

Technician License Course Chapter 3  
Lesson Plan Module 6 – Part 2  
Electrical Components  
28 March 2015

Practice Questions

# Wiki Information

A Wiki for use by the Technician Licensing Class is available at:

<http://cocoradio.club/TechnicianClass>

For security, there is no link on cocoradio.club – note *required* capital letters! This presentation and other information will be found there.

# What is the ability to store energy in an electric field called?

- A. Inductance
- B. Resistance
- C. Tolerance
- D. Capacitance

T5C01 HRLM (3-7)



# What is the ability to store energy in an electric field called?

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- B. Resistance
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T5C01 HRLM (3-7)

# What is the basic unit of capacitance?

- A. The farad
- B. The ohm
- C. The volt
- D. The henry

T5C02 HRLM (3-7)



# What is the basic unit of capacitance?

- A. The farad
  - B. The ohm
  - C. The volt
  - D. The henry
- T5C02 HRLM (3-7)

# What is the ability to store energy in a magnetic field called?

- A. Admittance
- B. Capacitance
- C. Resistance
- D. Inductance

T5C03 HRLM (3-7)



# What is the ability to store energy in a magnetic field called?

- A. Admittance
- B. Capacitance
- C. Resistance
- D. Inductance**

T5C03 HRLM (3-7)



# What is the basic unit of inductance?

- A. The coulomb
- B. The farad
- C. The henry
- D. The ohm

T5C04 HRLM (3-7)

# What is the basic unit of inductance?

- A. The coulomb
- B. The farad
- C. The henry**
- D. The ohm

T5C04 HRLM (3-7)



# What is meant by the term impedance?

- A. It is a measure of the opposition to AC current flow in a circuit
- B. It is the inverse of resistance
- C. It is a measure of the Q or Quality Factor of a component
- D. It is a measure of the power handling capability of a component

T5C12 HRLM (3-9)



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T5C12 HRLM (3-9)

# What are the units of impedance?

- A. Volts
- B. Amperes
- C. Coulombs
- D. Ohms

T5C13 HRLM (3-9)



# What are the units of impedance?

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- B. Amperes
- C. Coulombs
- D. Ohms**

T5C13 HRLM (3-9)



# What electrical component is used to oppose the flow of current in a DC circuit?

- A. Inductor
- B. Resistor
- C. Voltmeter
- D. Transformer

T6A01 HRLM (3-7)

# What electrical component is used to oppose the flow of current in a DC circuit?

- A. Inductor
- B. Resistor**
- C. Voltmeter
- D. Transformer

T6A01 HRLM (3-7)



# What type of component is often used as an adjustable volume control?

- A. Fixed resistor
- B. Power resistor
- C. Potentiometer
- D. Transformer

T6A02 HRLM (3-9)



# What type of component is often used as an adjustable volume control?

- A. Fixed resistor
- B. Power resistor
- C. Potentiometer**
- D. Transformer

T6A02 HRLM (3-9)

# What electrical parameter is controlled by a potentiometer?

- A. Inductance
- B. Resistance
- C. Capacitance
- D. Field strength

T6A03 HRLM (3-9)



# What electrical parameter is controlled by a potentiometer?

- A. Inductance
- B. Resistance**
- C. Capacitance
- D. Field strength

T6A03 HRLM (3-9)



# What electrical component stores energy in an electric field?

- A. Resistor
- B. Capacitor
- C. Inductor
- D. Diode

T6A04 HRLM (3-7)

# What electrical component stores energy in an electric field?

- A. Resistor
- B. Capacitor**
- C. Inductor
- D. Diode

T6A04 HRLM (3-7)



What type of electrical component consists of two or more conductive surfaces separated by an insulator?

- A. Resistor
- B. Potentiometer
- C. Oscillator
- D. Capacitor

T6A05 HRLM (3-7)



What type of electrical component consists of two or more conductive surfaces separated by an insulator?

- A. Resistor
- B. Potentiometer
- C. Oscillator
- D. Capacitor**

T6A05 HRLM (3-7)

# What type of electrical component stores energy in a magnetic field?

- A. Resistor
- B. Capacitor
- C. Inductor
- D. Diode

T6A06 HRLM (3-7)



# What type of electrical component stores energy in a magnetic field?

- A. Resistor
- B. Capacitor
- C. Inductor**
- D. Diode

T6A06 HRLM (3-7)



# What electrical component is usually composed of a coil of wire?

- A. Switch
- B. Capacitor
- C. Diode
- D. Inductor

T6A07 HRLM (3-7)

# What electrical component is usually composed of a coil of wire?

- A. Switch
- B. Capacitor
- C. Diode
- D. Inductor**

T6A07 HRLM (3-7)



# What electrical component is used to connect or disconnect electrical circuits?

- A. Magnetron
- B. Switch
- C. Thermistor
- D. All of these choices are correct

T6A08 HRLM (3-12)



# What electrical component is used to connect or disconnect electrical circuits?

- A. Magnetron
- B. Switch**
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- D. All of these choices are correct

T6A08 HRLM (3-12)

# What electrical component is used to protect other circuit components from current overloads?

- A. Fuse
- B. Capacitor
- C. Inductor
- D. All of these choices are correct

T6A09 HRLM (3-12)



# What electrical component is used to protect other circuit components from current overloads?

- A. Fuse
- B. Capacitor
- C. Inductor
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T6A09 HRLM (3-12)



# What class of electronic components is capable of using a voltage or current signal to control current flow?

- A. Capacitors
- B. Inductors
- C. Resistors
- D. Transistors

T6B01 HRLM (3-11)

# What class of electronic components is capable of using a voltage or current signal to control current flow?

- A. Capacitors
- B. Inductors
- C. Resistors
- D. Transistors**

T6B01 HRLM (3-11)



# What electronic component allows current to flow in only one direction?

- A. Resistor
- B. Fuse
- C. Diode
- D. Driven Element

T6B02 HRLM (3-10)



# What electronic component allows current to flow in only one direction?

- A. Resistor
- B. Fuse
- C. Diode**
- D. Driven Element

T6B02 HRLM (3-10)

# Which of these components can be used as an electronic switch or amplifier?

- A. Oscillator
- B. Potentiometer
- C. Transistor
- D. Voltmeter

T6B03 HRLM (3-11)



# Which of these components can be used as an electronic switch or amplifier?

- A. Oscillator
- B. Potentiometer
- C. Transistor**
- D. Voltmeter

T6B03 HRLM (3-11)



# Which of the following components can be made of three layers of semiconductor material?

- A. Alternator
- B. Transistor
- C. Triode
- D. Pentagrid converter

T6B04 HRLM (3-11)

Which of the following components can be made of three layers of semiconductor material?

A. Alternator

**B. Transistor**

C. Triode

D. Pentagrid converter

T6B04 HRLM (3-11)



# Which of the following electronic components can amplify signals?

- A. Transistor
- B. Variable resistor
- C. Electrolytic capacitor
- D. Multi-cell battery

T6B05 HRLM (3-11)



# Which of the following electronic components can amplify signals?

- A. Transistor**
- B. Variable resistor
- C. Electrolytic capacitor
- D. Multi-cell battery

T6B05 HRLM (3-11)

# How is the cathode lead of a semiconductor diode usually identified?

- A. With the word "cathode"
- B. With a stripe
- C. With the letter "C"
- D. All of these choices are correct

T6B06 HRLM (3-10)



# How is the cathode lead of a semiconductor diode usually identified?

- A. With the word "cathode"
- B. With a stripe**
- C. With the letter "C"
- D. All of these choices are correct

T6B06 HRLM (3-10)



# What does the abbreviation LED stand for?

- A. Low Emission Diode
- B. Light Emitting Diode
- C. Liquid Emission Detector
- D. Long Echo Delay

T6B07 HRLM (3-10)

# What does the abbreviation LED stand for?

- A. Low Emission Diode
- B. Light Emitting Diode**
- C. Liquid Emission Detector
- D. Long Echo Delay

T6B07 HRLM (3-10)



# What does the abbreviation FET stand for?

- A. Field Effect Transistor
- B. Fast Electron Transistor
- C. Free Electron Transition
- D. Field Emission Thickness

T6B08 HRLM (3-11)



# What does the abbreviation FET stand for?

- A. Field Effect Transistor**
- B. Fast Electron Transistor
- C. Free Electron Transition
- D. Field Emission Thickness

T6B08 HRLM (3-11)

# What are the names of the two electrodes of a diode?

- A. Plus and minus
- B. Source and drain
- C. Anode and cathode
- D. Gate and base

T6B09 HRLM (3-10)



# What are the names of the two electrodes of a diode?

- A. Plus and minus
- B. Source and drain
- C. Anode and cathode**
- D. Gate and base

T6B09 HRLM (3-10)



