



اسم المادة: الكترونيك
اسم التدريسي: ضحى علي طالب
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رقم التجربة: 5
عنوان التجربة: Clipping circuit



Objective: -

Clipping circuits are used to select, for purposes of transmission, that part of a signal waveform which lies above or below the predetermined reference voltage level. Clipping may be achieved either at one level or two levels.

Circuit elements:

AC power

Diode

Resistor

Oscilloscope

Theory

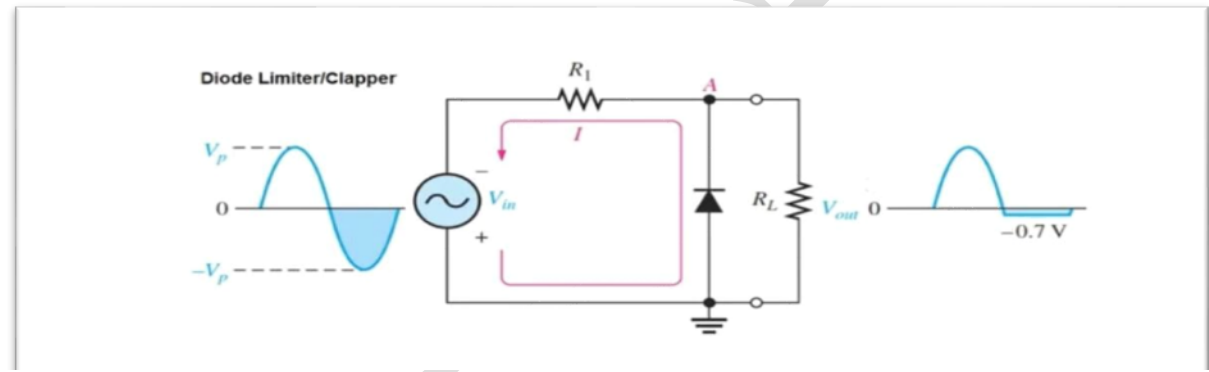
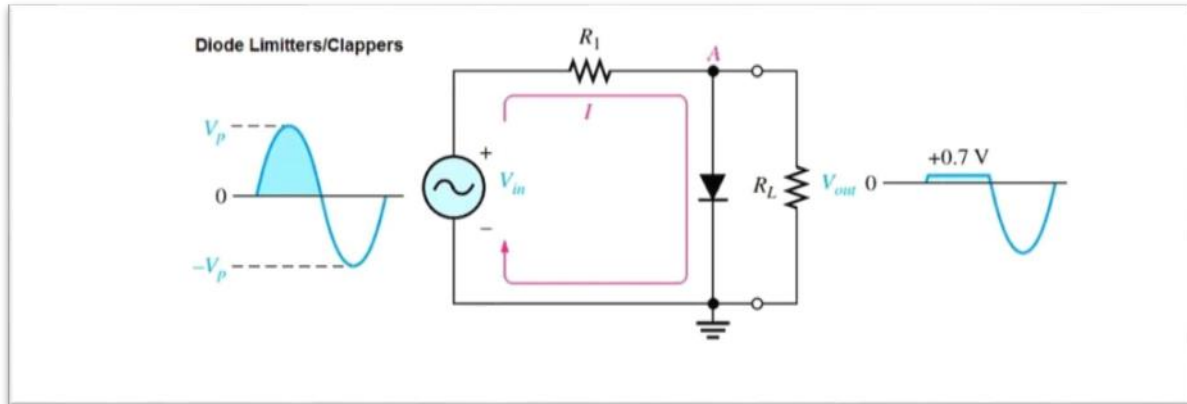
Clipper circuits are the circuits that clip off or removes a portion of an input signal, without causing any distortion to the remaining part of the waveform. These are also known as clippers, clipping circuits, limiters, slicers etc.

Clippers are basically wave shaping circuits that control the shape of an output waveform. It consists of linear and non-linear elements but does not contain energy storing elements.

The basic operation of a diode clipping circuits is such that, in forward biased condition, the diode allows current to pass through it, clamping the voltage. But in reverse biased condition, no any current flows through the diode, and thus voltage remains unaffected across its terminals.

Clipper circuits are basically termed as protection devices. As electronic devices are voltage sensitive and voltage of large amplitude can permanently destroy the device. So, in order to protect the device clipper circuits are used.

