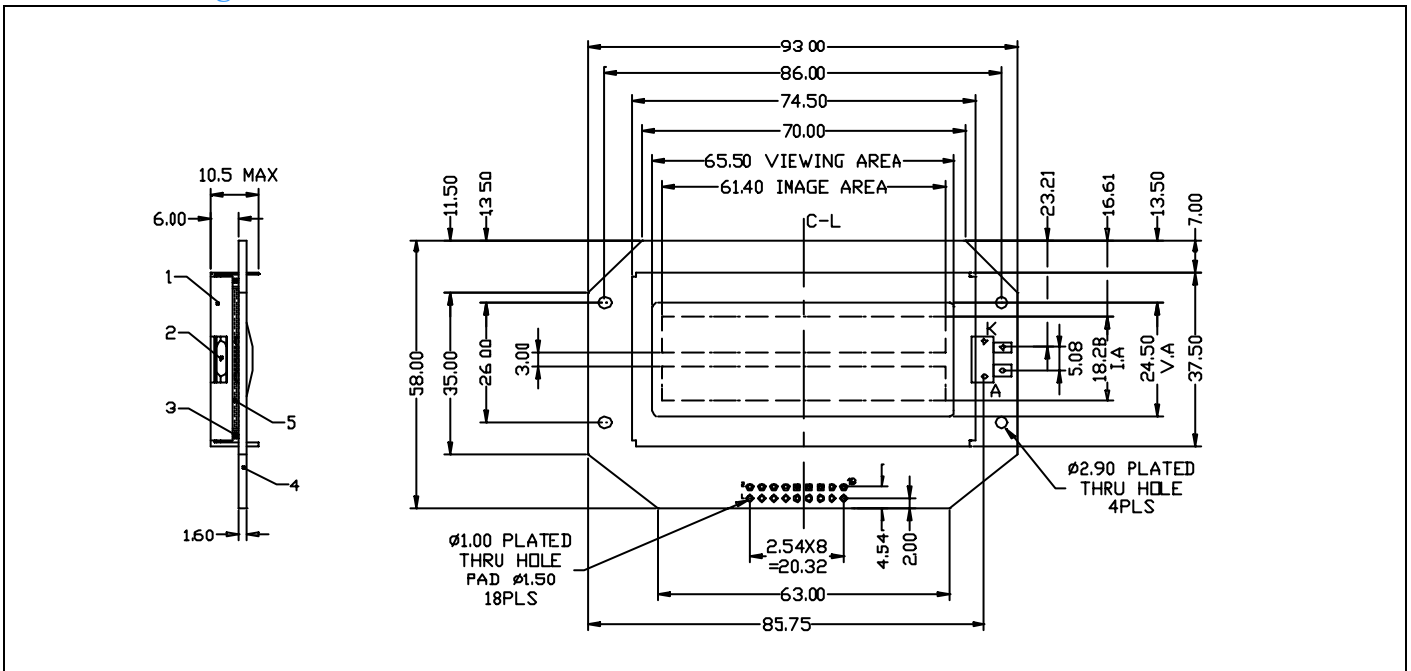
Feature

1. Dot Format (128 x 32)
2. 8-Bit parallel bus interface
3. Built-in LCD controller (KS0107& KS0108)
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

