CLIPPER AND CLAMPER

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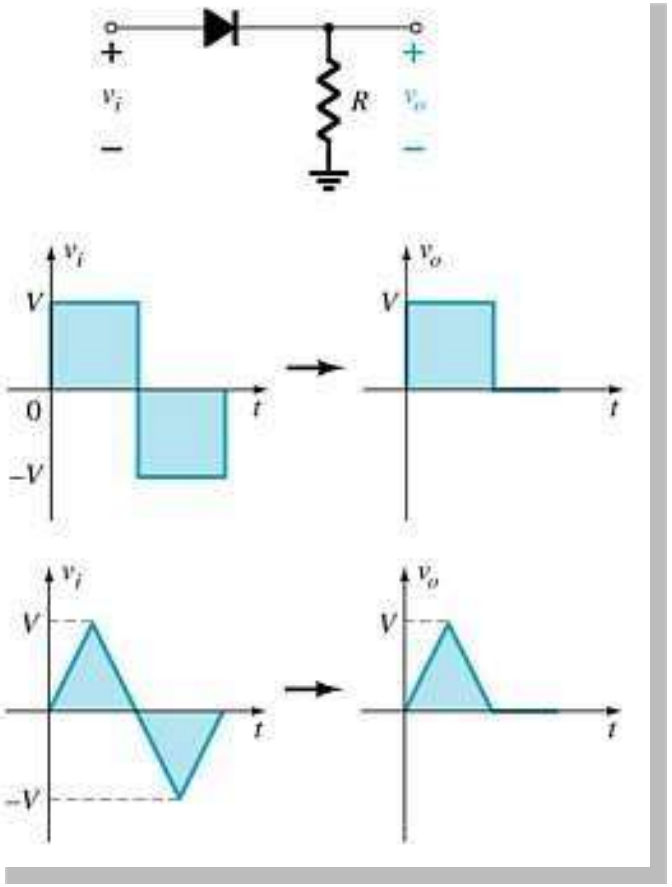
Diode Clippers

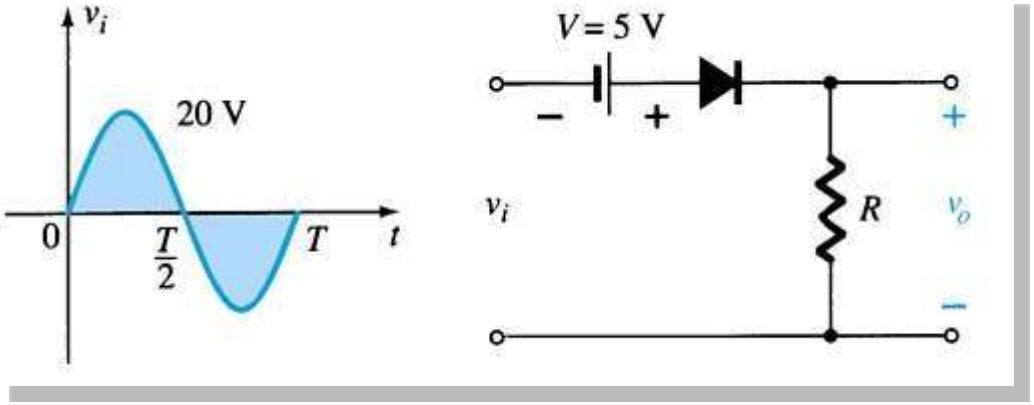
The diode in a series clipper "clips" any voltage that does not forward bias it:

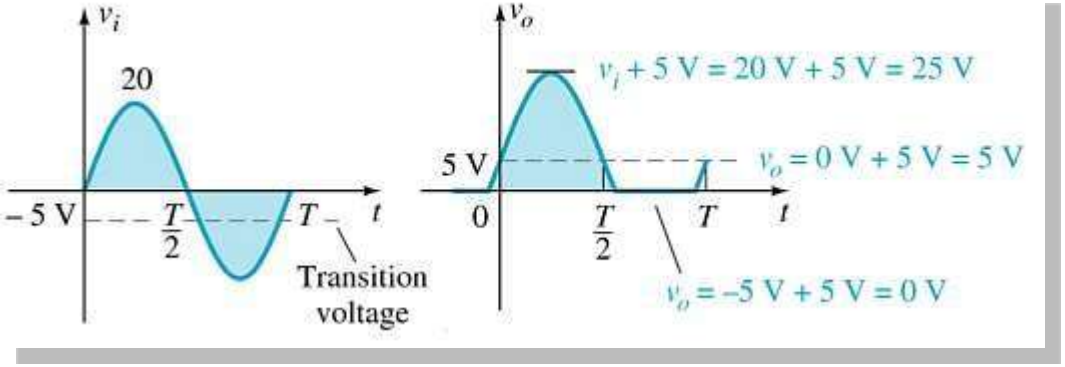
- **A reverse-biasing polarity**
- **A forward-biasing polarity less than 0.7 V (for a silicon diode)**



