

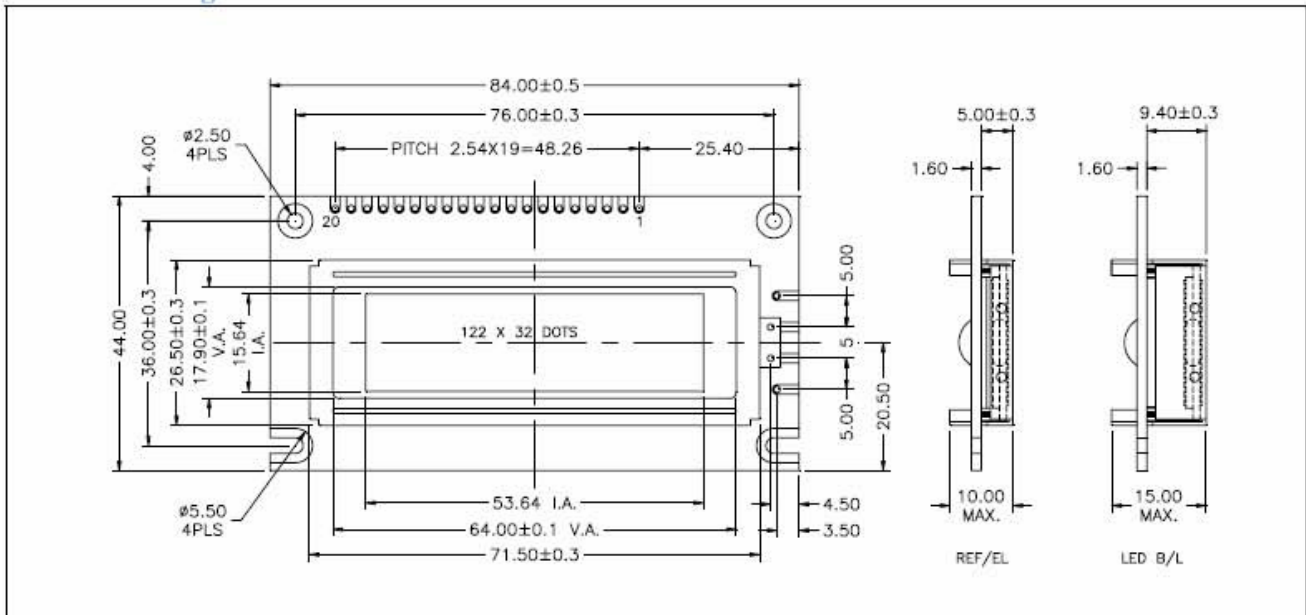
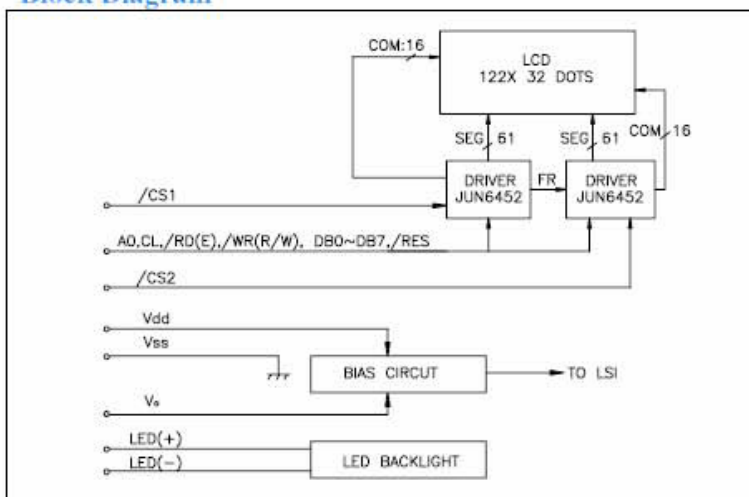
Standard Graphic LCD Module
KG12232A
Feature

1. Dot Format (122 x 32)
2. 8-Bit parallel bus interface
3. Built-in LCD controller (NJU6452)
4. Wide operating temperature range (Option)
5. High contrast ratio
6. LED or EL Backlight (Option)