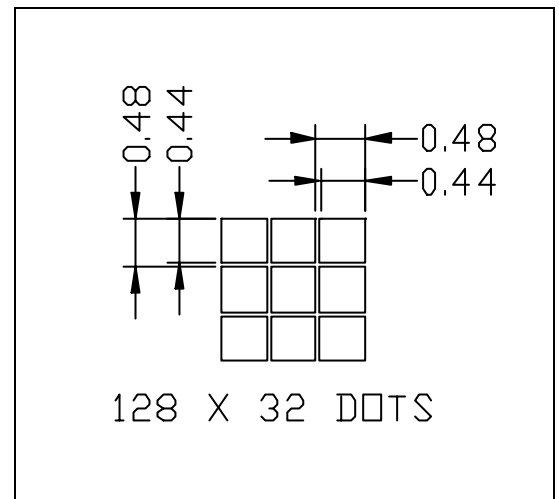
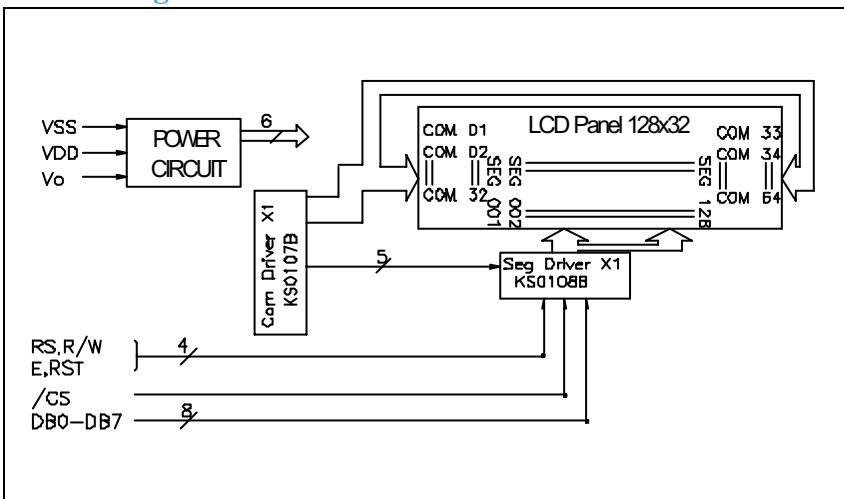
Unit: mm



Block Diagram

Dots Size

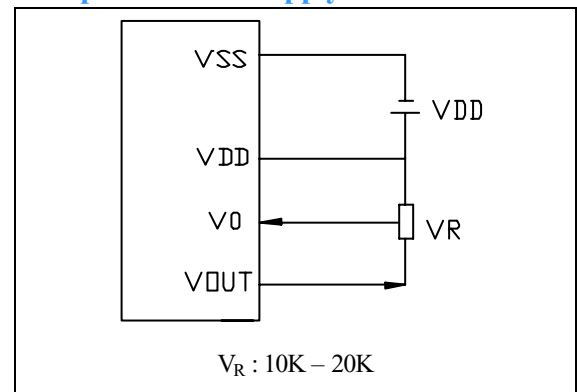
Unit: mm



Specification

Example of Power Supply

ITEM	Standard Value	Unit
Number of dots	128 x 32 Dots	-
Module Dimension	93.0(W) x 58.0(H) x 10.5(T)	mm
Viewing Area	65.5 (W) x 24.5 (H)	mm
Dot Size	0.44 (W) x 0.44 (H)	mm
Dot Pitch	0.48 (W) x 0.48 (H)	mm
LCD Type	STN	
Driver Method	1/64 Duty , 1/9 Bias	
Viewing Direction	6 O'clock	
Controller IC	KS0108 Equivalent	



Absolute Maximum Ratings

ITEM	Symbol	MIN.	TYP.	MAX.	Unit
Operating Temperature	T_{op}	-10	-	+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	$V_{DD}-V_S$	-0.3	-	12.5	V

Electrical Characteristics

ITEM	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply Voltage For Logic	$V_{DD}-V_{SS}$	$T_a=25^\circ\text{C}$	-	5.0	5.5	V
Supply Voltage For LCD	$V_{DD}-V_{EE} (V_{OP})$		8.5	10.0	12.5	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.	
1	V_{EE}	-	Contrast Adjust Voltage	-	-	-	
2	V_{dd}	+5V	Power Supply (+5V)	4.5	5.0	5.5	V
3	V_{SS}	0V	Power Supply (GND)	-	0	-	V
4	E	H/L	Enable Signal				
5	RS	H/L	Data or Instruction				
6	R/W	H/L	Data Read/Write				
7	RST	H/L	Reset Signal				
8	/CS	L	Chip select signal				
9	DB7	H/L	Data Bus				
10	DB6	H/L					
11	DB5	H/L					
12	DB4	H/L					
13	DB3	H/L					
14	DB2	H/L					
15	DB1	H/L					
16	DB0	H/L					
17	LED+	-	Power Supply For LED Backlight(+)	-	4.2	-	V
18	LED-	-	Power Supply For LED Backlight(-)	-	0	-	V