



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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Soil Moisture Indicator Model GSK-908

This circuit utilizes four LED's to indicate the level of moisture in the soil. An increase in the number of LED's on indicates an increase in the amount of moisture present.

Technical Specifications

- Power source: 9 V DC
- Power consumption: 20 mA max.
- Moisture measurement: 4 levels
- PCB dimensions: 1.59 x 0.84 inches

Operating Principles

Current through resistor 1 to the moisture in the soil and received at transistor 1 when probes "P" and "I" are inserted into the soil. Emitter and collector current of transistor 1 display results through a series of 4 LED's. The greater the moisture at "I" the more voltage will pass through transistor 1 and more LED's will be lit. If there is low moisture little or no current will pass through transistor 1 and few or none of the LED's will be on.

PCB Assembly

Please refer to Figures 1, 2, and 3 for aid in component placement. It is recommended to start with lower components i.e. diodes, resistors, capacitors, and transistors. Be careful to check polarity with Figure 3 before soldering. If a problem is detected it is best to use a desoldering pump or desoldering braids to remove component. This will minimize potential damage to the printed circuit board.

Testing

Make two probes out of hard wire and connect at "P."
Connect 9 V DC battery and submerge probes into water, all LED's should turn on.

Troubleshooting

The main cause of problems will come from misplaced components or faulty soldering. Utilize Figures 1, 2 and 3 to ensure proper placement, polarity and then check solder points for connectivity.

Accessories

Use GSB-01 (sold separately) to house the PCB and batteries.

