Passive Electronic Circuit Basics

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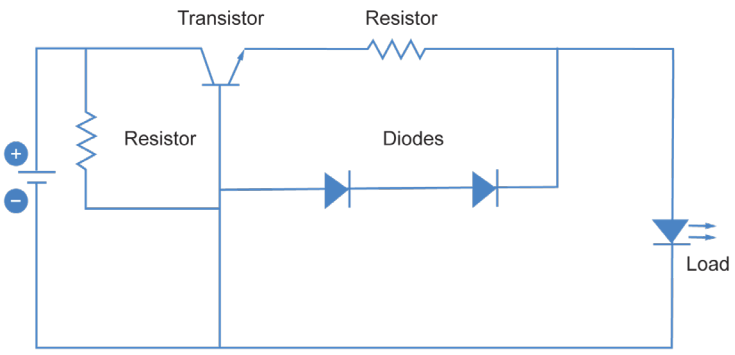


Learning Made Simple, Visual, and Interactive

The THORS *Passive Electronic Circuit Basics* course focuses on electronic circuits that can be built using passive electronic components. This course covers the different types of passive electronic circuits built using resistors and reactive components, such as capacitors, inductors, and transformers, along with their working principles. Interactive quizzes are incorporated to enhance the learning journey, enabling learners to assess their comprehension and retention of visually stimulating content.

Credit Hours	2

Learning Objectives

- Recognize the various passive electronic circuits that are built using fixed resistors, potentiometers, capacitors, inductors, and transformers.
- Identify the applications of potential dividers, current limiters, current controllers, resistor biasing circuits, filter circuits, intensity controllers, and volume controllers.
- Describe the working principle and uses of coupling capacitors, bypass capacitors, snubber circuits, decoupling capacitors, and smoothing capacitors.
- Explain how bandpass filter and bandstop filter circuits are built.
- Distinguish the types of transformers, such as isolated transformers and autotransformers.

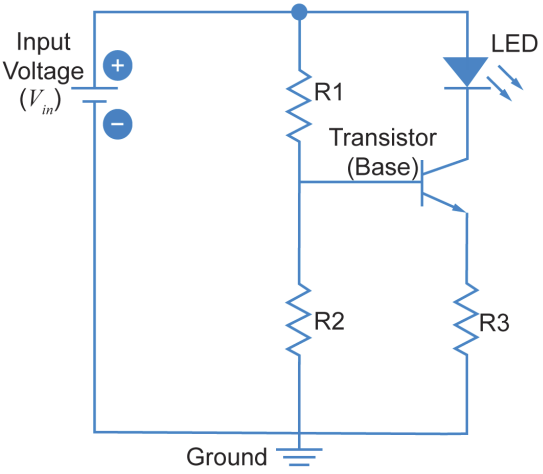
Table of Contents

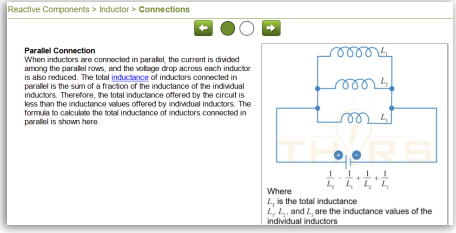
I. Resistor

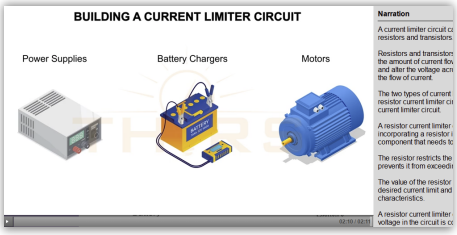
- **Fixed Resistor**
  - Potential Divider
  - Current Limiter
  - Current Controller
  - Resistor Biasing Circuit
    - Pull-Up Resistor
    - Pull-Down Resistor
  - Filter
    - Low Pass Filter
    - High Pass Filter
- **Potentiometer**
  - Intensity Controller
  - Volume Controller

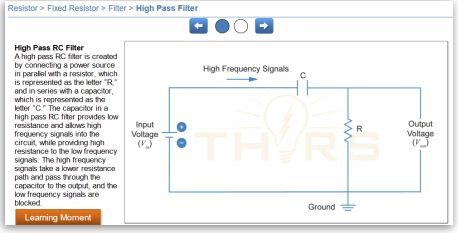
II. Reactive Components

- **Capacitor**
  - Coupling Capacitor
  - Bypass Capacitor
  - Snubber Circuit
  - Decoupling Capacitor
  - Smoothing Capacitor
- **Inductor**
  - Connections
  - Bandpass Filter
  - Bandstop Filter
- **Transformer**
  - Isolated Transformer
  - Autotransformer









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