Biased Clippers

Adding a DC source in series with the clipping diode changes the effective forward bias of the diode.

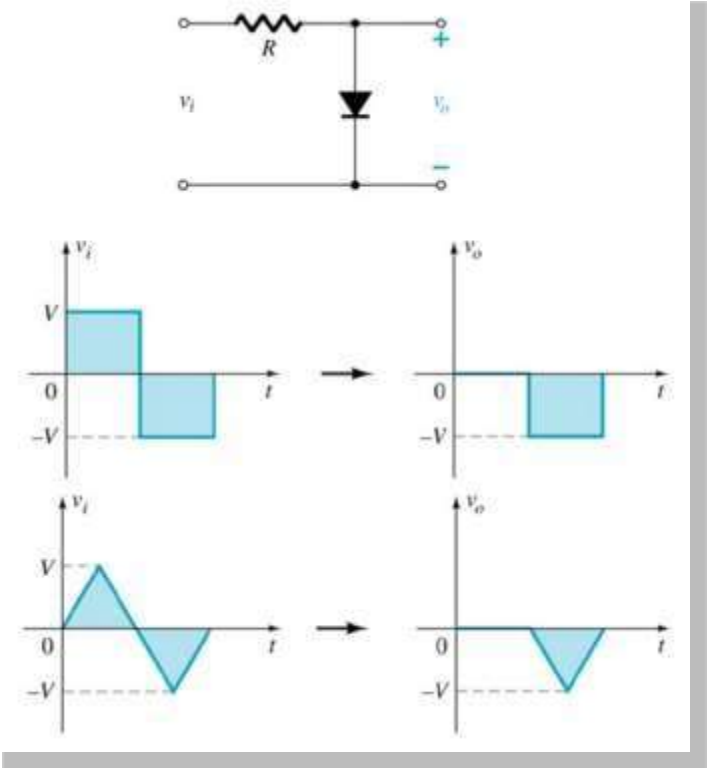




Parallel Clippers

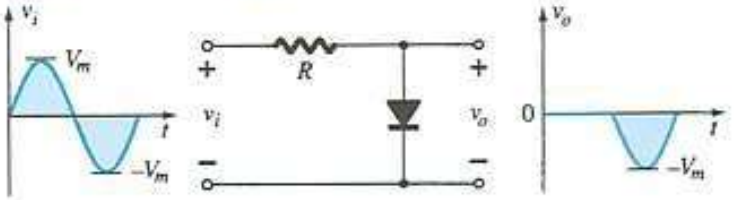
The diode in a parallel clipper circuit "clips" any voltage that forward bias it.

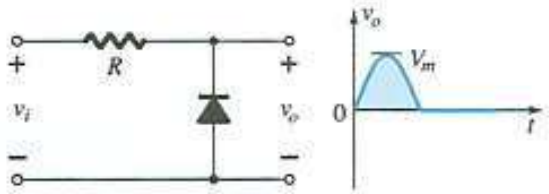
DC biasing can be added in series with the diode to change the clipping level.



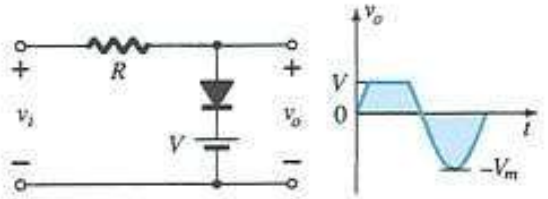
Summary of Clipper Circuits

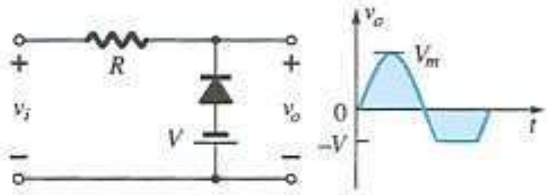
Simple Parallel Clippers (Ideal Diodes)

