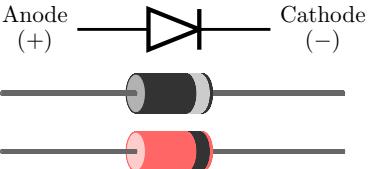
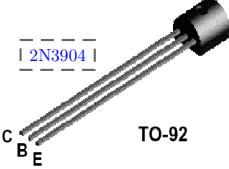
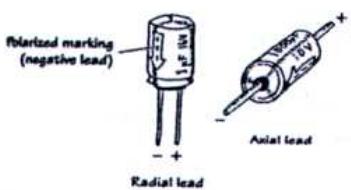


# Part Pin-outs

## Lab 1: The Bipolar Transistor

ECE 327: *Electronic Devices and Circuits Laboratory I*

 <p>Top view of 2N3906</p> <p><math>B = B</math>      <math>E = E</math>      <math>C = C</math></p> <p><math>B = B</math>      <math>E = E</math>      <math>C = C</math></p> <p>“Points iN Proudly”</p> <p><math>V_{BE} \approx 0.65 \text{ V}</math> <math>V_{CE,\text{saturation}} \approx 0.2 \text{ V}</math> <math>\beta \approx 100</math></p> <p>2N3906 PNP BJT transistor</p>
<p>“ACE” — “Anode Current Enters”</p> <p>“CCD” — “Cathode Current Departs”</p>  <p>Anode (+)      Cathode (-)</p> <p><math>\sim 0.6 \text{ V} @ 1 \text{ mA}</math> <math>\sim 0.7 \text{ V} @ 10 \text{ mA}</math></p> <p>1N914 silicon diode (generic small-signal diode)</p>
 <p>Top view of 2N3904</p> <p><math>C = C</math>      <math>B = B</math>      <math>E = E</math></p> <p><math>C = C</math>      <math>B = B</math>      <math>E = E</math></p> <p>“Not Pointing iN”</p> <p><math>V_{EB} \approx 0.65 \text{ V}</math> <math>V_{EC,\text{saturation}} \approx 0.2 \text{ V}</math> <math>\beta \approx 100</math></p> <p>2N3904 NPN BJT transistor</p>
<p><b>Electrolytic</b></p>  <p>Polarized marking (negative lead) Radial lead Axial lead</p> <p>“ACE” — “Anode Current Enters”</p> <p>“CCD” — “Cathode Current Departs”</p> <p>(Anode) + o — (Cathode)</p>  <p>100uF 16V</p> <p>Electrolytic capacitor</p>