# What are the three electrodes of a PNP or NPN transistor?

- A. Emitter, base, and collector
- B. Source, gate, and drain
- C. Cathode, grid, and plate
- D. Cathode, drift cavity, and collector

T6B10 HRLM (3-11)

# What are the three electrodes of a PNP or NPN transistor?

- A. Emitter, base, and collector**
- B. Source, gate, and drain
- C. Cathode, grid, and plate
- D. Cathode, drift cavity, and collector

T6B10 HRLM (3-11)



# What are the three electrodes of a field effect transistor?

- A. Emitter, base, and collector
- B. Source, gate, and drain
- C. Cathode, grid, and plate
- D. Cathode, gate, and anode

T6B11 HRLM (3-11)



# What are the three electrodes of a field effect transistor?

- A. Emitter, base, and collector
- B. Source, gate, and drain**
- C. Cathode, grid, and plate
- D. Cathode, gate, and anode

T6B11 HRLM (3-11)

# What is the term that describes a transistor's ability to amplify a signal?

- A. Gain
- B. Forward resistance
- C. Forward voltage drop
- D. On resistance

T6B12 HRLM (3-11)



# What is the term that describes a transistor's ability to amplify a signal?

- A. Gain**
- B. Forward resistance
- C. Forward voltage drop
- D. On resistance

T6B12 HRLM (3-11)



# What is the name for standardized representations of components in an electrical wiring diagram?

- A. Electrical depictions
- B. Grey sketch
- C. Schematic symbols
- D. Component callouts

T6C01 HRLM (3-13)



# What is the name for standardized representations of components in an electrical wiring diagram?

- A. Electrical depictions
- B. Grey sketch
- C. Schematic symbols**
- D. Component callouts

T6C01 HRLM (3-13)

# What is component 1 in figure T1?

- A. Resistor
- B. Transistor
- C. Battery
- D. Connector

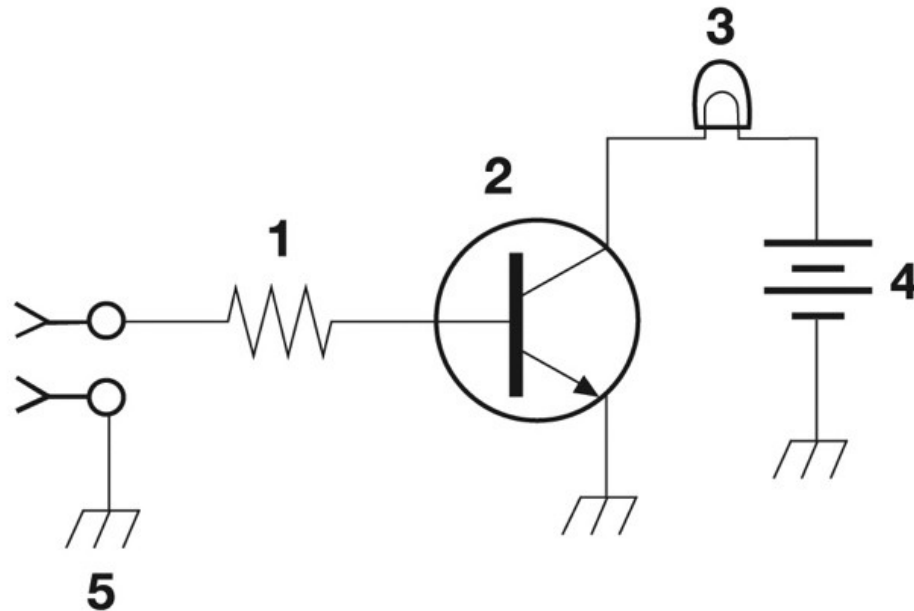
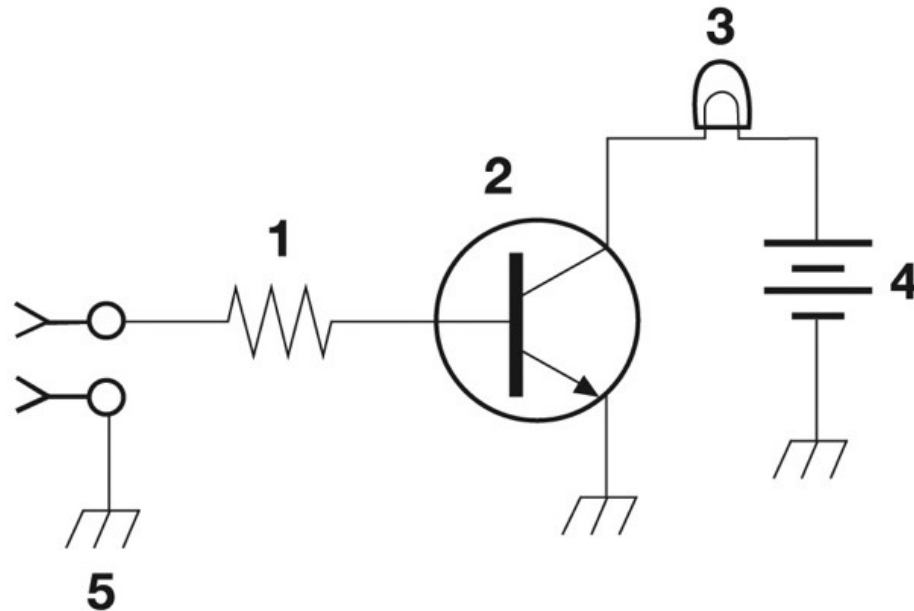