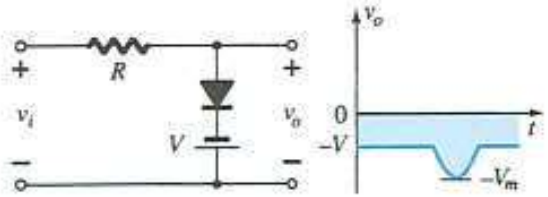


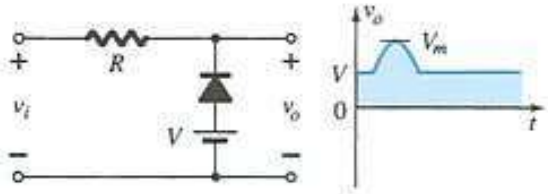


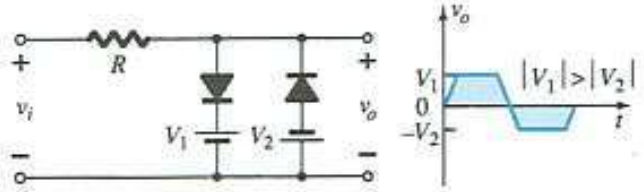
Biased Parallel Clippers (Ideal Diodes)





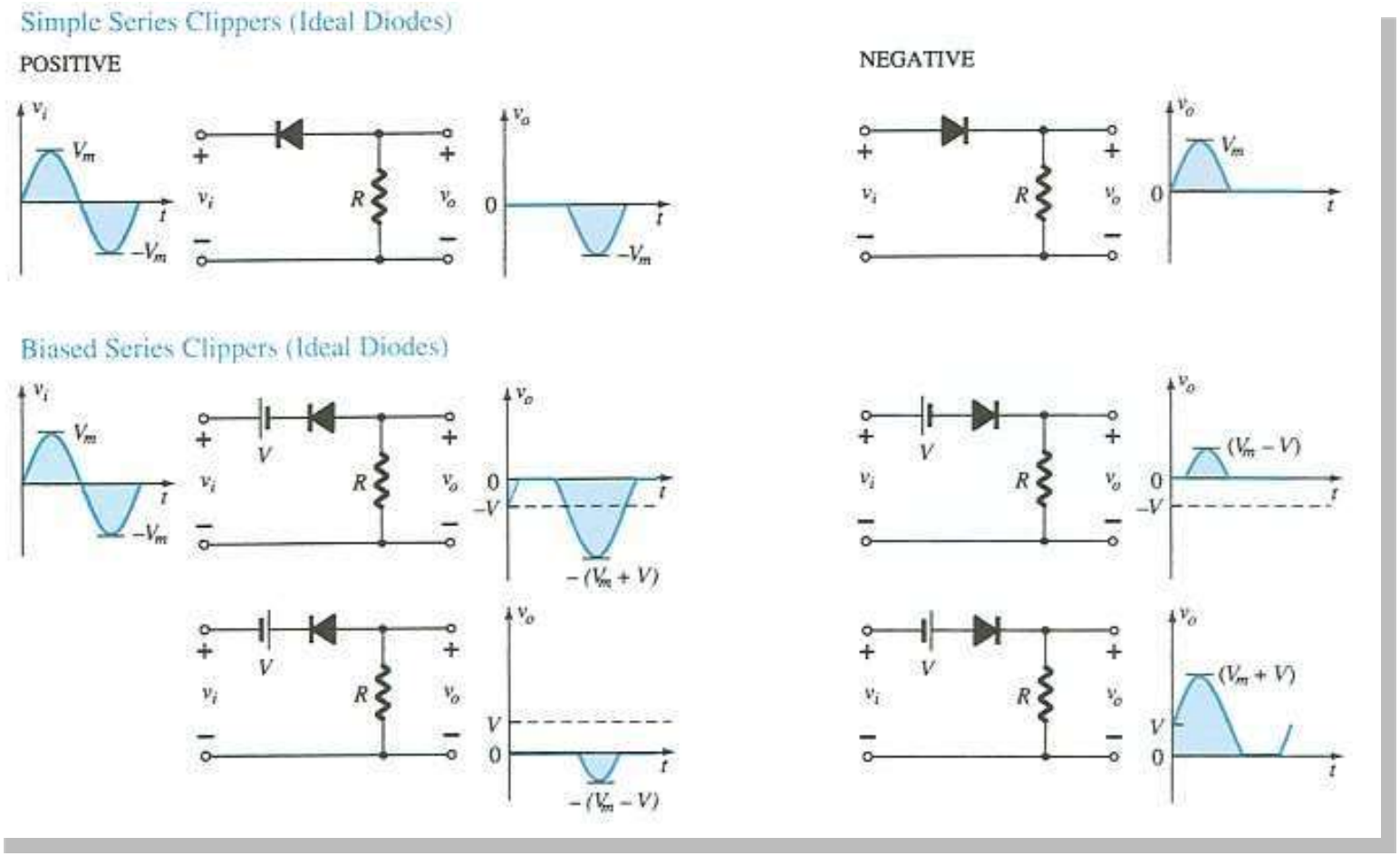




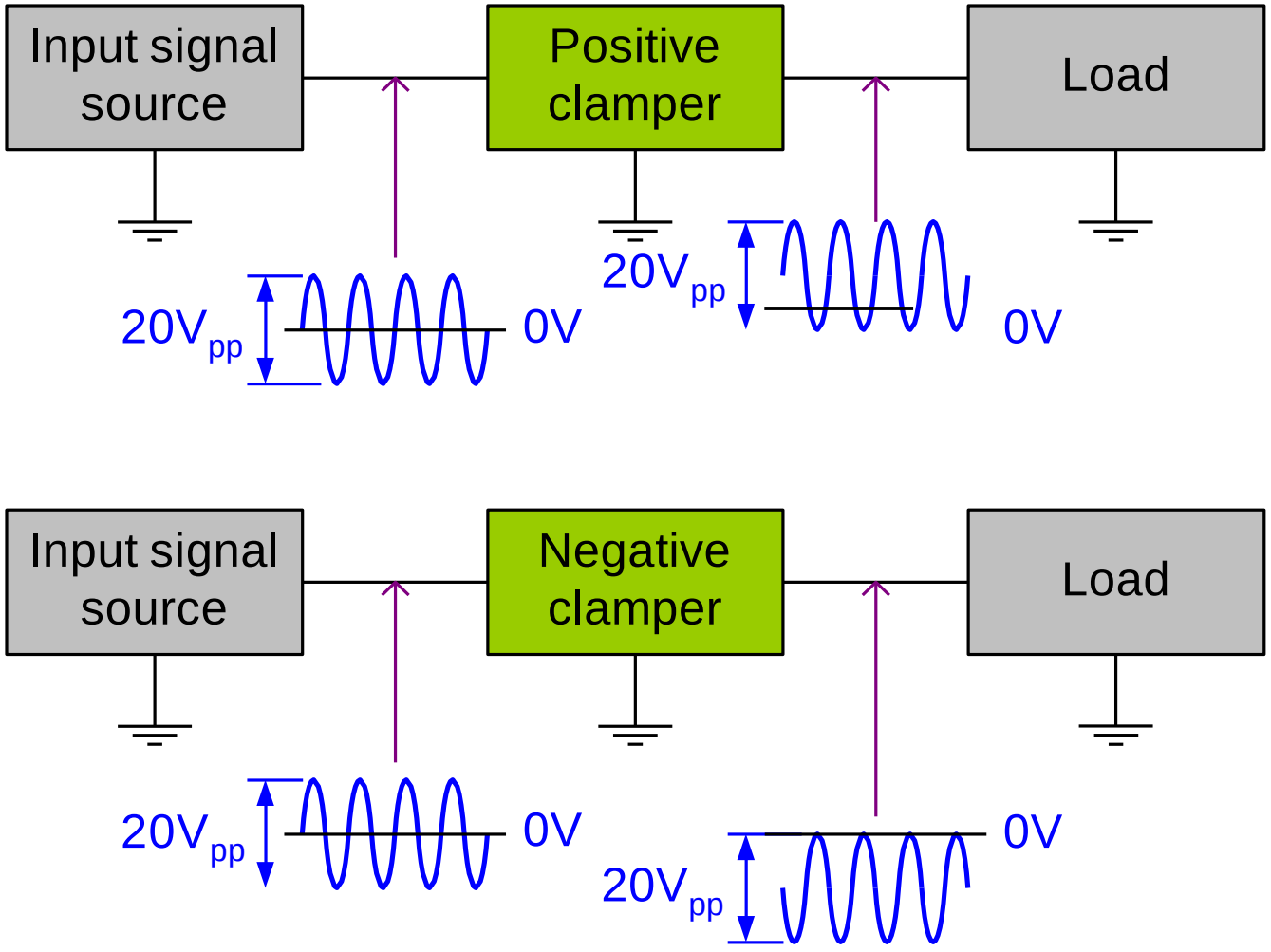


more…

Summary of Clipper Circuits

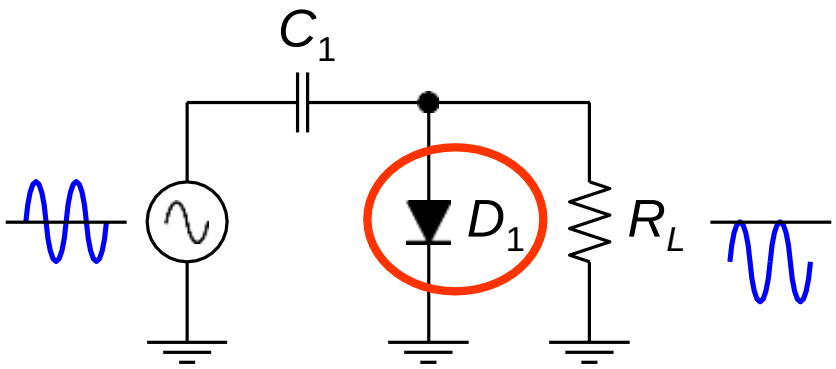


Clampers (DC restorers)

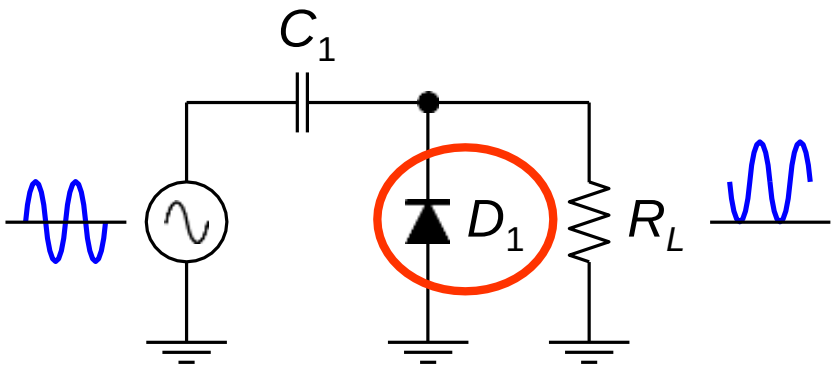


Clamper circuits.

A diode and capacitor can be combined to "clamp" an AC signal to a specific DC level.



