E151 Lecture 3 –
Introduction to Diodes

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Disclaimer

These are notes for Prof. Spencer to give the lecture, they were not
intended as a reference for students. Students asked for them anyway,
so I’m putting them up as a courtesy. Remember that they are not
intended as a substitute for lecture.
Exercise: sketch vo step for these circuits

- Break room into groups and each group does 1, I do 1st & 2nd?

- Main points: IVT/FVT practice, tau is same in t and f, AC vs. DC ckt. To find Vi and Vf, Thevenize from cap to find tau (if only 1 cap)
- Original solutions on next few pages, often drop some details

Exercise answers
Exercise Answers

Diodes – 1st Nonlinear Element

• What are diodes
  • PN Junctions
  • One way current valves
  • Exponential I-V devices

Also,
• Field points right to left
• minority drift cancels majority diffusion
• Net charge imbalance makes P+