MAXX TRONIC

THE QUALITY ELECTRONIC KIT SET & MODULE

SEVEN SEGMENT DISPLAY 3"
CODE MX034

This circuit is a big numeral. It is used for increase the normal numeral.

Technical specifications:

- display dimension : 46x75 mm. or 1.78x3 inches
- PCB dimensions : 63x85 mm. or 2.5x3.3 inches.
- power supply : 12VDC.
- consist : 5 LED's per segment and a LED's for the decimal point (p).
- at 12VDC.: A segment current : 15 mA.

  A decimal point (p) current : 15 mA.

  Total current : 120 mA.

How to works:

This circuit can be divided into seven segment. Each segment is consisting of 5 LED's per segment. R 220 ohms is a drop voltage for each segment. The decimal point is consisting of a LED. R 680 ohms is a drop voltage for LED decimal point.

PCB assembly:

Shown in Figure 3 is the assembled PCB. Starting with the lowest height components first, taking care not to short any tracks or touch the edge connector with solder. Some tracks run under components, and care should be taken not to short out these tracks. All components with axial leads should be carefully bent to fit the position on the PCB and then soldered into place. Make sure that the electrolytic capacitors are inserted the correct way around. The LED has a flat spot on the body which lines up with the line on the overlay. Now check that you really did mount them all the right way round!

Testing:

Connect the voltage 12VDC to "A" point and "K" point with the positive connect to "A" point and the negative connect to "K" point. Each segment will be lighted on following supply the voltage. Test all segment and a decimal. If some segment is light off when supply the voltage, may be some LED is inserted the wrong way. But if some LED in segment is light off and other LED is light on, may be the soldering joint at that point is shorted.

Using:

This circuit must be connected the driver circuit. If drive the common LED circuit, it can use with MX007 seven segment driver. But if drive the multiplex LED circuit, it can use with MX008 4 digit seven segment multiplax driver which the most circuit is used to microcontroller.
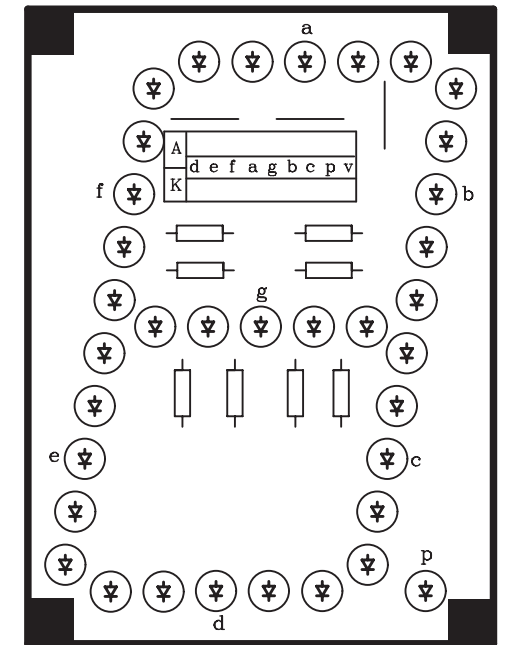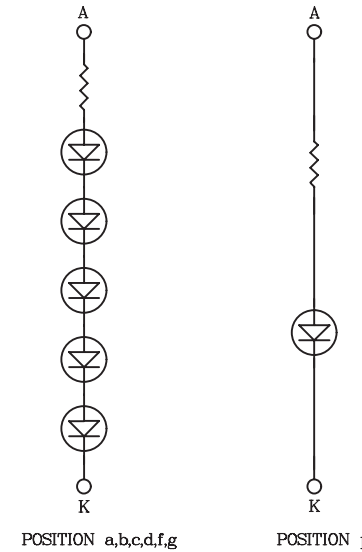
Figure 1. Installing the componants

RESISTOR
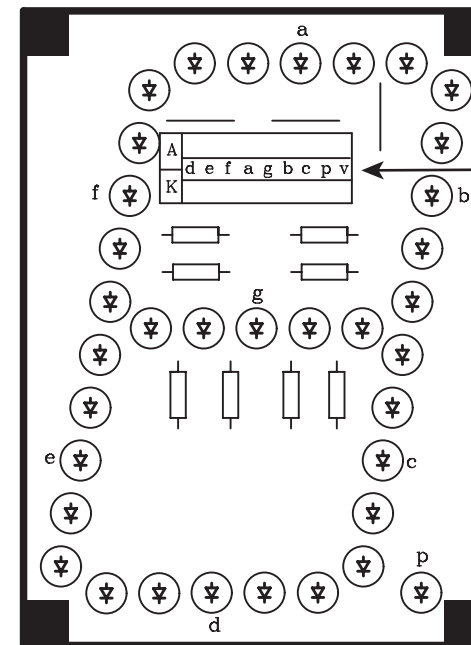
R ......Ω

LED
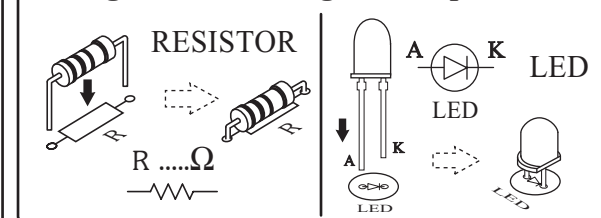
Troubleshooting:

The most problem like the fault soldering. Check all the soldering joint suspicious. If you discover the short track or the short soldering joint, re-solder at that point and check other the soldering joint. Check the position of all component on the PCB. See that there are no components missing or inserted in the wrong places. Make sure that all the polarised components have been soldered the right way round.
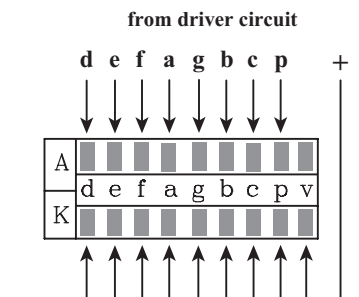
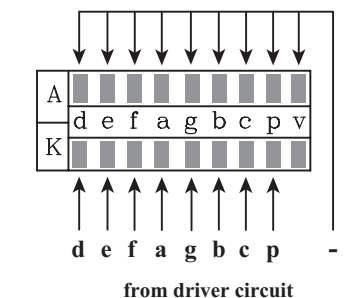## Figure 2.
The seven segment display 3" circuit

POSITION a,b,c,d,f,g   POSITION p

MX034-1

Figure 3. Connections

MX034-1

CONNECT THE CATHODE (K)

from driver circuit

d e f a g b c p +

CONNECT THE ANODE (A)

d e f a g b c p -

from driver circuit

<u>NOTE:</u> Can be used with our modules: MX007 (input voltage : more than 4.5VDC.)