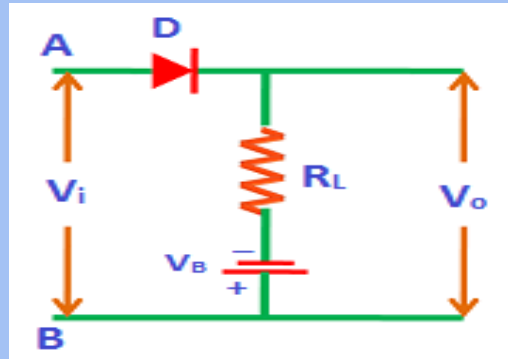# Series Negative Clipper with Negative Bias

Elementrix Classes

Series Negative Clipper with Negative Bias

❑ Sometimes it is desired to remove a small portion of positive or negative half cycles of the input AC signal. In such cases, the biased clippers are used.

❑ The construction of the series negative clipper with bias is almost similar to the series negative clipper. The only difference is an extra element called battery is used in series negative clipper with bias.

❖ **During positive half cycle:**

+ Vmax
- Vmax
Input waveform

D
A
V_i
R_L
V_o
V_B
B

+ Vmax
- VB
- Vmax
Output waveform

Series negative clipper with negative bias
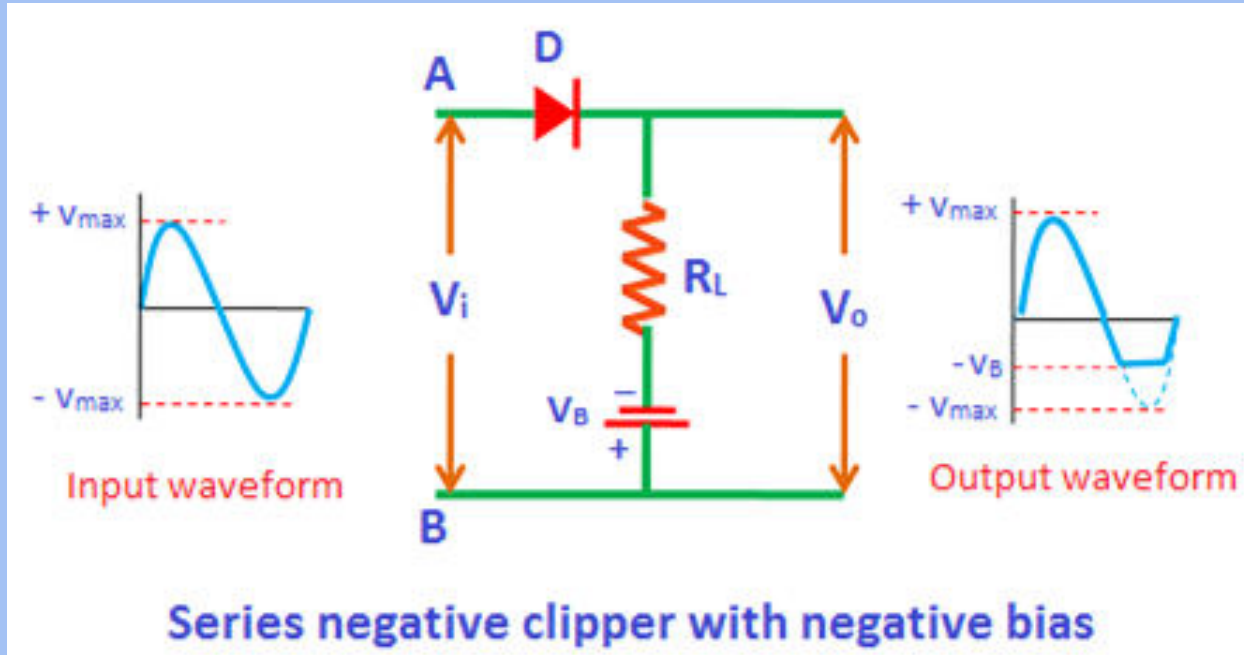
❏ During the positive half cycle, the diode D is forward biased by both input supply voltage V_i and the battery voltage V_B.

❏ So it doesn't matter whether the input supply voltage is greater or less than battery voltage V_B, the diode always remains forward biased. Therefore, during the positive half cycle, the signal appears at the output.

❖ **During negative half cycle:**

❏ During the negative half cycle, the diode D is reverse biased by the input supply voltage V_i and forward biased by the battery voltage V_B. Initially, the input supply voltage V_i is less than the battery voltage V_B. So the diode is forward biased by the battery voltage V_B. As a result, the signal appears at the output.

❏ When the input supply voltage V_i becomes greater than the battery voltage V_B, the diode will become reverse biased. As a result, no signal appears at the output.

पढ़िए और पढ़ाइये

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