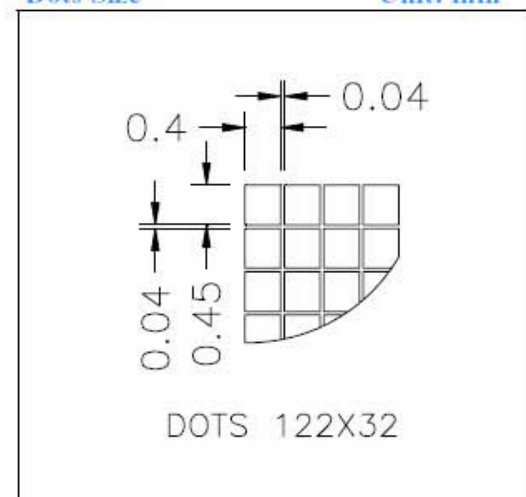
Picture Information

Mechanical Figure

Unit: mm


Block Diagram

Dots Size

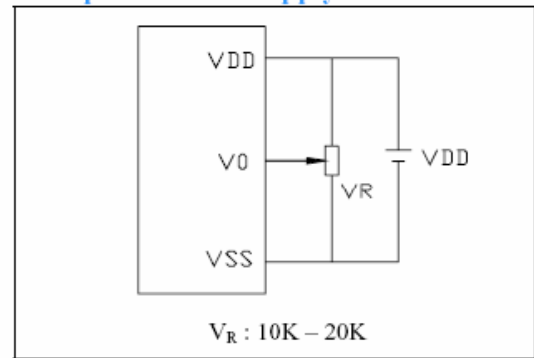
Unit: mm



Specification

ITEM	Standard Value	Unit
Number of dots	122x32 Dots	-
Module Dimension	84.0(W)x44.0(H)x10.0/15.0(T)	mm
Viewing Area	64.0 (W)x 17.9 (H)	mm
Dot Size	0.40 (W)x 0.45 (H)	mm
Dot Pitch	0.44 (W)x 0.49 (H)	mm
Display Mode	STN	
Driver Method	1/32 Duty , 1/ 5 Bias	
Viewing Direction	6、 12 O'clock	
Controller IC	JUN6452 (Equivalent)	

Example of Power Supply



Absolute Maximum Ratings

ITEM	Symbol	MIN.	TYP.	MAX.	Unit
Operating Temperature	T_{op}	0	-	+50	°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	-	7.0	V

Electrical Characteristics

ITEM	Symbol	Condition	MIN.	TYP.	MAX.	Unit
Supply Voltage For Logic	$V_{DD}-V_{SS}$	$T_a=25^{\circ}C$	-	5.0	5.5	V
Supply Voltage For LCD	$V_{DD}-V_{EE} (V_{OP})$		4.5	4.8	7.0	V
Input High Voltage			$0.8 V_{DD}$	-	V_{DD}	V
Input Low Voltage			0	-	$0.2 V_{DD}$	V
Output High Voltage		$I_{OH}=-0.5mA$	$0.8 V_{DD}$	-	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_{SS}	0V	Power Supply (GND)	0			
2	V_{dd}	+5V	Power Supply for Logic (+5V)	4.5	5.0	5.5	V
3	V0	-	Power Supply for LCD Drive	-	-	-	V
4	A0	H/L	H: Data; L: Instruction	Data Bus			
5	/CS1	L	Chip Select IC1(Active "L")				
6	/CS2	L	Chip Select IC2 (Active "L")				
7	CL	H/L	External Clock Input (2K Hz)				
8	/RD(E)	-	/RD for 80 Series; E for 68 Series				
9	/WR(R/W)	-	/WR for 80 Series; R/W for 68 Series				
10	DB0	H/L					
11	DB1	H/L					
12	DB2	H/L					
13	DB3	H/L					
14	DB4	H/L					
15	DB5	H/L					
16	DB6	H/L					
17	DB7	H/L					
18	/RES	H/L	Reset Signal, H: 80 Series; L: 68 Series				
19	LED(+)	-	Power Supply For LED Backlight(+)/ EL				
20	LED(-)	-	Power Supply For LED Backlight(-)/ EL				