Usually, clippers employ resistor–diode combination in its circuitry.



Procedure:

- 1-Connect the electrical circuit according to the figure 1
- 2-Then connect the circuit with an oscilloscope to see which signal is entering and leaving the circuit

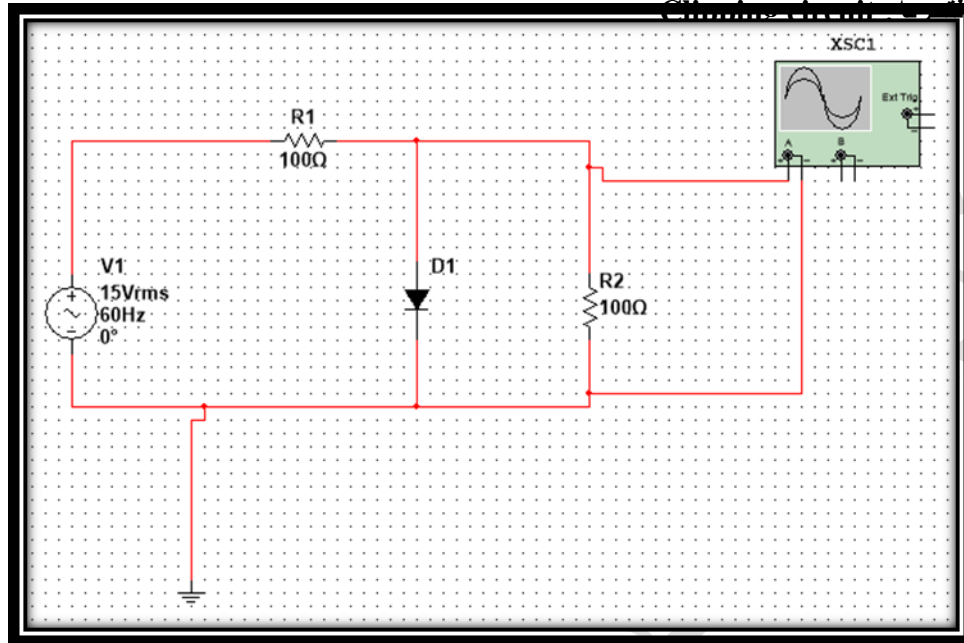


figure 1

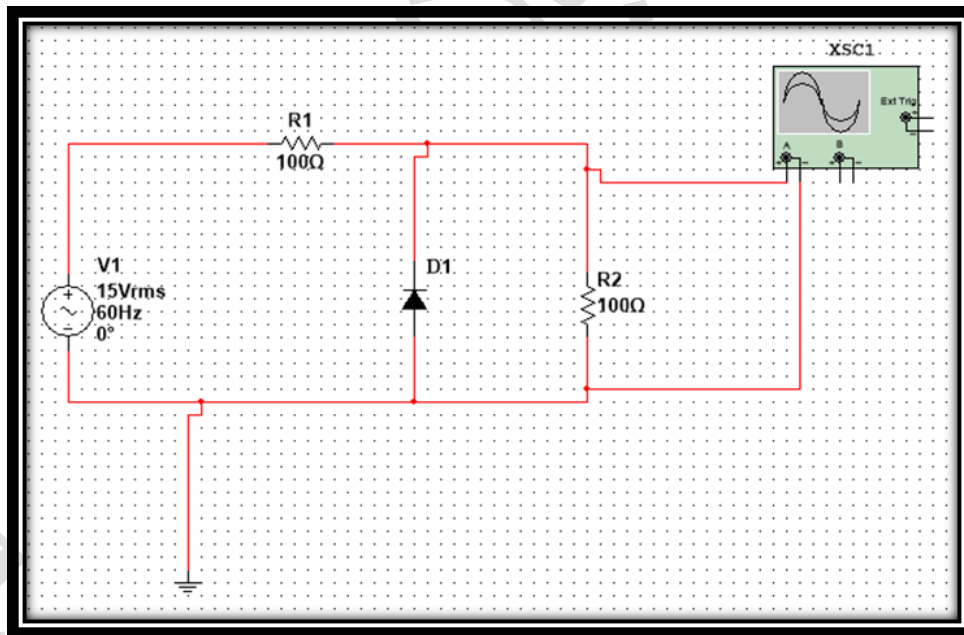


figure 2