Figure T-1



# What is component 1 in figure T1?

- A. Resistor
- B. Transistor
- C. Battery
- D. Connector



**Figure T-1**

# What is component 2 in figure T1?

- A. Resistor
- B. Transistor
- C. Indicator lamp
- D. Connector

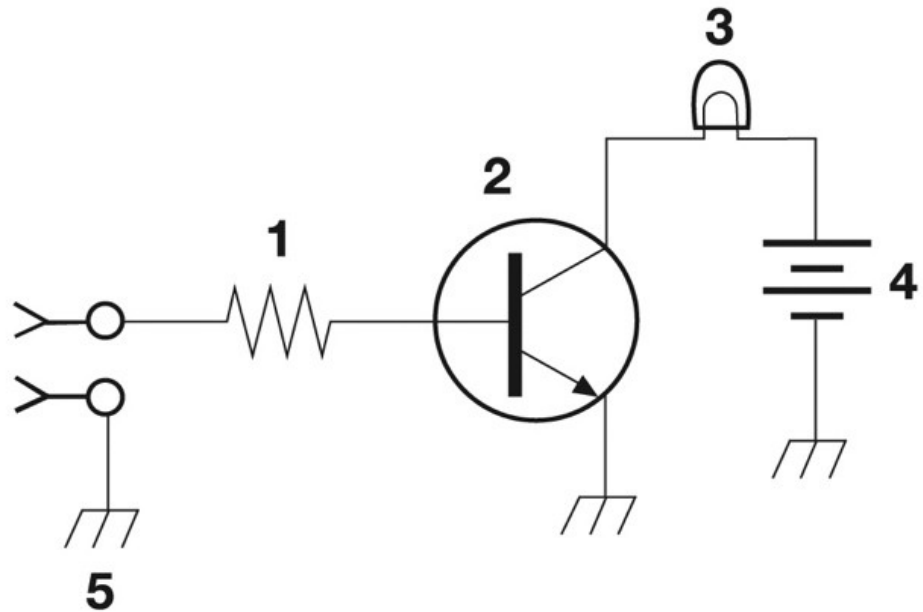


Figure T-1

# What is component 2 in figure T1?

- A. Resistor
- B. Transistor**
- C. Indicator lamp
- D. Connector

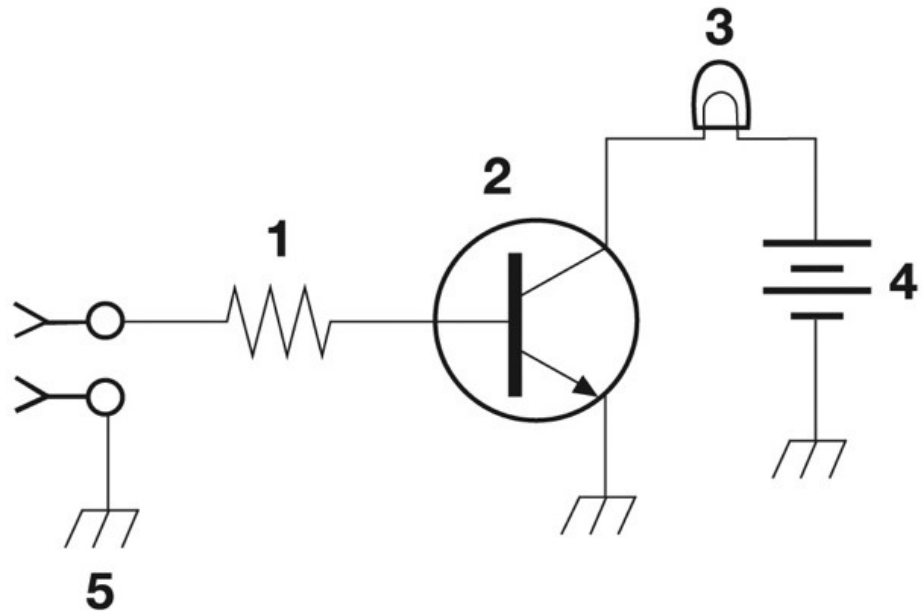


Figure T-1



# What is component 3 in figure T1?

- A. Resistor
- B. Transistor
- C. Lamp
- D. Ground symbol

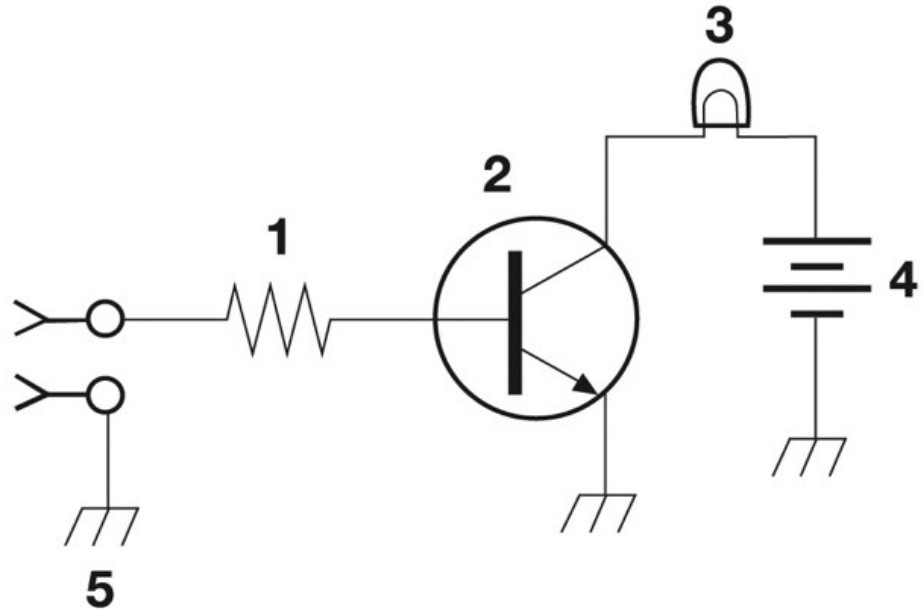
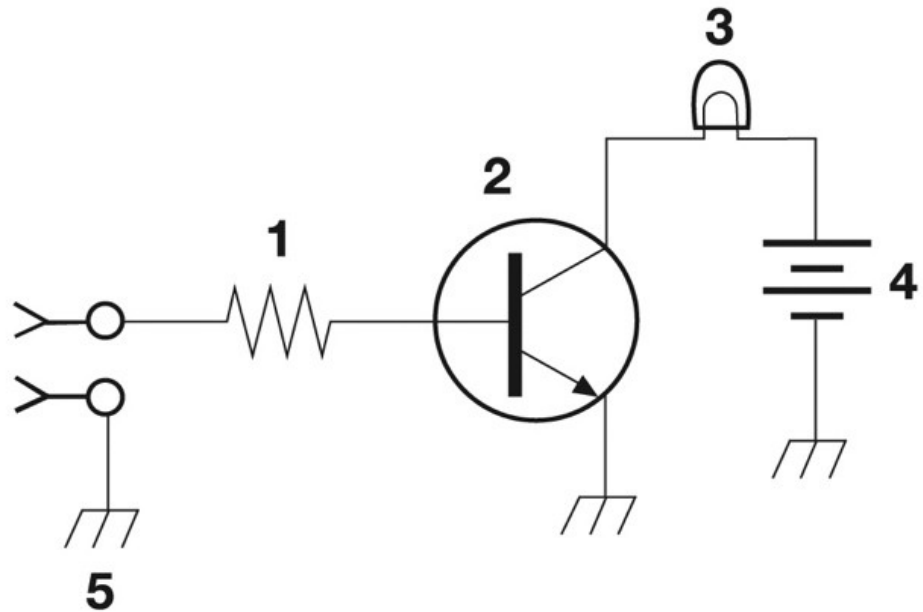


