Section B10: Summary

Well, that’s about all the damage we’re going to do with diodes. Section 3.7 of your text briefly introduces a few of the other types of diodes available, but we are not going to be addressing these explicitly in this course (although they have some incredibly cool properties!). Section 3.8 talks about Manufacturer’s Specifications – this may be worth your while to read, but we’re going to be talking more about this material later in our work.

You should now be comfortable with the semiconductor diode is all its incarnations (at least the ones we talked about). Specifically, make sure you are familiar with:

- the general properties and characteristics of the diode in terms of the material discussions of Section A;
- the ideal diode, its forward and reverse bias characteristics;
- the practical diode, modifications to the ideal and the diode current equation;
- ac and dc diode models;
- diode circuit analysis techniques;
- rectification (full and half-wave);
- filtering;
- clipping and clamping circuits; and
- the Zener diode (ideal and practical), its unique properties and characteristics, and its application in voltage regulator circuits.

There are several examples in your text and I strongly encourage you to work through them. Any questions or difficulties should be posted on our discussion board and/or brought to the Centra sessions. Believe me, if you are having difficulty understanding something – someone else (probably many someone elses) are too!

Are we having fun yet? Don’t worry, diodes are very predictable and, keeping in mind the practical considerations discussed, many times may be treated as ideal. Let’s look at a couple more problems, and then you’ll be ready for your first test (EEK!!).