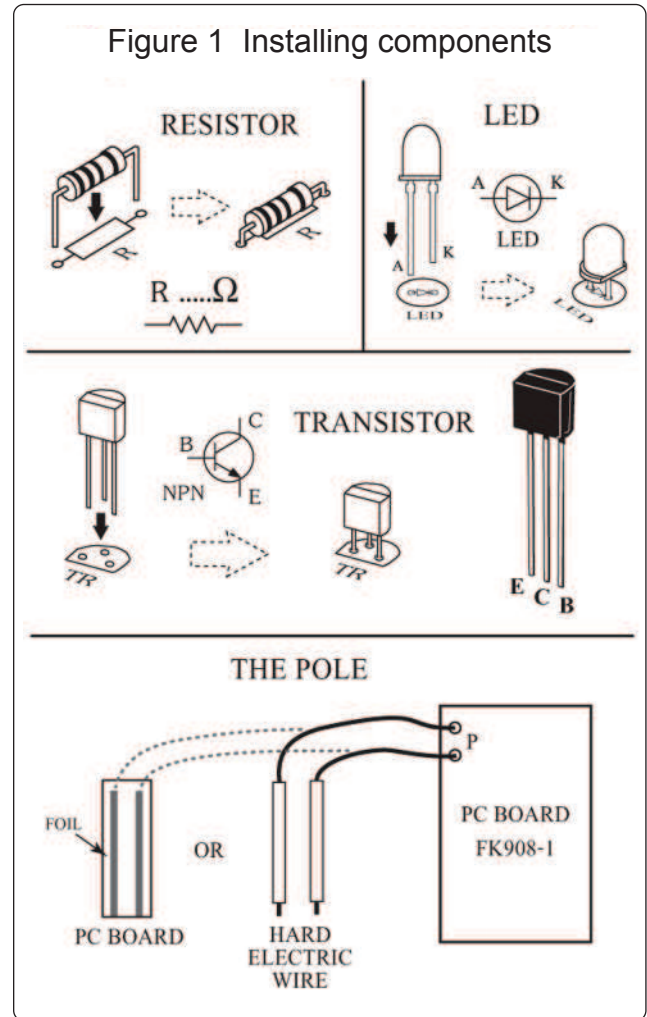


Figure 2 Soil moisture indicator circuit

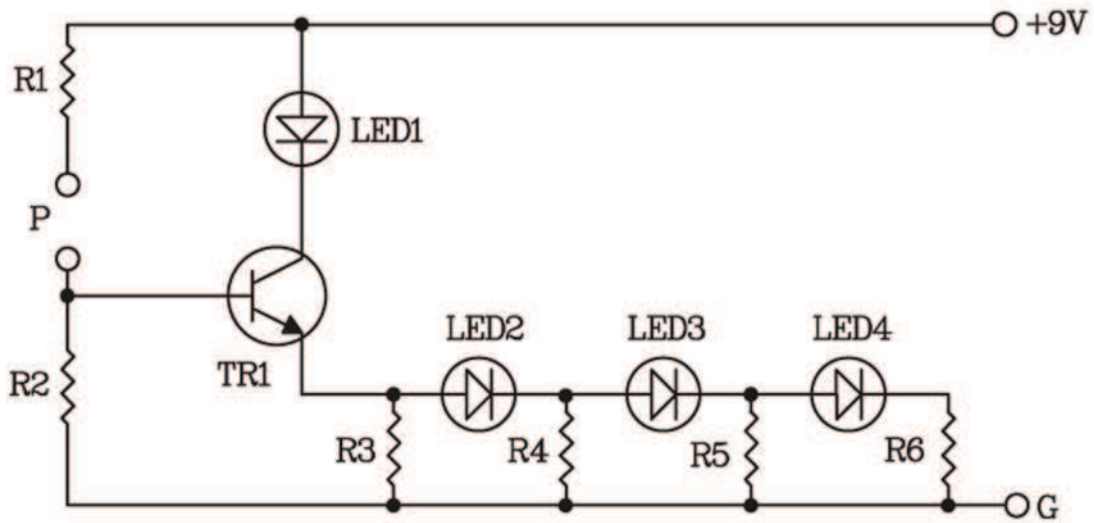
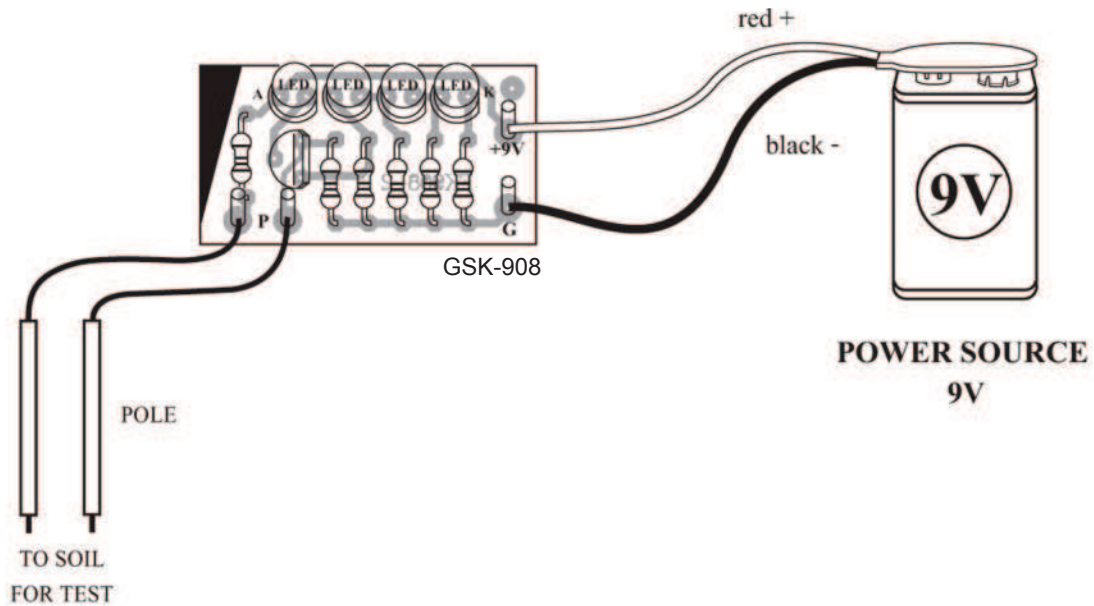


Figure 3 Connecting Circuits



Resistors

R1, R4	1 k Ω	brown-black-red-gold
R2	120 k Ω	brown-red-yellow-gold
R3	2 k Ω	red-black-red-gold
R5	680 Ω	blue-gray-brown-gold
R6	470 Ω	yellow-violet-brown-gold

Transistors

TR1 = C458, C828, C945, C1815