Figure T-1

# What is component 3 in figure T1?

- A. Resistor
- B. Transistor
- C. Lamp**
- D. Ground symbol



**Figure T-1**

# What is component 4 in figure T1?

- A. Resistor
- B. Transistor
- C. Battery
- D. Ground symbol

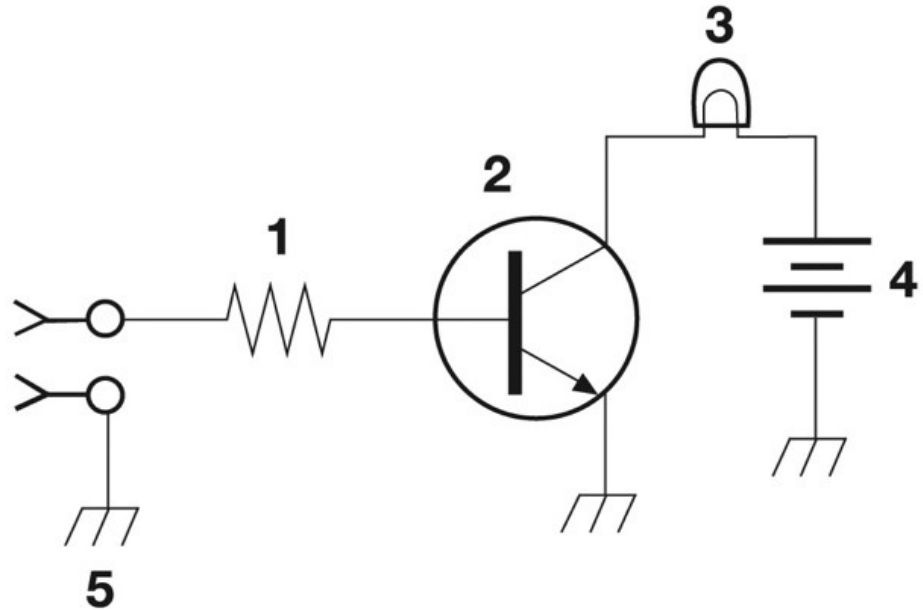


Figure T-1



# What is component 4 in figure T1?

- A. Resistor
- B. Transistor
- C. Battery**
- D. Ground symbol

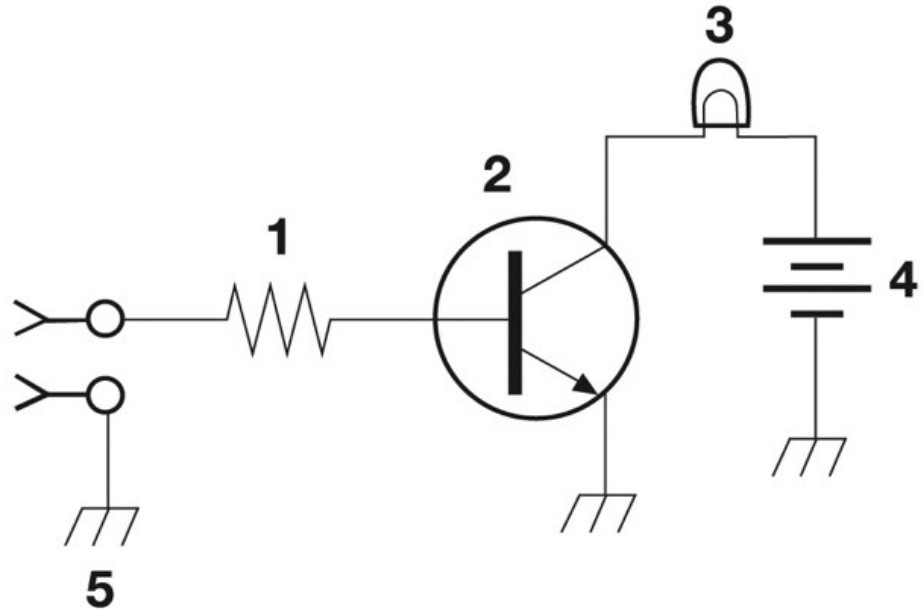


Figure T-1

# What is component 6 in figure T2?

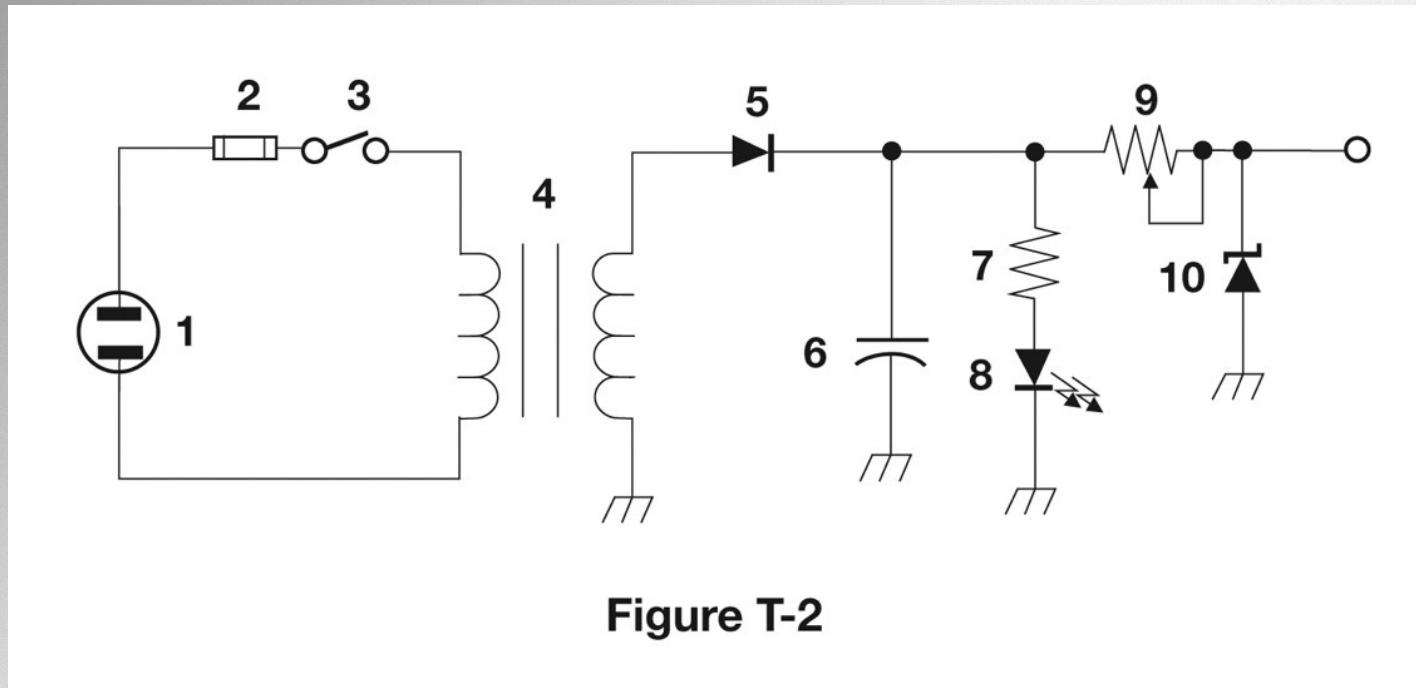


Figure T-2

A. Resistor

B. Capacitor

C. Regulator IC

D. Transistor

T6C06 HRLM (3-13)

