

DOOR KNOB TOUCH ALARM

CODE 507

LEVEL 1

The door knob touch alarm circuit is a small circuit and used by looping the knob.

Technical specifications:

- power supply : 9VDC.
- consumption : 50mA.(working)
- PCB dimensions : 2.60 x 1.90 inches.

How to works:

TR1 and L1 are connected to oscillate high frequency. The frequency is transmitted through C1 to TR2 to be amplified. The T spot at the collector of TR2 is normally present with low current. IC1/1 functions as the buzzer. Then it transmits the frequency to IC1/2 to compare with the signal from IC1/1. The pin 6 contacts the T spot resulting TR1 to stop oscillation. Therefore the voltage at the collector of TR2 is high. The voltage is then transmitted through IC1/1 passed on pin1 to pin5 of IC1/2 in order to be compared with the pin6. Supposing the voltage at pin5 is higher, this results pin8 to lack of voltage. IC1/4 oscillates the frequency and transmits through R3 to TR3 to be amplified before going throughout the speaker. As the T spot is touched and released, the sound is heard a few minutes as a result of the current from C5. When there is any voltage at pin7, the one at C5 is still present and discharge through R8.

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. If the pins will not enter the holes with ease, use a small drill to slightly enlarge the opening. 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. Some components are particularly sensitive to heat (ie: Transistors, IC's, diodes etc.) extra care must be taken to only apply the iron for as little time as possible, using a pair of pliers to grip the leads will help

conduct heat away. Trim components leads with wire cutters to prevent excess lengths causing a short circuit. Now check that you really did mount them all the right way round!

Testing:

Connect the power supply into the circuit. If there is a sound heard, adjust the trimmer potentiometer until it disappears. Touch the circle line and the sound will be heard as well as LED lights. The trimmer potentiometer is available for the adjustment of detection. As the circle line loops the door knob, the sound will be heard when the knob is touched. The plastic tube can be connected at dynamic buzzer to make a louder voice.