Negative clamper

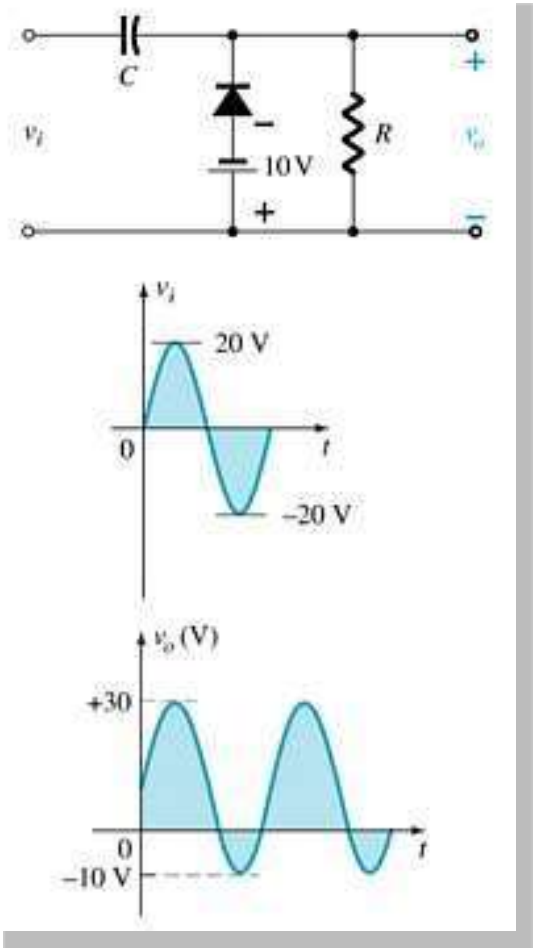


Positive clamper

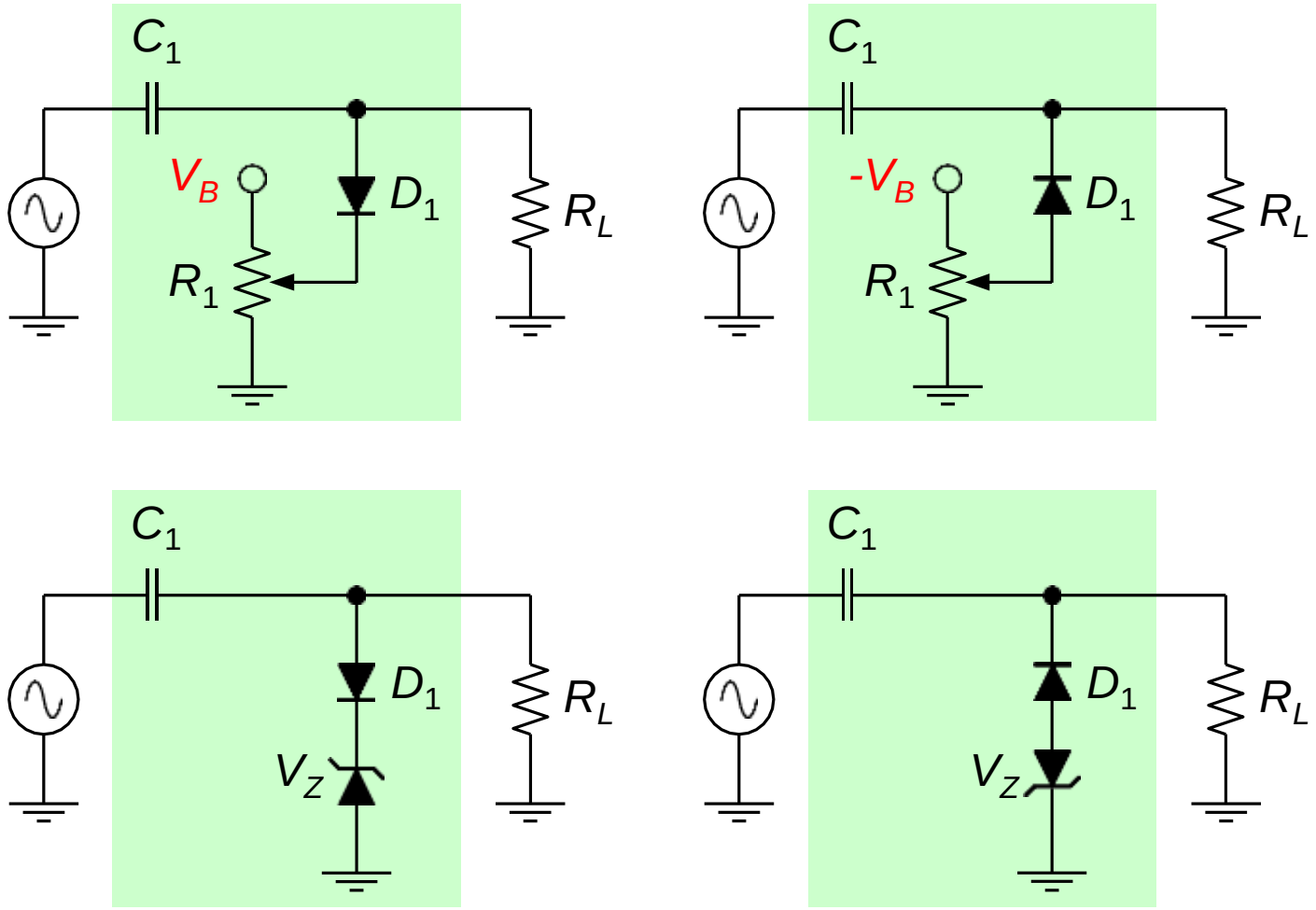
Biased Clamper Circuits

The input signal can be any type of waveform such as sine, square, and triangle waves.

The DC source lets you adjust the DC camping level.



Biased clampers



Biased clampers.

- Conclusion

  From these we came to know how to slicing the given signal and clamping the signal.
- Reference
  - ✓Thomas L.Floyd, “Electronic devices” Conventional current version, Pearson prentice hall.
  - ✓David A. Bell, “Electronic devices and circuits”, Oxford University higher education.