

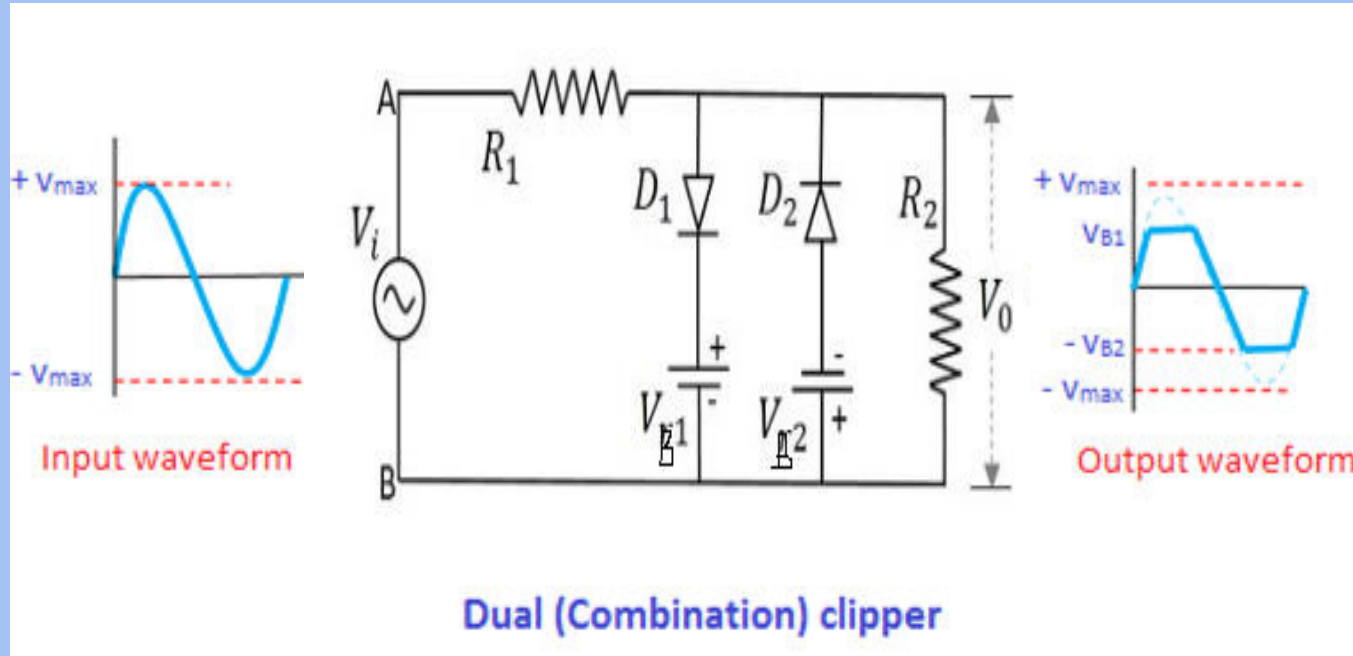
# **Dual Combination Clipper**

**Elementrix Classes**

# Dual Combination Clipper

- ❑ Sometimes it is desired to remove a small portion of both positive and negative half cycles. In such cases, the dual clippers are used.
- ❑ The dual clippers are made by combining the biased shunt positive clipper and biased shunt negative clipper.

- Let us consider a dual clipper circuit in which a sinusoidal ac voltage is applied to the input terminals of the circuit.



## ❖ During positive half cycle:

- ❑ During the positive half cycle, the diode  $D_1$  is forward biased by the input supply voltage  $V_i$  and reverse biased by the battery voltage  $V_{B1}$ . On the other hand, the diode  $D_2$  is reverse biased by both input supply voltage  $V_i$  and battery voltage  $V_{B2}$ .
- ❑ Initially, the input supply voltage is less than the battery voltage. So the diode  $D_1$  is reverse biased by the battery voltage  $V_{B1}$ . Similarly, the diode  $D_2$  is reverse biased by the battery voltage  $V_{B2}$ . As a result, the signal appears at the output. However, when the input supply voltage  $V_i$  becomes greater than the battery voltage  $V_{B1}$ , the diode  $D_1$  is forward biased by the input supply voltage. As a result, no signal appears at the output.

## ❖ During negative half cycle:

- ❑ During the negative half cycle, the diode  $D_1$  is reverse biased by both input supply voltage  $V_i$  and battery voltage  $V_{B1}$ . On the other hand, the diode  $D_2$  is forward biased by the input supply voltage  $V_i$  and reverse biased by the battery voltage  $V_{B2}$ .
- ❑ Initially, the battery voltage is greater than the input supply voltage. Therefore, the diode  $D_1$  and diode  $D_2$  are reverse biased by the battery voltage. As a result, the signal appears at the output.
- ❑ When the input supply voltage becomes greater than the battery voltage  $V_{B2}$ , the diode  $D_2$  is forward biased. As a result, no signal appears at the output.

पढ़िए और पढ़ाइये

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