# What is component 6 in figure T2?

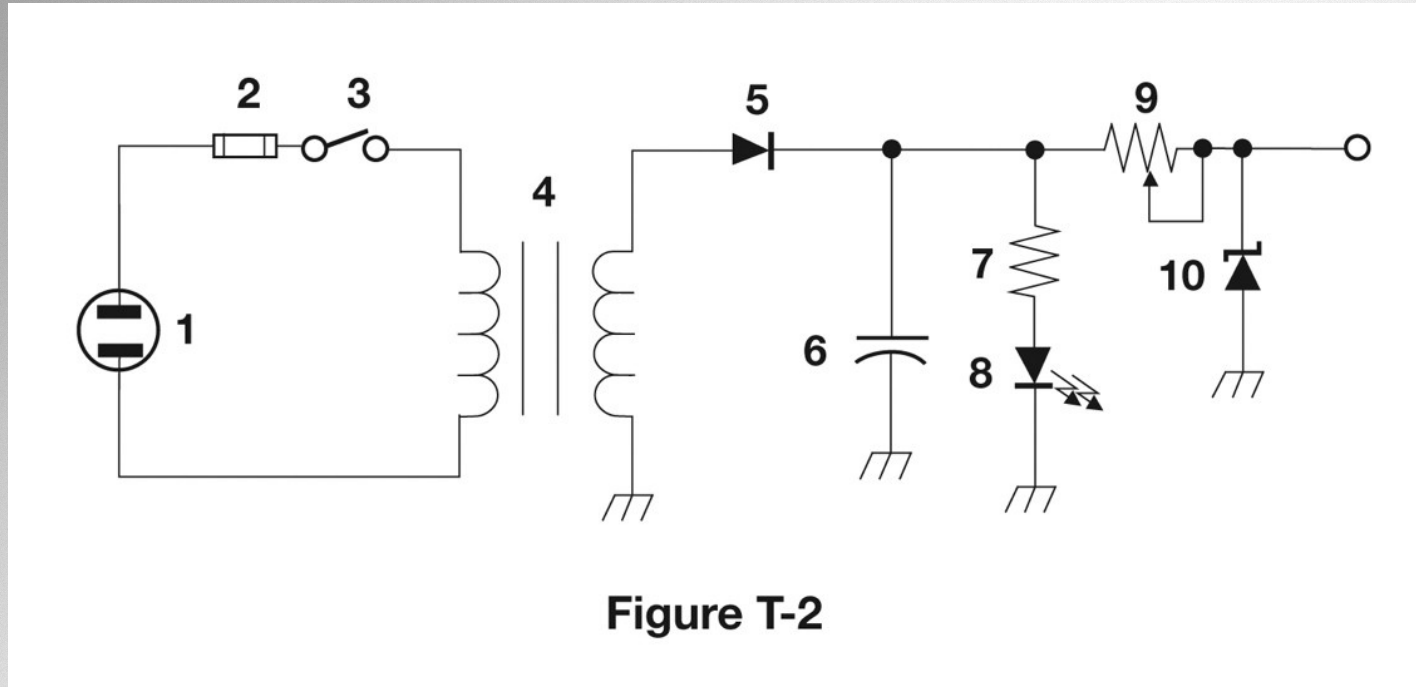


Figure T-2

A. Resistor  
C. Regulator IC  
T6C06 HRLM (3-13)

**B. Capacitor**  
D. Transistor



# What is component 8 in figure T2?

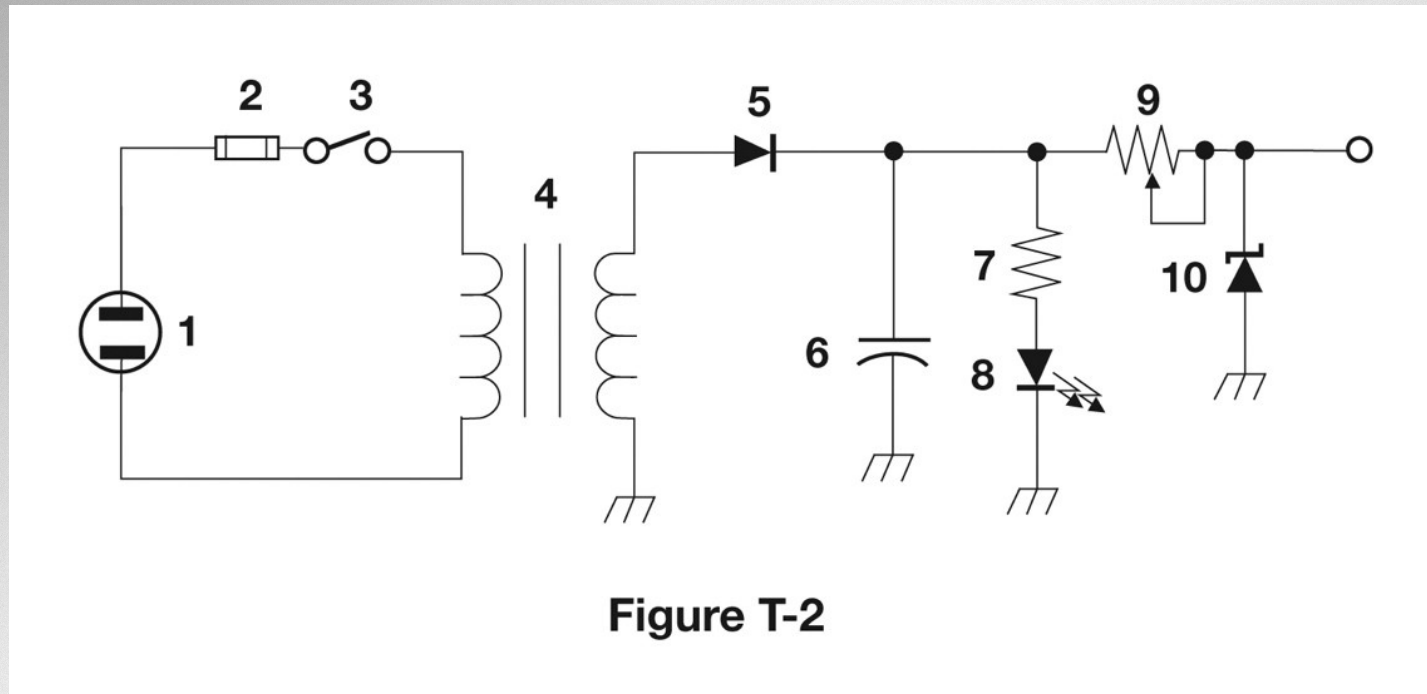
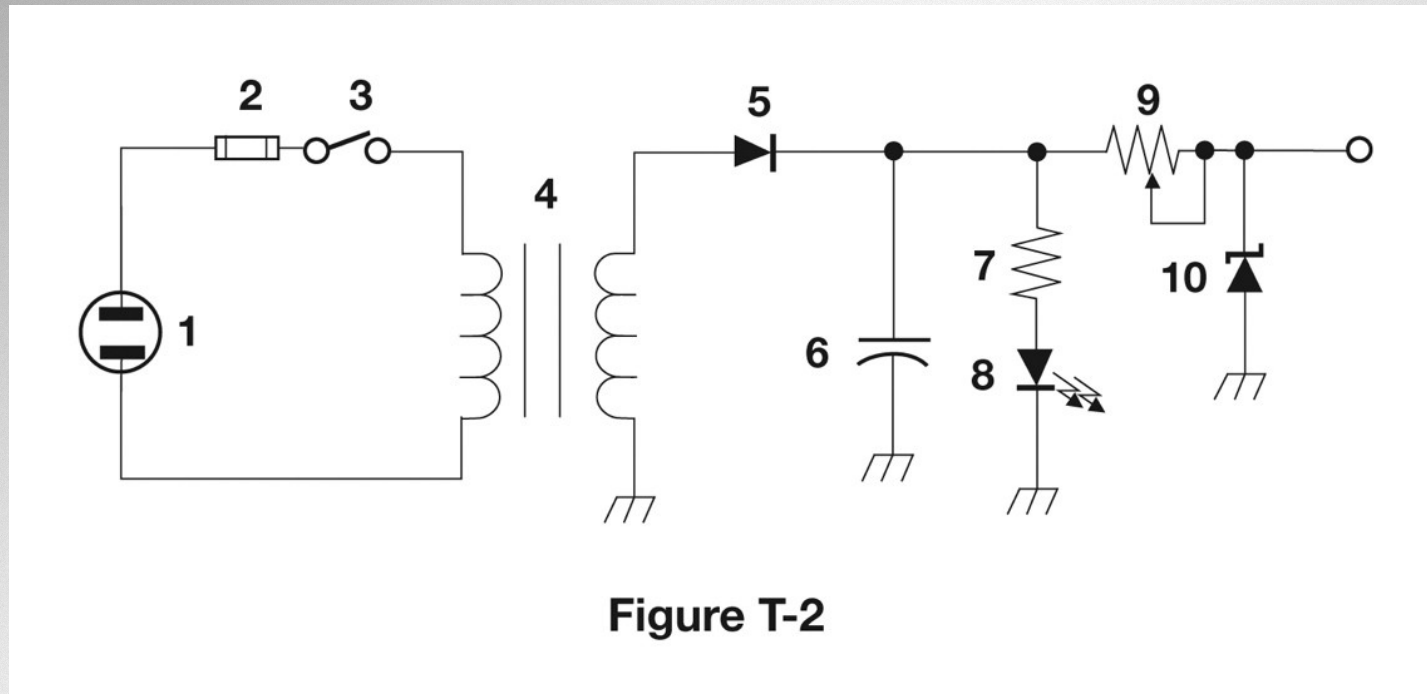


Figure T-2

- A. Resistor
  - B. Inductor
  - C. Regulator IC
  - D. Light emitting diode
- T6C07 HRLM (3-13)

# What is component 8 in figure T2?



- A. Resistor
  - B. Inductor
  - C. Regulator IC
  - D. Light emitting diode**
- T6C07 HRLM (3-13)

# What is component 9 in figure T2?

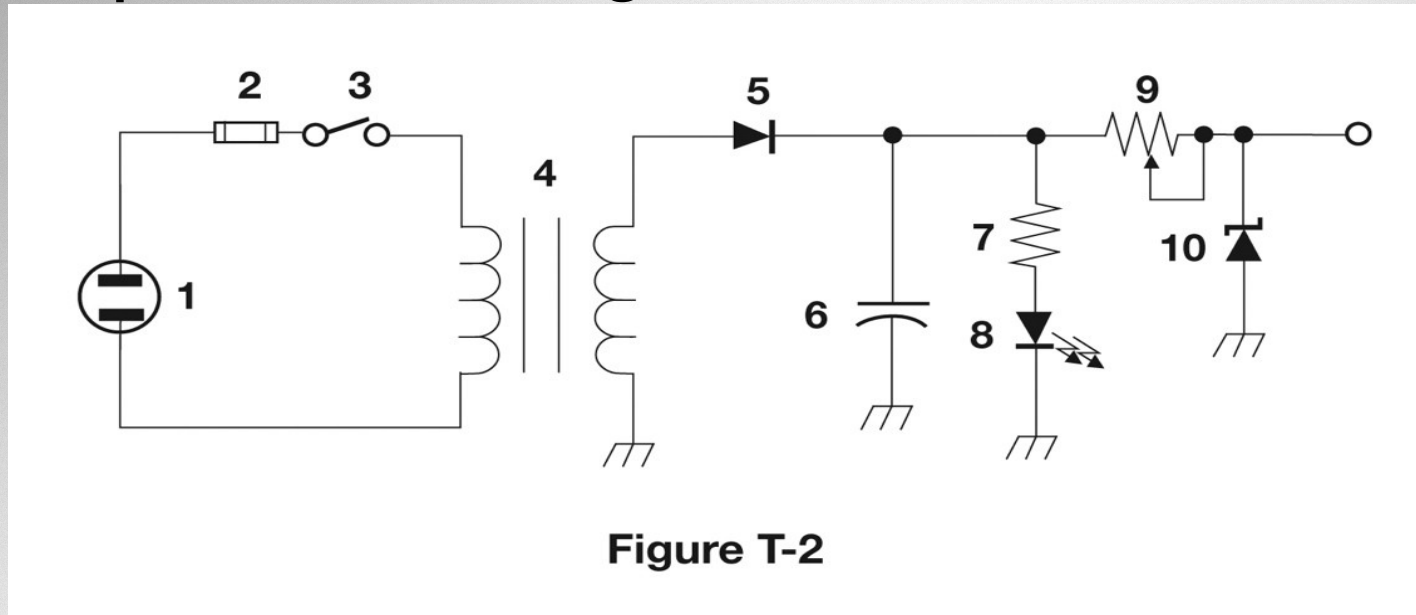


Figure T-2

- A. Variable capacitor
- B. Variable inductor
- C. Variable resistor
- D. Variable transformer

T6C08 HRLM (3-13)



# What is component 9 in figure T2?

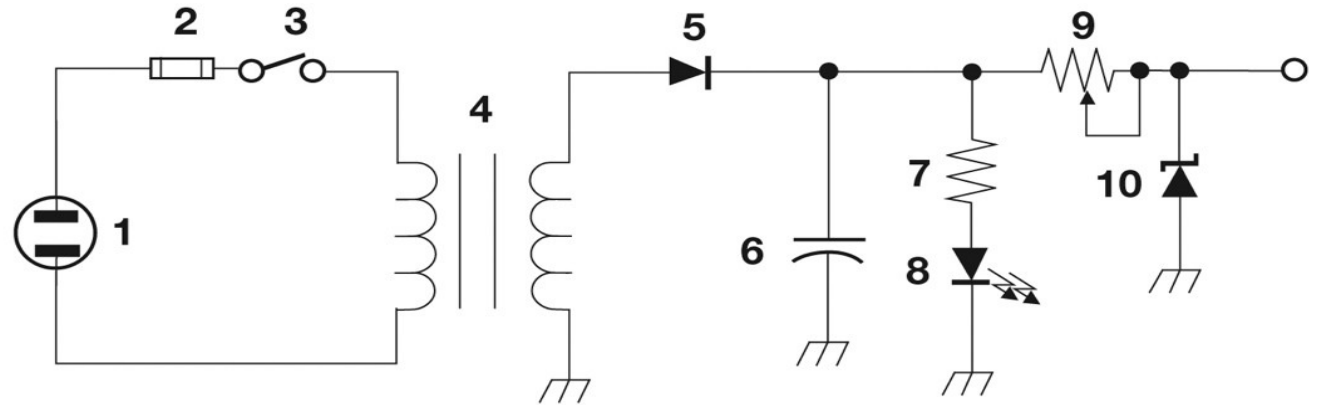


Figure T-2

- A. Variable capacitor
- B. Variable inductor
- C. Variable resistor**
- D. Variable transformer

