

# Automotive Technology 6<sup>th</sup> Edition

## Chapter 48 – Electronic Fundamentals

### Lesson Plan

#### **CHAPTER SUMMARY:**



1. Semiconductors, diodes, and zener diodes
  2. High-voltage spike protection, diode ratings, light-emitting diodes, and photodiodes
  3. Photoresistors, silicone-controlled rectifiers, thermistors, and rectifier bridges
  4. Transistors, field effect transistors, phototransistors, and integrated circuits
  5. Transistors gates, operational amplifiers, and electronic component failure causes
  6. Testing diodes and transistors, converters, inverters, and electrostatic discharge
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#### **OBJECTIVES:**



1. Identify semiconductor components how converters and inverters are used, and explain precautions for working with semiconductor circuits.
  2. Describe how diodes and transistors work, and how to test them.
  3. Identify the failure causes of electronic components.
  4. List ways to avoid electrostatic discharge.
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**RESOURCES:** (All resources may be found at <http://www.jameshalderman.com>) Internet access required to hyperlink.



1. **Task Sheet:** Electronic Fundamentals
  2. Chapter PowerPoint
  3. Chapter Crossword Puzzle and Word Search
  4. Videos: [\(A6\) Electrical/Electronic Systems Videos](#)
  5. Animations: [\(A6\) Electrical/Electronic Systems Animations](#)
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#### **ACTIVITIES:**



1. **Task Sheet:** Have students complete Electronic Fundamentals Task Sheet.
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#### **ASSIGNMENTS:**



1. Chapter crossword and word search puzzles.
  2. Complete end of chapter 10 question quiz.
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#### **CLASS DISCUSSION:**



1. Review and group discussion chapter [Frequently Asked Questions](#) and [Tech Tips](#) sections.
  2. Review and group discussion of the five (5) chapter [Review Questions](#).
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#### **NOTES AND EVALUATION:**

