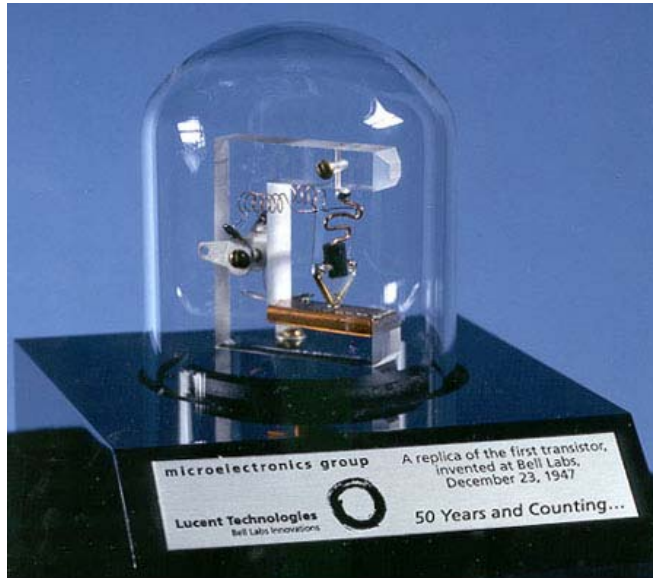


Who Invented Transistor ?



A transistor is a tiny solid state device used to control and amplify an electric signal. Transistors are now used in place of vacuum tubes in many electronic circuits. Transistors are smaller, weightless, last longer and are, less expensive than vacuum tubes. They consume less electricity and produce less heat than vacuum tubes.

Transistor was first developed in 1948 by three American Physicists, John Bardeen, William Shockley and Walter Brattain. These three won the Nobel Prize for physics in 1956. The development of transistor revolutionized the world of electronics.

A transistor is made of a semiconductor such as silicon or germanium with certain amount of impurities doped in them. When impurities of V A group like arsenic or phosphorus are doped in the semiconductor material, it becomes an n-type semiconductor (n-for the negatively charged electrons). On the other hand, if III A group elements like Aluminum are doped, it becomes a p-type semiconductor (p-for positively-charged holes).

Transistors are of two types-junction and field effect. Junction transistors are again of two types npn and pnp. In an npn transistor, the middle layer is p-type while the two outer layers are both n-type. The middle layer is the base, one outside layer is the emitter and the other outside layer is the collector.

Another type of junction transistor is pnp transistor which contains a layer of n-type semiconductor sandwiched between two layers of p-type semiconductor. In the pnp transistor, the positively charged holes move from emitter to collector.

Who Invented Transistor ?

In a field effect transistor, there are only two layers of semiconductor. The current flowing through one of the layers, the channel., is controlled by a voltage connected to the other layer, the gate.

Transistors are used in computers, stereos ,radios, televisions, satellites and many other electronic circuits.

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