T6C08 HRLM (3-13)

# What is component 4 in figure T2?

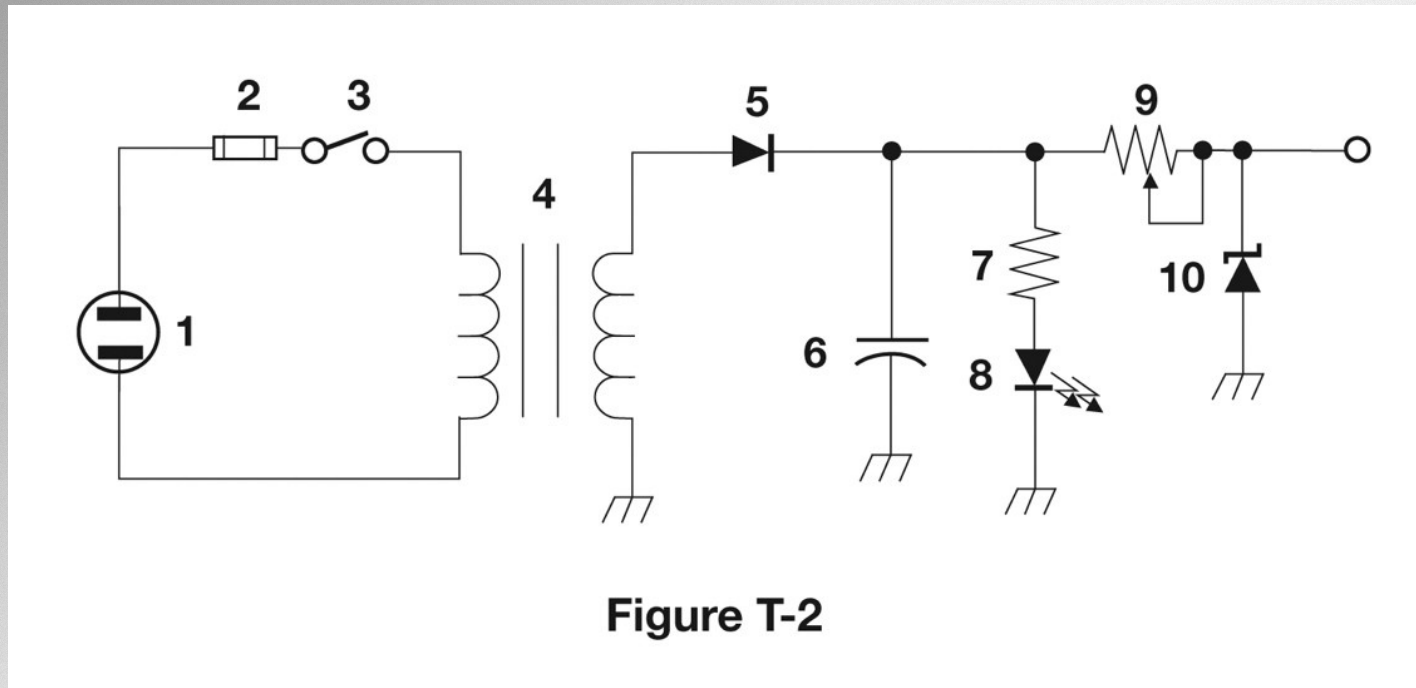


Figure T-2

- A. Variable inductor    B. Double-pole switch  
C. Potentiometer       D. Transformer

T6C09 HRLM (3-13)

# What is component 4 in figure T2?

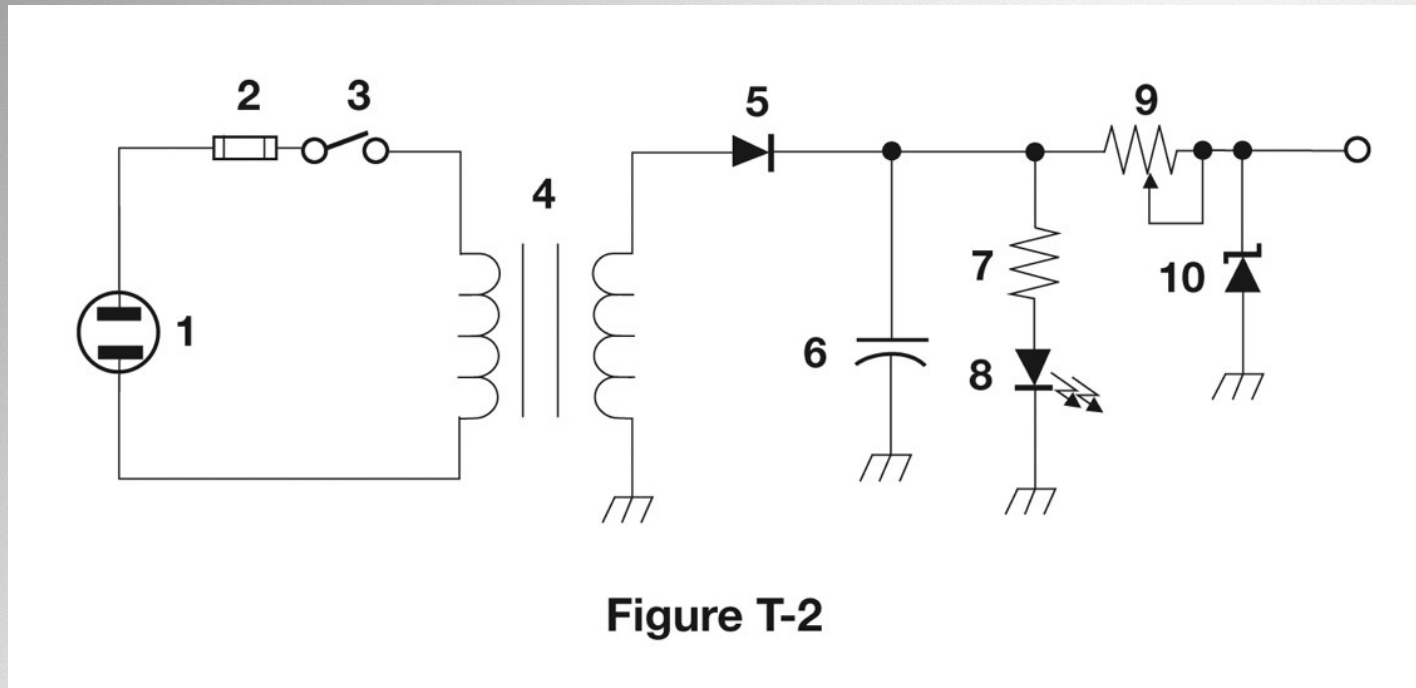


Figure T-2

- A. Variable inductor      B. Double-pole switch  
C. Potentiometer      **D. Transformer**

T6C09 HRLM (3-13)



