



Department of Electronics & Telecommunication Engineering

Innovative Teaching and Learning in Electronic Circuit Analysis and Design Course

In the Electronic Circuit Analysis and Design course, a new and exciting teaching approach has been introduced to help students better understand and apply what they learn. This approach focuses on getting students to design and implement their circuits on Printed Circuit Boards (PCBs). This hands-on experience makes the learning process more engaging and practical.

Teaching Innovation: Traditionally, students learn about circuits through lectures and simulations. However, this course now emphasizes learning by doing. Students are encouraged to take the circuits they design on paper or in software and actually build them on a PCB. This shift from theory to practice allows students to see how their designs work in the real world.

Implementation of Circuit on PCB: The course is structured to guide students through the entire process of circuit design and implementation.

1. **Design:** Students start by designing their circuits using software tools. They learn about component placement, trace routing, and other design considerations.
2. **Implementation:** They prepare the PCB on single-sided copper clad and mount the required components.
3. **Testing:** After assembling the components on the PCB, students test their circuits to ensure they work as intended. This step is crucial as it often reveals issues that weren't obvious during the design phase.

Benefits: It makes learning more interesting and helps students develop important practical skills. By working with real PCBs, students gain valuable experience that will help them for their future careers in core industries. They also learn how to troubleshoot and solve problems, which are essential skills in the field of electronics.

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Photography of Circuit Implementation on PCB

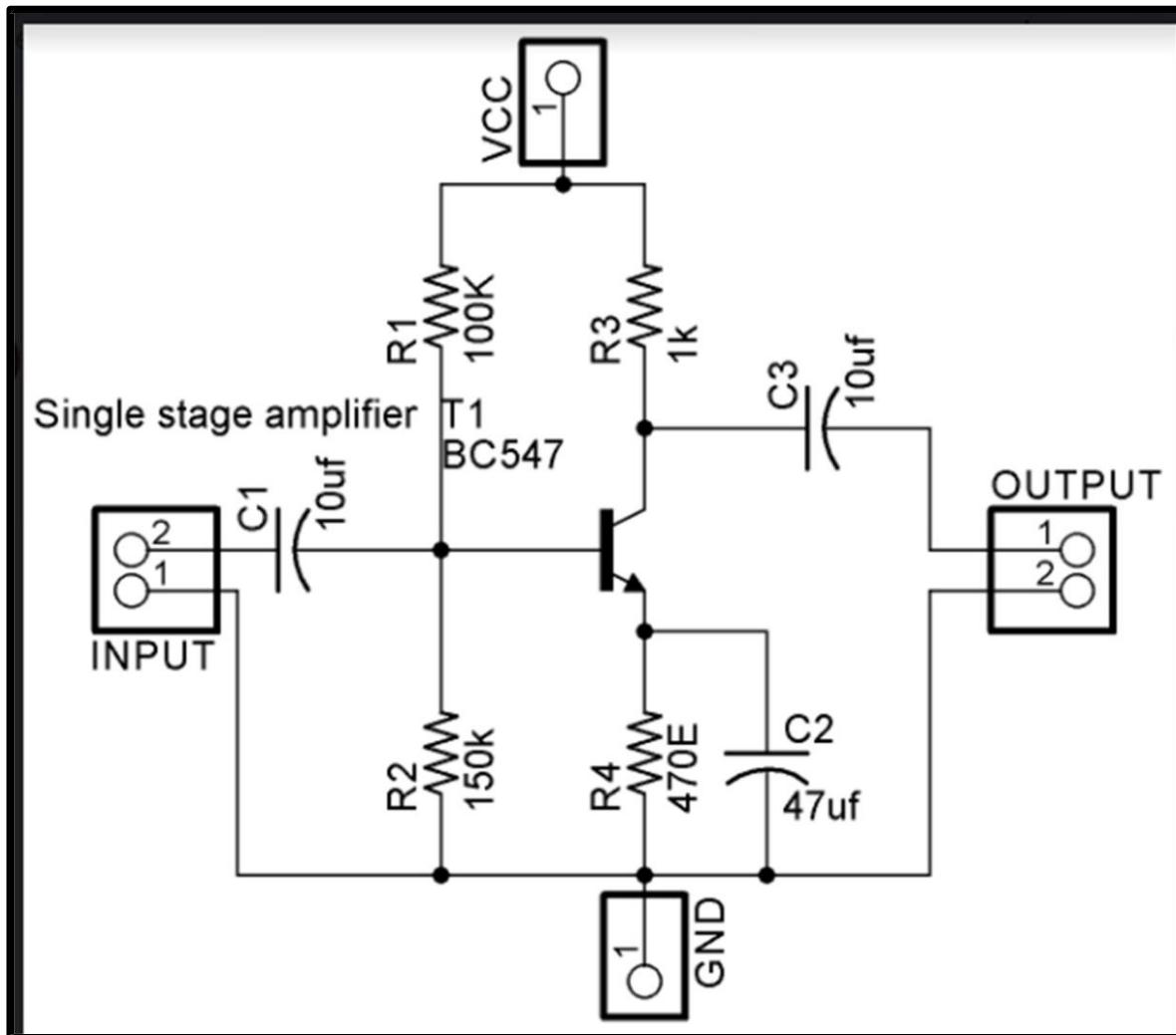


Figure: Circuit diagram of Single Stage Amplifier

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Figure: Circuit implementation on PCB (Single Stage Amplifier)

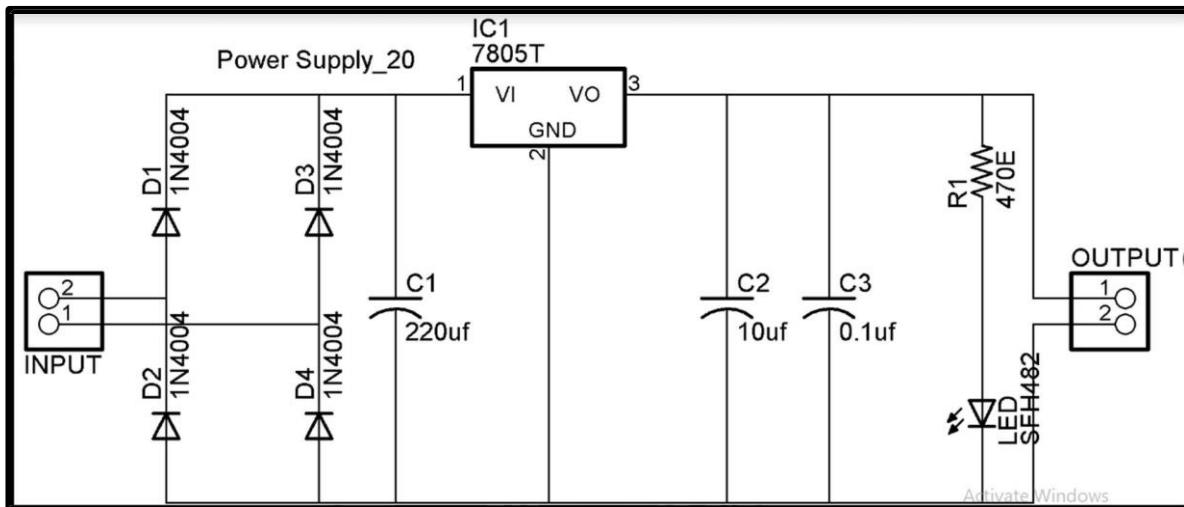


Figure: Circuit diagram of Power Supply.



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Figure: Circuit implementation on PCB (Power Supply)

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