

EE Notes

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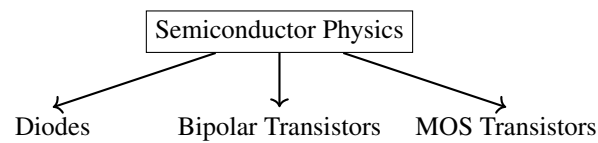
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1. Chapter 3 semiconductors
2. Chapter 4 diodes
3. Chapter 5 mos
4. Chapter 6 bjts are optional header
5. Chapter 8 integrated circuit amplifiers

1.1 Charge Carriers and Doping

We start learning about resistors, capacitors, and inductors from earlier courses such as EECS 16A and 16B. With more components like transistors, diodes, and op-amps (which are all based on semiconductors), we are able to expand upon circuit design.



Doping is one method that we use in semiconductor devices to introduce more or fewer electrons, which change conductivity. The following materials are commonly used:

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- Group IV elements: germanium and silicon:

1.1.1 Practice Problems

1.1.2 Sources

- [Razavi Electronics 1, Lec 1, Intro., Charge Carriers, Doping](#)
- Sedra, Adel S., et al. Microelectronic Circuits. Oxford University Press, 2021

1.2 Doping and Drift

1.2.1 Practice Problems

1.2.2 Sources

- [Razavi Electronics 1, Lec 2. Doping, Drift](#)

1.3 EE105 04/09/2024 Lecture: Back-gate effect

The source and drain in a MOSFET are symmetric. For the most part, we haven't worried about the body electrode up until this point