GPGPU Systems - Technical Report

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1 How Does Memory Work?

1.1 Key Terms

- **Capacitors** - Stores electrical energy by accumulating electric charge. Two terminals, one in and one out.
- **Transistor** - Amplifies or switches electrical signals. Uses three terminals, a current or voltage applied to one terminal (normally the middle terminal) will control the conductance of the semiconducting material from the first terminal to the last terminal. See figure 1.

2 CPU Memory Review

In CPU architecture, we divide the memory system into two parts:

1. The Register file
2. The Memory

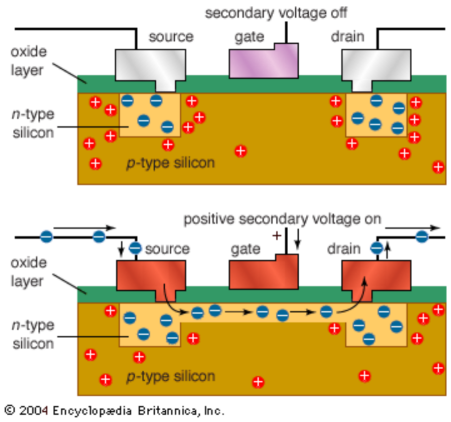

Figure 1: An NPN Transistor [1]

References

[1] *Transistor — Definition & Uses — Britannica*. Oct. 30, 2024. URL: https://www.britannica.com/technology/transistor (visited on 11/22/2024).