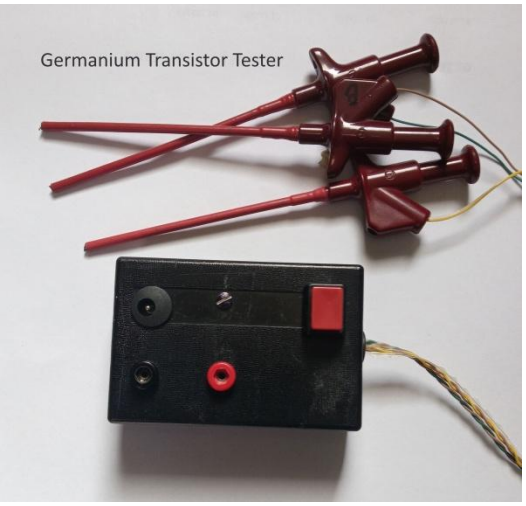
PNP Germanium Transistor Tester

I had a requirement for this type of tester when I was building a copy of a vintage guitar pedal. In my stash of transistors were a large number of vintage ones of unknown condition. Here is a link to a simple tester I found on line.

http://www.geofex.com/article_folders/ffselect.htm

The article goes into good detail on how it works.



The tester tests for leakage and gain. I used clip on test probes as they were more convenient to use than a transistor socket. Many of the transistors to be tested were previously used and the leads were in various lengths and condition. To build the tester I used the parts I had on hand.

The article indicates that most DMM's that have a transistor test feature do not compensate for transistor leakage resulting in incorrect gain readings. It seems all germanium transistor have leakage. I have compared this tester with one of my DMM that does have a transistor test feature with inconclusive test results, however, I did not spend much time on this.

I found the tester useful as it did allow me to select transistors that I thought would work well. I found transistors that were totally dead and others with various amounts of gain and leakage. It's easy to build but unless you plan to make or repair projects using old germanium transistor, it probably won't get much use.

As an aside, these germanium transistors are very sensitive to temperature variations. It was amazing to see how much the leakage changed with even a small amount of heat increase.

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UPDATE: October 11, 2025

A couple of small mods were done to this tester. Changed the test leads to 18 gauge flex wire and added a toggle switch to invert the 9 Volt input voltage. This was done to check low power NPN transistors. Silicon transistors can be tested. Don't expect too much from this tester. It appears to give useful results under its simple test conditions. I did compare several silicon NPN transistors between this tester and one on a DMM. This tester read about 10% higher than the DMM.