**ARRL** The national association for  
AMATEUR RADIO



# What is component 3 in figure T3?

- A. Connector
- B. Meter
- C. Variable capacitor
- D. Variable inductor

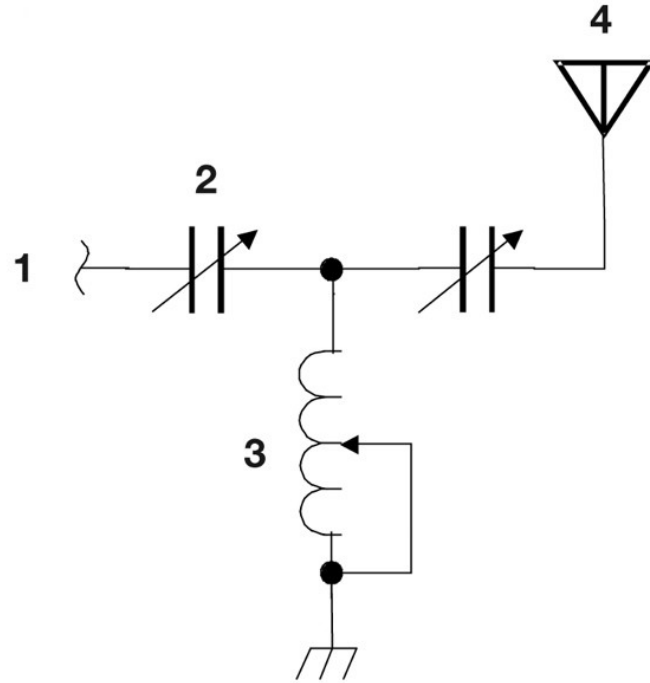


Figure T-3

# What is component 3 in figure T3?

- A. Connector
- B. Meter
- C. Variable capacitor
- D. Variable inductor**

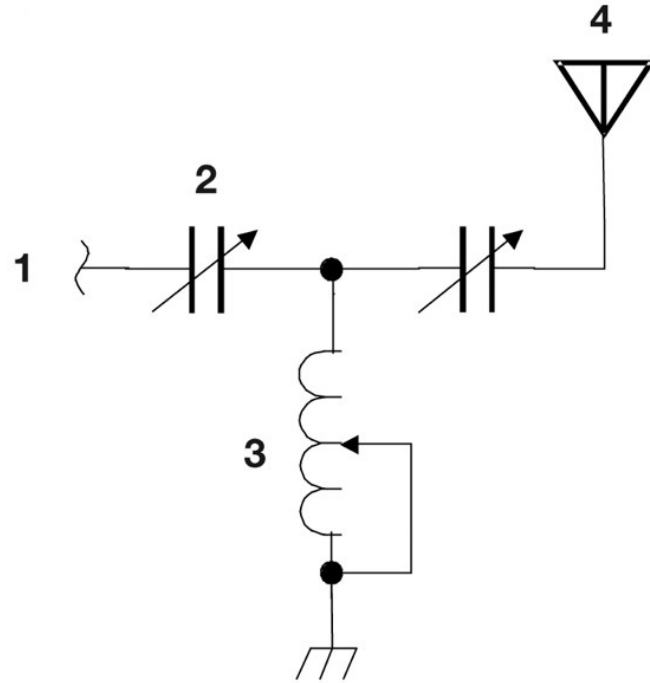


Figure T-3



T6C10 HRLM (3-13)

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# What is component 4 in figure T3?

- A. Antenna
- B. Transmitter
- C. Dummy load
- D. Ground

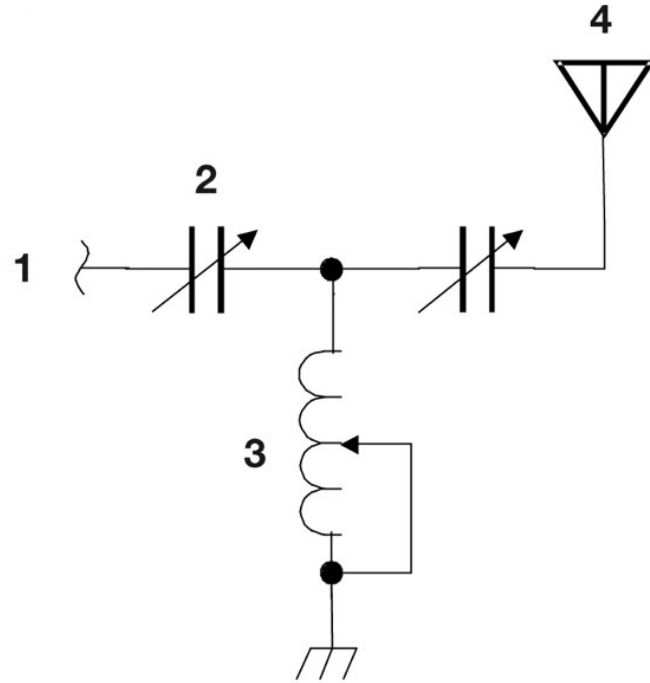


Figure T-3



# What is component 4 in figure T3?

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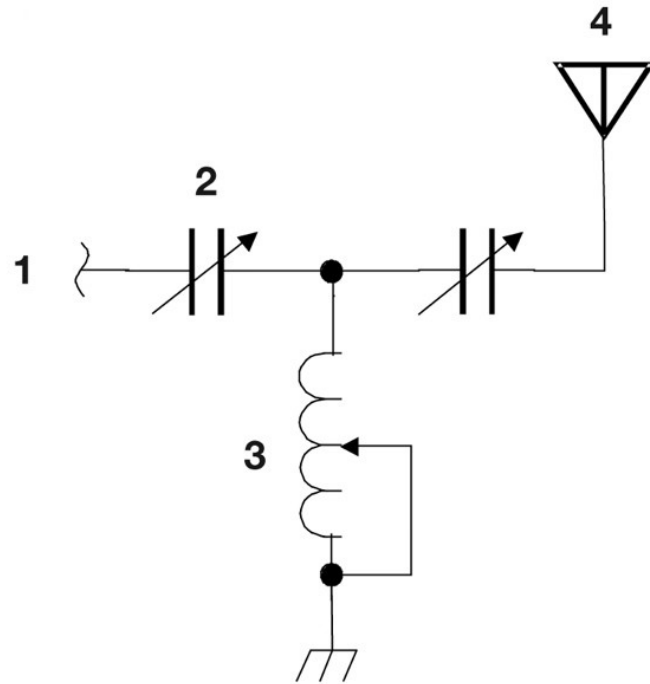


Figure T-3

# What do the symbols on an electrical circuit schematic diagram represent?

- A. Electrical components
- B. Logic states
- C. Digital codes
- D. Traffic nodes

T6C12 HRLM (3-13)

# What do the symbols on an electrical circuit schematic diagram represent?

**A. Electrical components**

B. Logic states

C. Digital codes

D. Traffic nodes

T6C12 HRLM (3-13)





# Which of the following is accurately represented in electrical circuit schematic diagrams?

- A. Wire lengths
- B. Physical appearance of components
- C. The way components are interconnected
- D. All of these choices are correct

T6C13 HRLM (3-14)

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T6C13 HRLM (3-14)



Which of the following devices or circuits changes an alternating current into a varying direct current signal?

- A. Transformer
- B. Rectifier
- C. Amplifier
- D. Reflector

T6D01 HRLM (3-10)



Which of the following devices or circuits changes an alternating current into a varying direct current signal?

- A. Transformer
- B. Rectifier**
- C. Amplifier
- D. Reflector

T6D01 HRLM (3-10)

# What best describes a relay?

- A. A switch controlled by an electromagnet
- B. A current controlled amplifier
- C. An optical sensor
- D. A pass transistor

T6D02 HRLM (3-12)



# What best describes a relay?

- A. A switch controlled by an electromagnet**
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T6D02 HRLM (3-12)



What type of switch is represented by component 3 in figure T2?

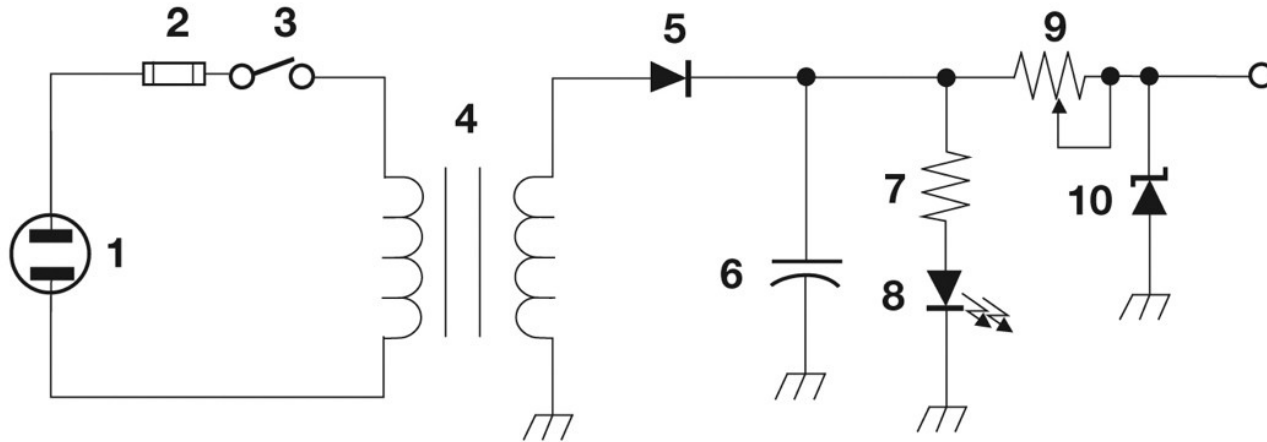


Figure T-2

- A. Single-pole single-throw
- B. Single-pole double-throw
- C. Double-pole single-throw
- D. Double-pole double-throw

T6D03 HRLM (3-13)

What type of switch is represented by component 3 in figure T2?

