

**Standard Character LCD Module**

**KM162B**

**Feature**

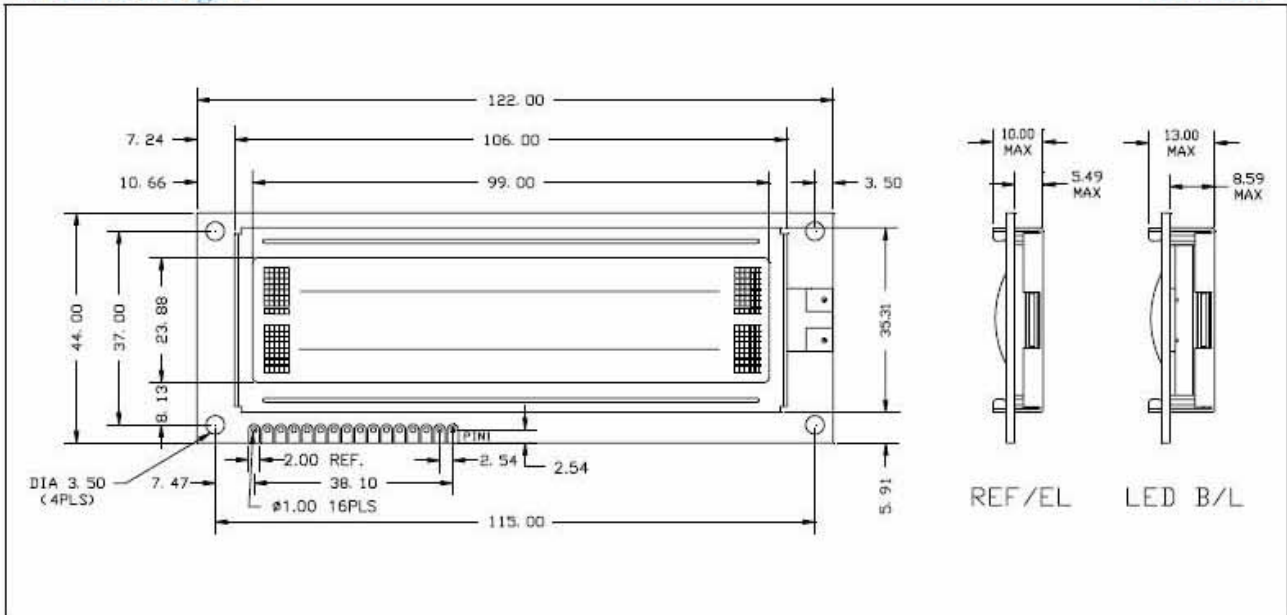
1. Display Format ( 16 x 2 )
2. 8-Bit parallel bus interface
3. Built-in LCD controller
4. Wide operating temperature range( Option )
5. High contrast ratio and wide viewing angle
6. LED or EL Backlight( Option )

**Picture Information**

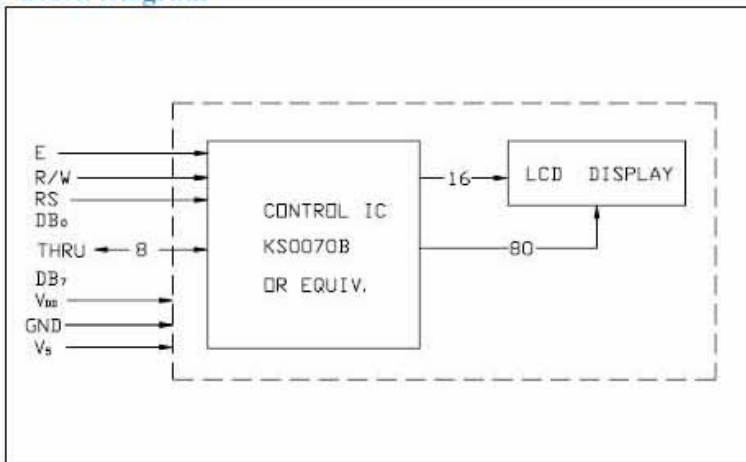


**Mechanical Figure**

Unit: mm

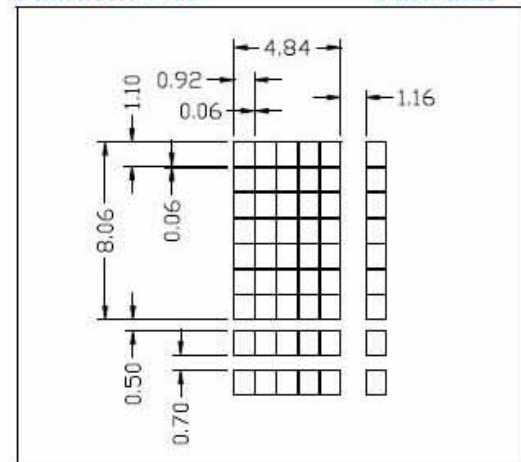


**Block Diagram**



**Character Size**

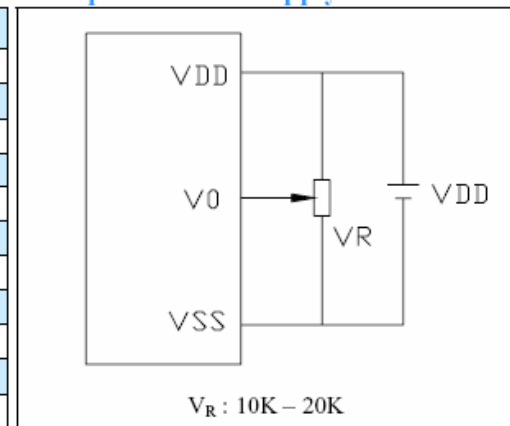
Unit: mm



### Specification

ITEM	Standard Value	Unit
Display Format	16 Character x 2 Lines	-
Module Dimension	122.0 (W)x44.0 (H)x10.0/13.0 (T)	mm
Viewing Area	99.0 (W)x23.88 (H)	mm
Dot Size	0.92(W)x1.10 (H)	mm
Display Fonts	5 x 7 Pixels	-
Character Size	4.84(W)x9.66(H)	mm
Character Pitch	6.00 (W)x10.36(H)	mm
LCD Type	STN	
Driver Method	1/16 Duty , 1/ 5 Bias	
Viewing Direction	6 or12 O'clock	
Controller IC	KS0070B (Equivalent)	

### Example of Power Supply



### 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	-	8.0	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	$V_{DD}-V_{EE} (V_{OP})$		4.0	4.7	8.0	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	LED+	-	Power Supply For LED Backlight	4.0	4.2	4.4	V
2	LED-	-		-	0	-	V
3	VSS(GND)	0V	Power Supply (GND)	-	0	-	
4	$V_{dd}$	+5V	Power Supply (+5V)	4.5	5.0	5.5	V
5	$V_{led}(V_S)$	-	Contrast Adjust Voltage	-	-	-	V
6	RS	H/L	Register Select Signal				
7	R/W	H/L	Data Read/Write				
8	E	H/L	Enable Signal				
9	DB0	H/L	Data Bus				
10	DB1	H/L					
11	DB2	H/L					
12	DB3	H/L					
13	DB4	H/L					
14	DB5	H/L					
15	DB6	H/L					
16	DB7	H/L					