



ELECTRONICS

(Short Report)

TOPIC: Transistor Tester - An Application of BJT

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Introduction:

Transistor tester is a type of instrument used to test the electrical behavior of transistors. It ensures whether the transistor is in the appropriate situation or not.

Purpose:

Working with transistor will need us to test transistor so, transistor is used.

Components:

- Resistor (330k,22R,1k)
- Transistor(pnp:BC558,npn:BC547)
- LED (Red)
- Capacitor (10uF)
- Battery(3V)

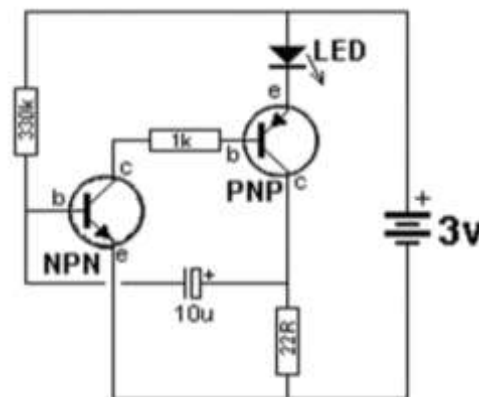
Circuit:

Figure 1: Circuit Diagram of Transistor Tester

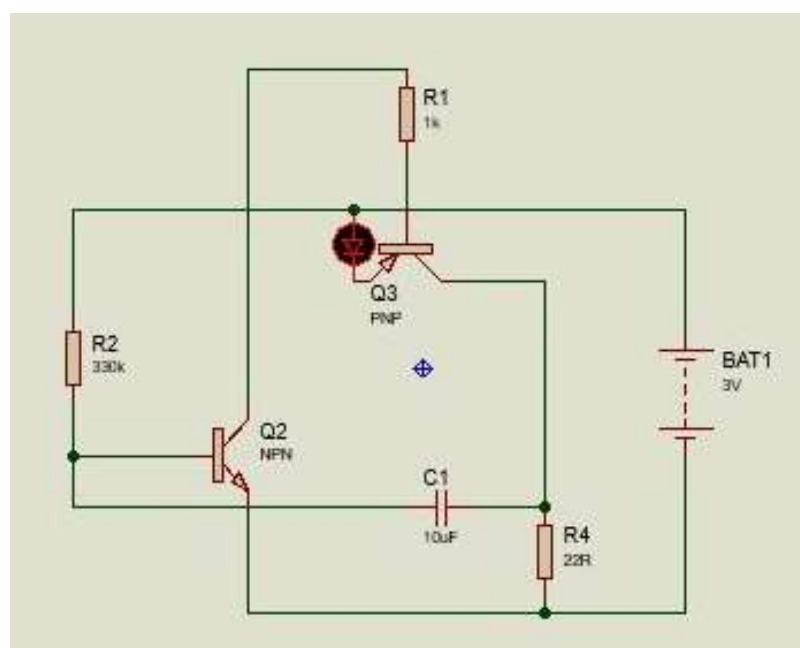
Proteus Simulation:

