

Mosquito Repellent Model GSK-918

This circuit generates a frequency 10-30 kHz that creates a sonic zone disturbing to mosquitoes. A piezo board creates the frequency equal to the frequency generated by the mosquito during flight causing the mosquito to believe he/she is flying into a trap.

Technical Specifications

- Power Source: 3 VDC
- Power consumption: 20 mA max.
- PCB dimensions: 1.60 x 1.39 inches

Operating Principles

Transistor 1 and 2 control low frequency 10 kHz, while transistors 3 and 4 control high frequency 30 kHz. This circuit is designed to alternate the frequency and transmit the sound through the piezo board.

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, electrolyte capacitors, and transistors. Be careful to check polarity with Figure 3 before soldering. Take extra precaution to ensure electrolytic capacitors are inserted correctly. If a problem is detected it is best too use a desoldering pump or desoldering braids to remove component. This will minimize potential damage to the printed circuit board.

Testing

Connect the piezo board at "PZ" point on PCB. Apply power source and turn potentiometer "VR1," a sharp sound should be omitted from the piezo board.

Troubleshooting

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

Accessories

Use GSB-03 (sold separately) to house the PCB and batteries.

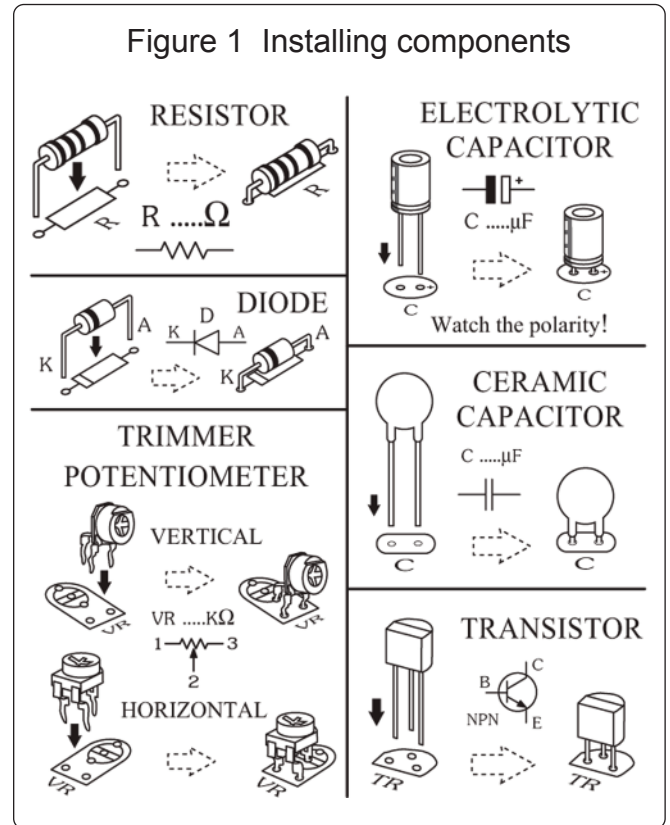


Figure 2 Mosquito Repellent Circuit

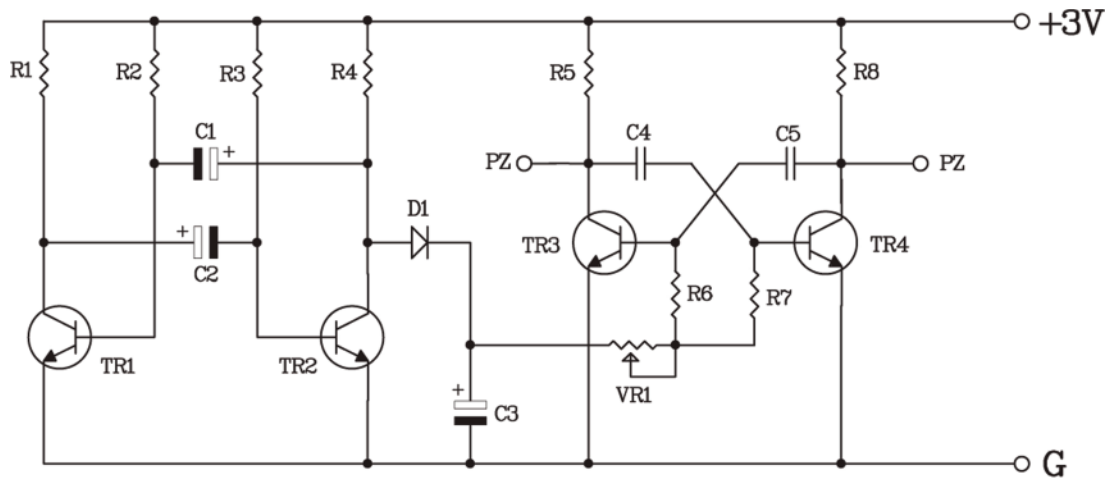
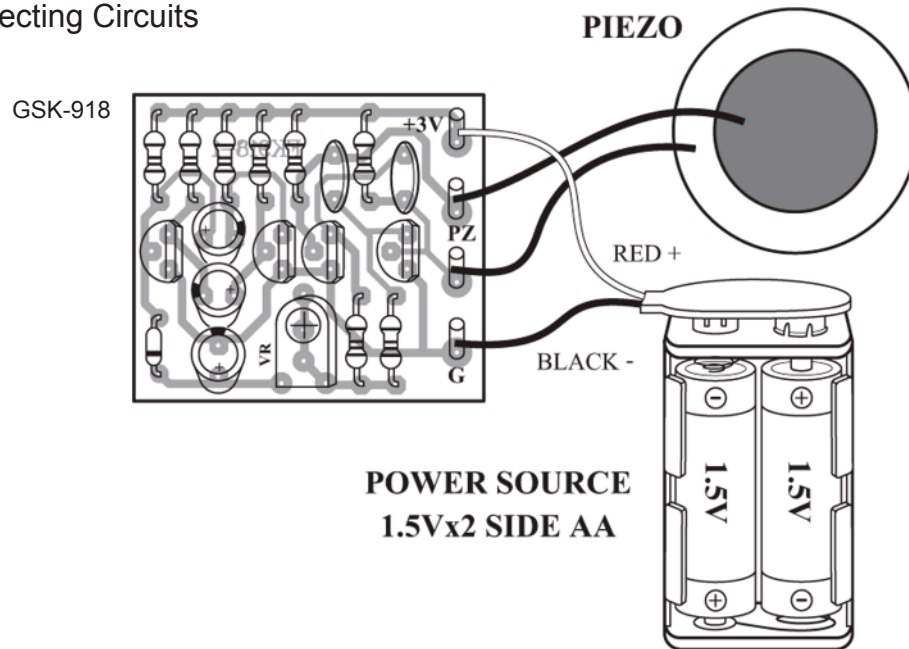


Figure 3 Connecting Circuits



Resistors

| | | |
|--------|----------------|--------------------------------|
| R1, R4 | 100 Ω | brown – black – brown – gold |
| R2, R3 | 12 k Ω | brown – red – orange – gold |
| R5, R8 | 330 Ω | orange – orange – brown – gold |
| R6, R7 | 3.9 k Ω | orange – white – red – gold |

Potentiometer

| | | |
|-----|---|----------------------------|
| VR1 | - | 14 or 103 or 10 k Ω |
|-----|---|----------------------------|

Electrolytic Capacitors

| | | |
|--------|---|------------|
| C1, C2 | - | 33 μ F |
| C3 | - | 10 μ F |

Ceramic Capacitors

| | | |
|--------|---|---------------------|
| C4, C5 | - | 103 or 0.01 μ F |
|--------|---|---------------------|

Transistors

| | | |
|-----------|---|-------------------------|
| TR1 – TR4 | - | C458, C828, C945, C1815 |
|-----------|---|-------------------------|

Diode

| | | |
|----|---|--------|
| D1 | - | 1N4148 |
|----|---|--------|