AEC 224

Experiment 1.4

Bipolar Junction Transistor (BJT) Testing

Group Leader and Members:

Submitted to:

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A. Video URL: https://youtu.be/Fq9Amy2iAIg

B. Objectives: In this video, we will see the easy way to test a transistor using a digital multimeter. We will determine what type of transistor by swapping positive and negative probes until you get two forward bias voltage reading. We also determine which pin is collector, emitter, and base.

C. Materials:

1. PNP and NPN BJTs

Figure 1. Typical Bipolar Junction Transistors

Image from https://learnabout-electronics.org

2. Multimeter

Figure 2. Digital Multimeter

Image from https://learnabout-electronics.org

D. Procedure:

1. Set the multimeter knob to the diode setting.
2. Using the 1st BJT:
   A. Connect the black probe to the center pin and the red probe to the left pin.
   B. Connect the black probe to the right pin and the red probe to the left pin.
   C. Connect the black probe to the center pin and the red probe to the right pin.
3. Using the 1st BJT:
   A. Connect the black probe to the center pin and the red probe to the left pin.
   B. Connect the black probe to the center pin and the red probe to the right pin.
4. Using the 2nd BJT:
   A. Connect the black probe to the center pin and the red probe to the left pin.
   B. Connect the red probe to the left pin and the black probe to the right pin.
   C. Connect the red probe to the center pin and the black probe to the left pin.
   D. Connect the red probe to the center pin and the black probe to the right pin.
5. Using the 2nd BJT:
   A. Connect the red probe to the center pin and the black probe to the left pin.
   B. Connect the red probe to the center pin and the black probe to the right pin.

Submission Link:

https://docs.google.com/forms/d/e/1FAIpQLSdxN6eBNFmvRZBCPzHr6wP7TOY8fYXdBdRzFMay-eIJ-RUGzw/viewform

Note: The designated Group Leader will be the only one allowed to access and submit the requirements on the experiment report.

E. **Observations:**

1. What were the results of the 1st tested BJT on Step 2? Was it a PNP or a NPN type? Why?
2. What were the results of the 1st tested BJT on Step 3? Which pin is the Emitter and which is the Collector? Why?
3. What were the results of the 2nd tested BJT on Step 2? Was it a PNP or a NPN type? Why?
4. What were the results of the 2nd tested BJT on Step 3? Which pin is the Emitter and which is the Collector? Why?

F. **Conclusion:**

G. **Attachment of Group Collaboration Evidences:**

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