

Features:

- Number of Characters: 8 Characters x 2 Lines
- Display Font: 5 x 7 Dots with Cursor
- Built-in Controller: HD44780 or Comp
- Input Data: 4 Bits or 8 Bits Interface
- Power Supply: +5V Single Power
- Duty Cycle: 1/16 Duty
- Options: EL/LED Backlight, TN/STN

**Mechanical Parameters**

Module Size	58.0W x 32.0H x 8.6T mm
Module Size with LED Backlight	58.0W x 32.0H x 12.7T mm
Viewing Area Size	38.0W x 16.8H mm
Dot Size	0.56 x 0.66 mm
Dot Pitch	0.66 x 0.70 mm

Absolute Maximum

Item	Symbol	Minimum	Maximum	Unit
Power Supply for Logic	Vdd	-0.3	+7.0	V
Power Supply for LCD Drive	Vlcd	Vdd – 11.5	Vdd + 0.3	V
Input Voltage	Vi	-0.3	Vdd + 0.3	V
Operating Temperature	Ta	0	+50	C
Storage Temperature	Tstg	-10	+70	C

Electrical Characteristics (Vdd = 5.0V ± 5%, Ta = 25°C)

Item	Symbol	Conditions	Minimum	Typical	Maximum	Unit
Power Supply for Logic	Vdd	-	4.5	-	5.5	V
Operating Voltage for LCD	Vdd – Vo	-	-	5.0	-	V
Input “High” Voltage	Vih	-	2.2	-	Vdd	V
Input “Low” Voltage	Vil	-	-0.3	-	0.6	V
Output “High” Voltage	Voh	-Ioh = 0.2mA	2.4	-	-	V
Output “Low” Voltage	Vol	Iol = 1.2mA	-	-	0.4	V
Power Supply Current	Idd	Vdd = 5.0V	-	-	3.0	mA

Pin Assignment

Number	Symbol	Level	Pin Description	Function
1	Vss	--	Ground	0V
2	Vdd	--	Supply Voltage for Logic	5V
3	Vo	--	LCD Contrast Adjust	By User
4	RS	H/L	Register Select	H: Data, L: Instruction Code
5	R/W	H/L	Read/Write	H: Data Read, L: Data Write
6	E	H, H → L	Enable	Enable Signal
7	DB0	H/L	Data Bit 0	8-Bit Interface
8	DB1	H/L	Data Bit 1	8-Bit Interface
9	DB2	H/L	Data Bit 2	8-Bit Interface
10	DB3	H/L	Data Bit 3	8-Bit Interface
11	DB4	H/L	Data Bit 4	4 or 8-Bit Interface
12	DB5	H/L	Data Bit 5	4 or 8-Bit Interface
13	DB6	H/L	Data Bit 6	4 or 8-Bit Interface
14	DB7	H/L	Data Bit 7	4 or 8-Bit Interface

Block diagram of the LCD Controller (HD44780U or equivalent) interfaced to an LCD Panel. The controller is connected to the panel via COM 16 and SEG 40 lines. The controller's inputs are DB7-DB0, E, R/W, RS, Y0, Vdd, and Vss.

[illegible]