

**TITLE:** Emitter Follower Voltage Regulator

**STUDENT NAME:** Weslee Jacop.S

**COLLEGE NAME:** Sri Sairam Institute of Technology

**ABSTRACT:**

The **Emitter Follower Voltage Regulator** is a simple and efficient circuit used for voltage regulation. It employs an **NPN transistor** in an emitter follower configuration, where a **Zener diode** provides a stable reference voltage at the base. The regulated output voltage is slightly lower than the Zener voltage due to the **base-emitter drop ( $\approx 0.7V$ )**. This circuit offers **low output impedance, improved voltage stability, and better load regulation**. Simulating this regulator in **eSim** allows for performance analysis, including **voltage regulation, transient response, and efficiency evaluation**, making it a useful educational and practical circuit.

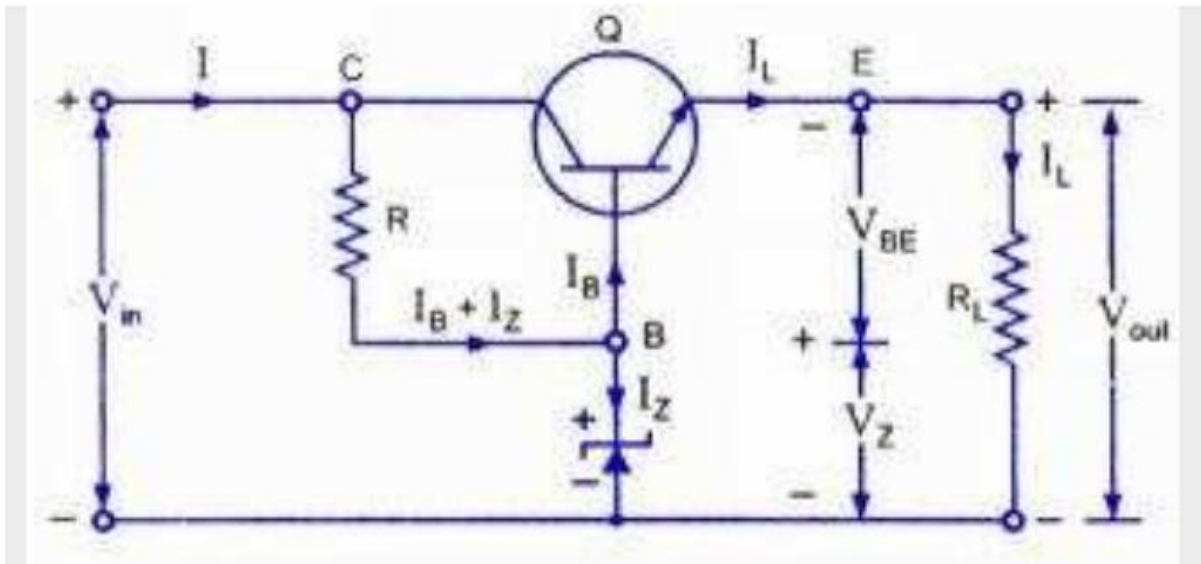
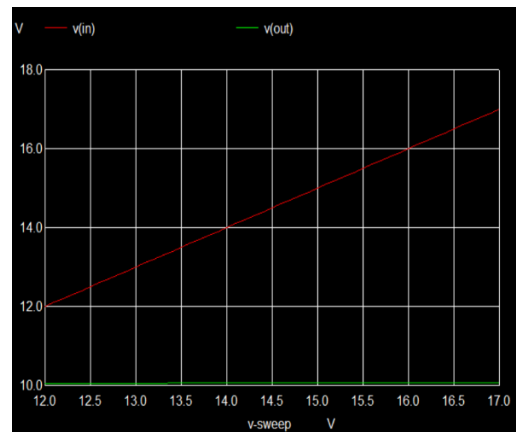
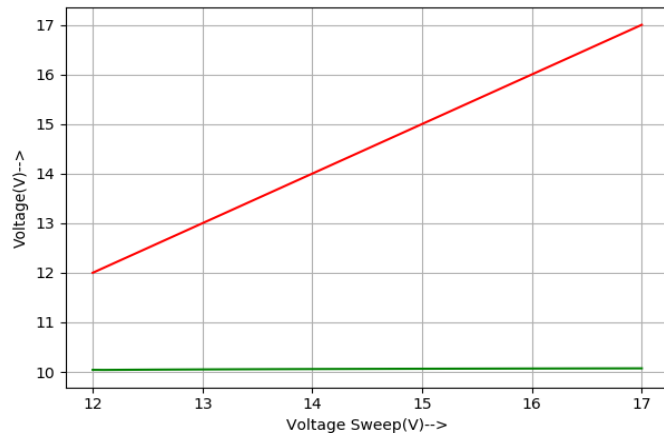


Fig 1: This circuit illustrates the Emitter follower regulator

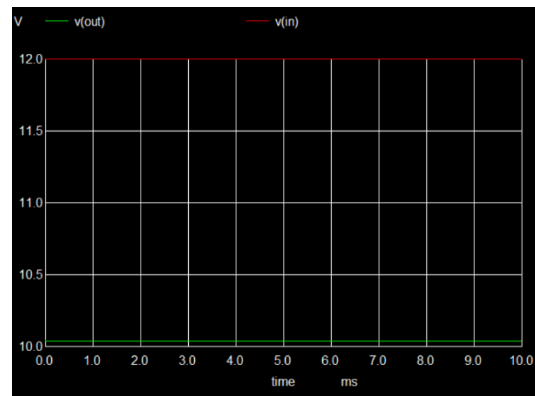
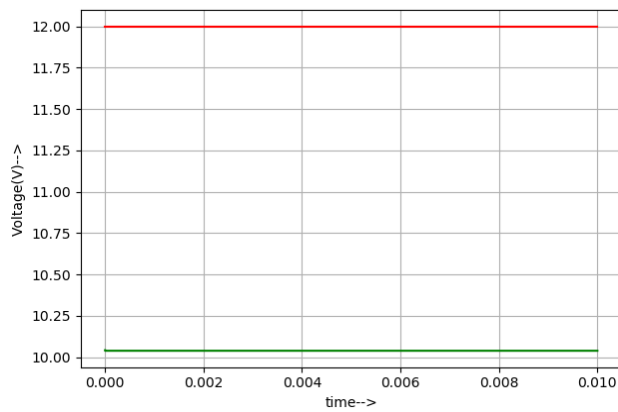
**SIMULATION:**

considering input voltage ( $v_{in}$ )=12v , and expected output voltage=10v , the emitter follower produces the results successfully.

**Dc Analysis:**



### Transient Analysis:



### JOURNAL/PUBLICATION DETAILS:

**TITLE OF THE PAPER:** Analysis and Design of Emitter Followers at High Frequencies

**NAME OF THE JOURNAL/PUBLICATION:** [IEEE Transactions on Circuit Theory](#)

**AUTHOR:** [J. Kozikowski](#)

**VOLUME:** Volume: 11, [Issue: 1](#), March 1964

### REFERENCE:

<https://ieeexplore.ieee.org/document/1082247>