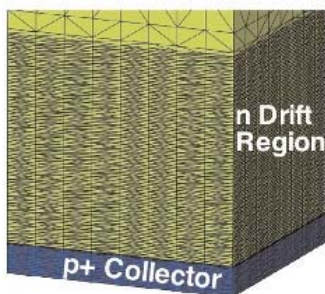
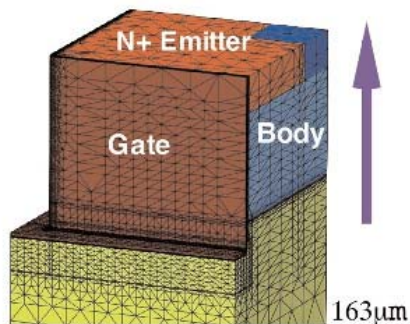


EECS 598 Power Semiconductor Devices

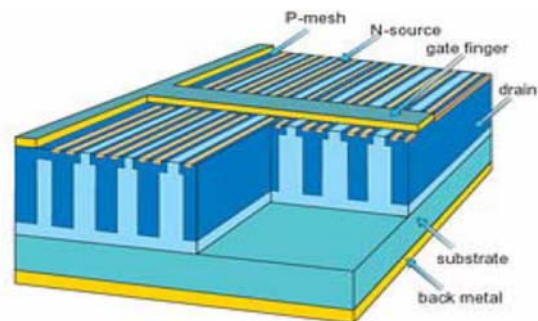
Fall 2016

Power devices are at the heart of all modern electronics, from the grid and renewable energy sources to fuel-efficient vehicles and mobile devices. This course will cover design and operating principles of semiconductor switches and rectifiers for discrete and integrated power electronics. Devices to be discussed include the power MOSFET, IGBT, HEMT, thyristors, Schottky and PIN diodes, as well as new and emerging device architectures. We will use analytical and numerical modeling to understand DC and switching behavior. We will also look at semiconductor materials, device fabrication and packaging of power devices. Students will work in teams on numerical

device modeling, and will do a final group presentation on a topic of their choice. *This course is pre-approved as a Flexible Technical Elective for undergraduate EE majors and an EECS elective for CE majors. Within the ECE graduate program, this course has been pre-approved as a Major Course for Solid State/Nano and as category "E" for VLSI/IC and Power and Energy.*



SiC IGBT simulation



Merged PIN-Schottky Diode

Course: F16 EECS 598 Section 001
Prerequisites: (EECS 320 or equivalent) or graduate standing
Lectures: Monday & Wednesday 1:30-3:00pm
Instructor: Prof. Becky Peterson, EECS, blpeters@umich.edu