Figure 2: pnp and npn both connected in right order

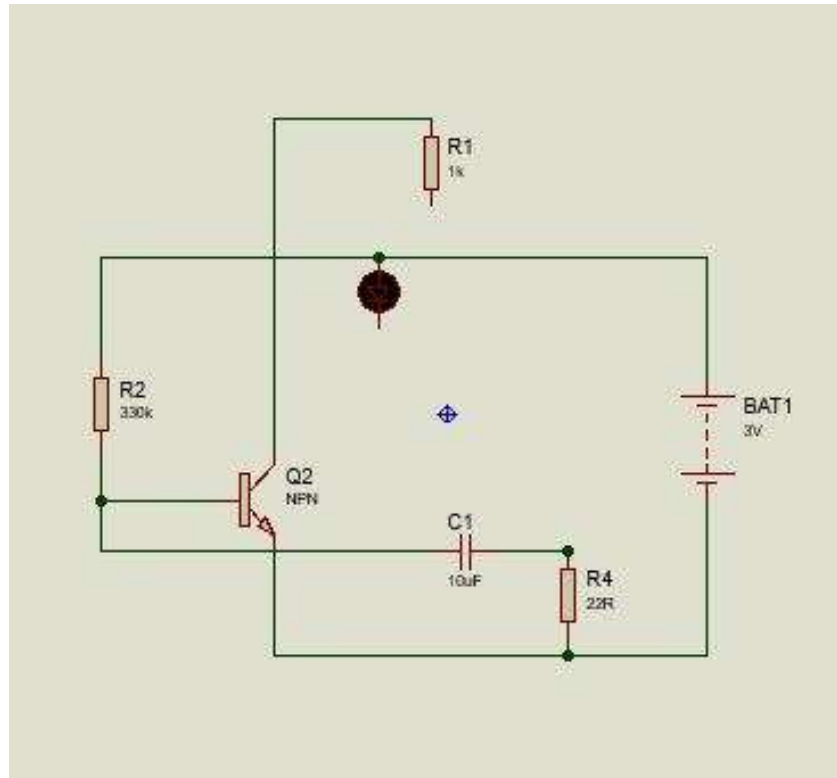


Figure 3: pnp transistor removed

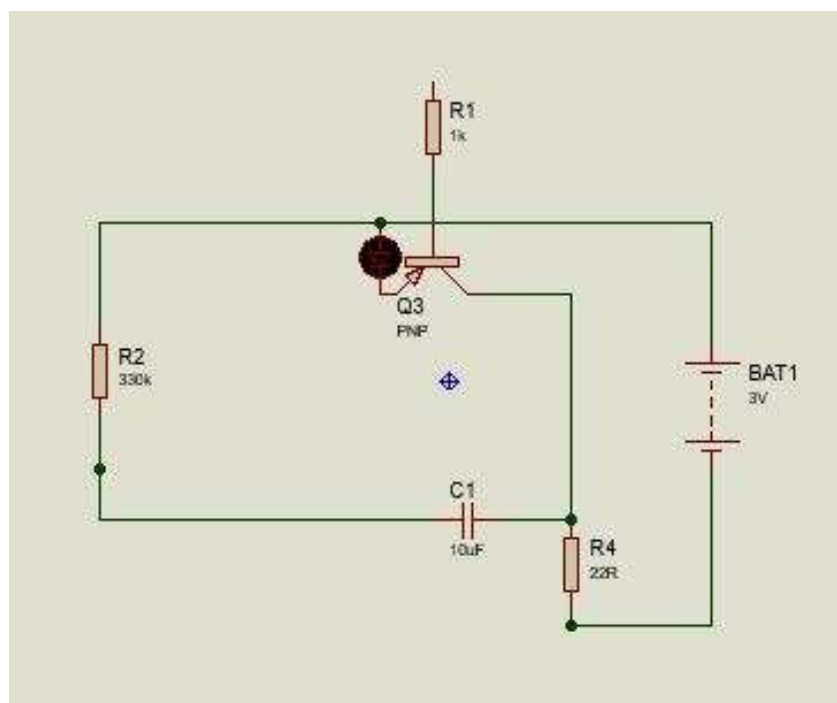


Figure 4: npn transistor removed

Functionality:

This is basically a high gain amplifier with feedback that causes the LED to flash at a rate determined by the 10u and 330k resistor. Remove one of the transistors and insert the unknown transistor. When it is NPN with the pins as shown in the photo, the LED will flash. To turn the unit off, remove one of the transistors.

As, shown in Figure 2, if both amplifiers are working properly then the LED would flash. LED would stop glowing if either pnp transistor is removed or npn transistor is removed, as shown in Figure 3 and Figure 4 respectively.

Conclusion:

Sometimes we salvage transistor and we want to know whether they work or not. It can be checked by the simple transistor tester circuit explained above.
