

Standard Character LCD Module

KM204A

Features

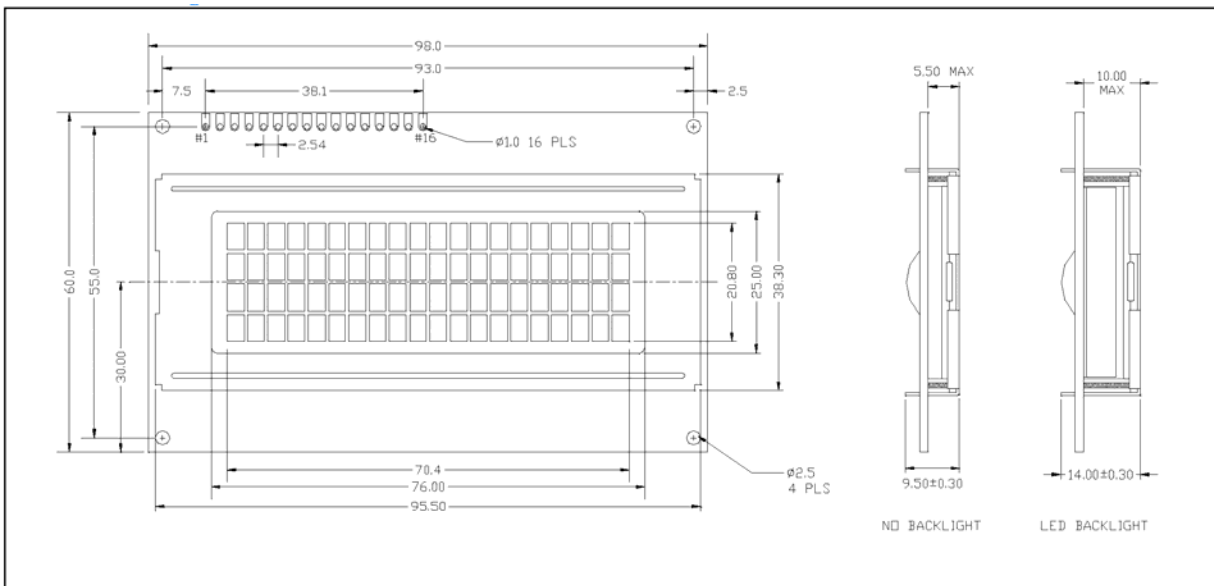
1. Display Format (20 x 4)
2. 8-Bit parallel bus interface
3. Built-in LCD controller
4. Wide operating temperature range (Option)
5. High contrast ratio and wide viewing angle
6. LED or EL Backlight (Option)

Module Image

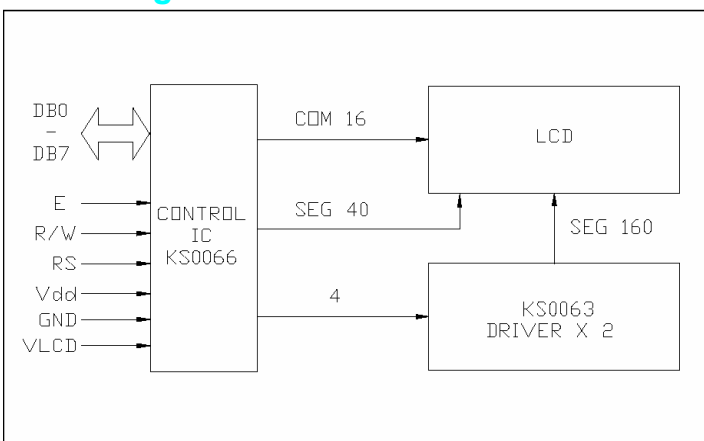


Mechanical Figure

Unit: mm

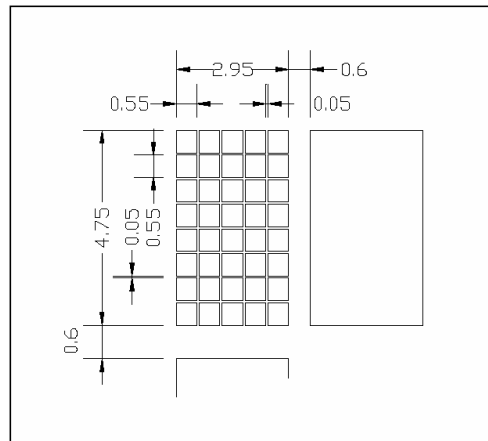


Block Diagram



Character Size

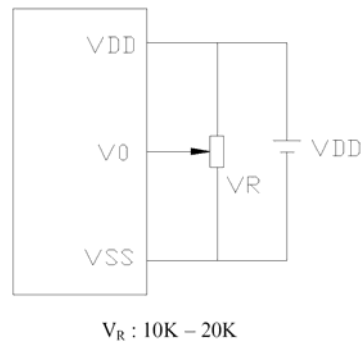
Unit: mm



Specification

ITEM	Standard Value	Unit
Display Format	20 Character x 4 Lines	-
Module Dimension	98.0 (W) x 60.0 (H) x 9.5/14.0 (T)	mm
Viewing Area	75.0 (W) x 25.0 (H)	mm
Dot Size	0.55 (W) x 0.55 (H)	mm
Display Fonts	5 x 7 Pixels	-
Character Size	2.95 (W) x 4.75 (H)	mm
Character Pitch	3.55 (W)x5.35 (H)	mm
LCD Type	STN	
Driver Method	1/16 Duty , 1/ 5 Bias	
Viewing Direction	6 or 12 O'clock	
Controller IC	KS0066 (Equivalent)	

Example of Power Supply



Absolute Maximum Ratings

ITEM	Symbol	Min.	Type.	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 ₅	-0.3	-	7.5	V

Electrical Characteristics

ITEM	Symbol	Condition	Min.	Typ.	Max.	Unit
Supply Voltage for Logic	V _{DD} -V _{SS}	T _a = 25°C	-	5.0	5.5	V
Supply Voltage for LCD	V _{DD} -V _{EE} (V _{op})		3.5	4.2	7.5	V
Input High Voltage			0.8 V _{DD}		V _{DD}	V
Input Low Voltage			0		0.2V _{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} (GND)	0V	Power Supply (GND)	-	0	-	V
2	V _{dd}	+5V	Power Supply (+5V)	4.5	5.0	5.5	V
3	V _{lcd} (V ₅)	-	Contrast Adjust Voltage	-	-	-	V
4	RS	H/L	Register Select Signal				
5	R/W	H/L	Data Read / Write				
6	E	H/L	Enable Signal				
7	DB0	H/L	Data Bus				
8	DB1	H/L					
9	DB2	H/L					
10	DB3	H/L					
11	DB4	H/L					
12	DB5	H/L					
13	DB6	H/L					
14	DB7	H/L					
15	LED+	-	Power Supply for LED	3.85	4.05	4.25	V
16	LED-	-		-	0	-	V