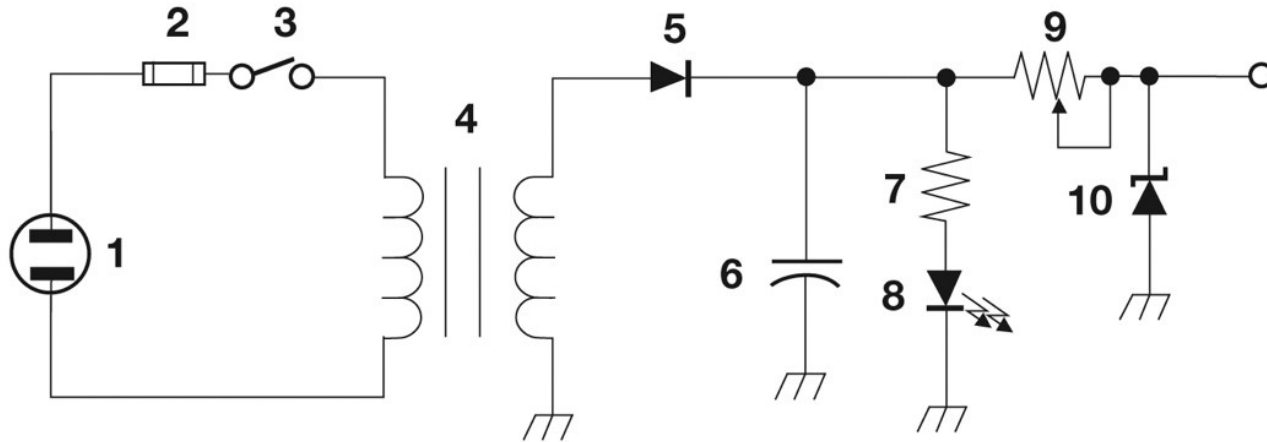


Figure T-2

A. Single-pole single-throw

B. Single-pole double-throw

C. Double-pole single-throw

D. Double-pole double-

throw



6D03 HRLM (3-13)

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# Which of the following can be used to display signal strength on a numeric scale?

- A. Potentiometer
- B. Transistor
- C. Meter
- D. Relay

T6D04 HRLM (3-13)



# Which of the following can be used to display signal strength on a numeric scale?

- A. Potentiometer
- B. Transistor
- C. Meter**
- D. Relay

T6D04 HRLM (3-13)

# What component is commonly used to change 120V AC house current to a lower AC voltage for other uses?

- A. Variable capacitor
- B. Transformer
- C. Transistor
- D. Diode

T6D06 HRLM (3-9)



What component is commonly used to change 120V AC house current to a lower AC voltage for other uses?

- A. Variable capacitor
- B. Transformer**
- C. Transistor
- D. Diode

T6D06 HRLM (3-9)



# Which of the following is commonly used as a visual indicator?

- A. LED
- B. FET
- C. Zener diode
- D. Bipolar transistor

T6D07 HRLM (3-11)

# Which of the following is commonly used as a visual indicator?

- A. LED
- B. FET
- C. Zener diode
- D. Bipolar transistor

T6D07 HRLM (3-11)



# Which of the following is used together with an inductor to make a tuned circuit?

- A. Resistor
- B. Zener diode
- C. Potentiometer
- D. Capacitor

T6D08 HRLM (3-9)



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- A. Resistor
- B. Zener diode
- C. Potentiometer
- D. Capacitor**

T6D08 HRLM (3-9)

What is the name of a device that combines several semiconductors and other components into one package?

- A. Transducer
- B. Multi-pole relay
- C. Integrated circuit
- D. Transformer

T6D09 HRLM (3-11)



What is the name of a device that combines several semiconductors and other components into one package?

- A. Transducer
- B. Multi-pole relay
- C. Integrated circuit**
- D. Transformer

T6D09 HRLM (3-11)



What is the function of component 2 in Figure T1?

- A. Give off light when current flows through it
- B. Supply electrical energy
- C. Control the flow of current
- D. Convert electrical energy into radio waves

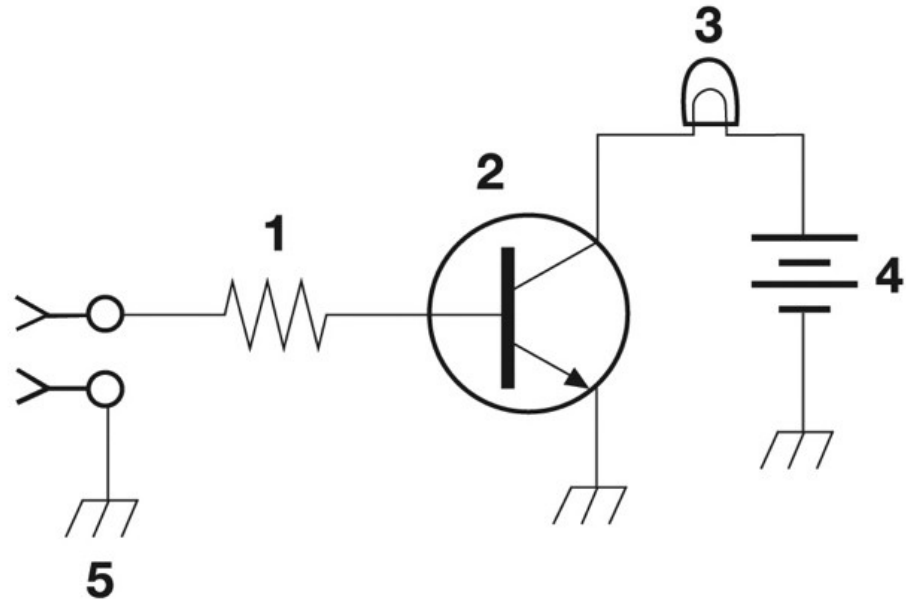


Figure T-1

T6D10 HRLM (3-11)

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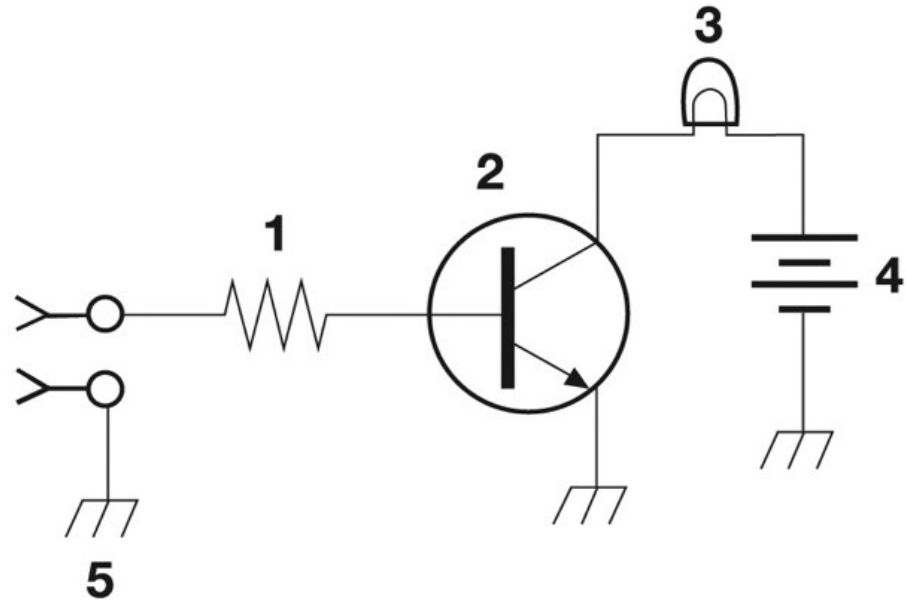


Figure T-1

T6D10 HRLM (3-11)

# What is a simple resonant or tuned circuit?

- A. An inductor and a capacitor connected in series or parallel to form a filter
- B. A type of voltage regulator
- C. A resistor circuit used for reducing standing wave ratio
- D. A circuit designed to provide high fidelity audio

T6D11 HRLM (3-9)



# What is a simple resonant or tuned circuit?

- A. An inductor and a capacitor connected in series or parallel to form a filter**
- B. A type of voltage regulator
- C. A resistor circuit used for reducing standing wave ratio
- D. A circuit designed to provide high fidelity audio

T6D11 HRLM (3-9)

# What is the purpose of a fuse in an electrical circuit?

- A. To prevent power supply ripple from damaging a circuit
- B. To interrupt power in case of overload
- C. To limit current to prevent shocks
- D. All of these choices are correct

T0A04 HRLM (3-12)



# What is the purpose of a fuse in an electrical circuit?

- A. To prevent power supply ripple from damaging a circuit
- B. To interrupt power in case of overload**
- C. To limit current to prevent shocks
- D. All of these choices are correct

T0A04 HRLM (3-12)



# Why is it unwise to install a 20-ampere fuse in the place of a 5-ampere fuse?

- A. The larger fuse would be likely to blow because it is rated for higher current
- B. The power supply ripple would greatly increase
- C. Excessive current could cause a fire
- D. All of these choices are correct

T0A05 HRLM (3-12)

# Why is it unwise to install a 20-ampere fuse in the place of a 5-ampere fuse?

- A. The larger fuse would be likely to blow because it is rated for higher current
- B. The power supply ripple would greatly increase
- C. Excessive current could cause a fire**
- D. All of these choices are correct

T0A05 HRLM (3-12)