

اسم التجربة:- The Zener Diode

الغرض من التجربة :-

1. To determine and graph the volt-ampere characteristic of a Zener diode.
2. To use the Zener diode in particular circuits.
3. To show the various operation regions of the zener diode.

الأجهزة والمعدات:-

1. 220 ohm resistor.
2. 1N4753A: 6.2 volt zener diode.
3. Voltmeter.
4. Oscilloscope.
5. 0-15 dc power supply

المناقشة والاستنتاجات:-

المناقشة :

1. Compare between the normal and zener diodes.
2. What is the application of the zener diode?
3. From the values obtained in the experiment, compute the AC resistance of the zener diode.

الاستنتاج :

A zener diode is a special type of diode where the diode has been optimized for operation in the reverse or avalanche region. This is completely the opposite of normal diodes or rectifiers where every effort is made to keep the diode from breaking down in the reverse direction. The breakdown voltage can be well controlled and yields a device which exhibits a constant breakdown voltage over a wide range of currents. There is a series resistor to limit the avalanche current and the zener finds great use as a voltage regulator. In the forward direction, the zener diode acts as a normal forward biased

diode.). These types of diodes are operating in the breakdown region that the normal diodes cannot pass it without damaged. These diodes have a very important used in the regulation voltage circuits, which give a specific voltage and determine it in a specific value.

