



Sri Eshwar
College of Engineering
An Autonomous Institution
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Title: COMMON COLLECTOR CONFIGURATION USING NPN BJT

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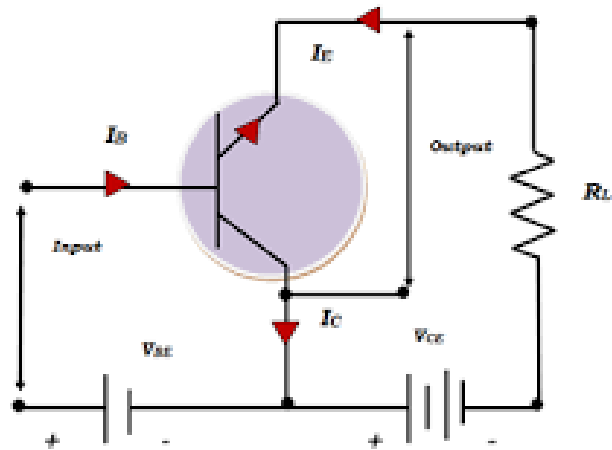
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ABSTRACT:

Using an NPN bipolar junction transistor (BJT), the common collector configuration is a basic circuit design that is frequently applied in electronic systems. The base receives the input signal when the emitter is grounded, and the collector extracts the output. Numerous benefits come with this arrangement, such as unity voltage gain, low output impedance, and high input impedance. This response explores its features, applications, and operating principles. It discusses the relationships between voltage and current, input and output impedance, and its use in signal buffering and impedance matching. Practical elements like frequency response, voltage restrictions, and biasing are also covered. Applications include signal amplification stages and impedance matching, where maintaining impedance compatibility and signal integrity is crucial. Overall, the common collector configuration serves as a versatile and indispensable component in electronic circuits, facilitating signal processing, amplification, and impedance matching tasks effectively.

CIRCUIT DIAGRAM:

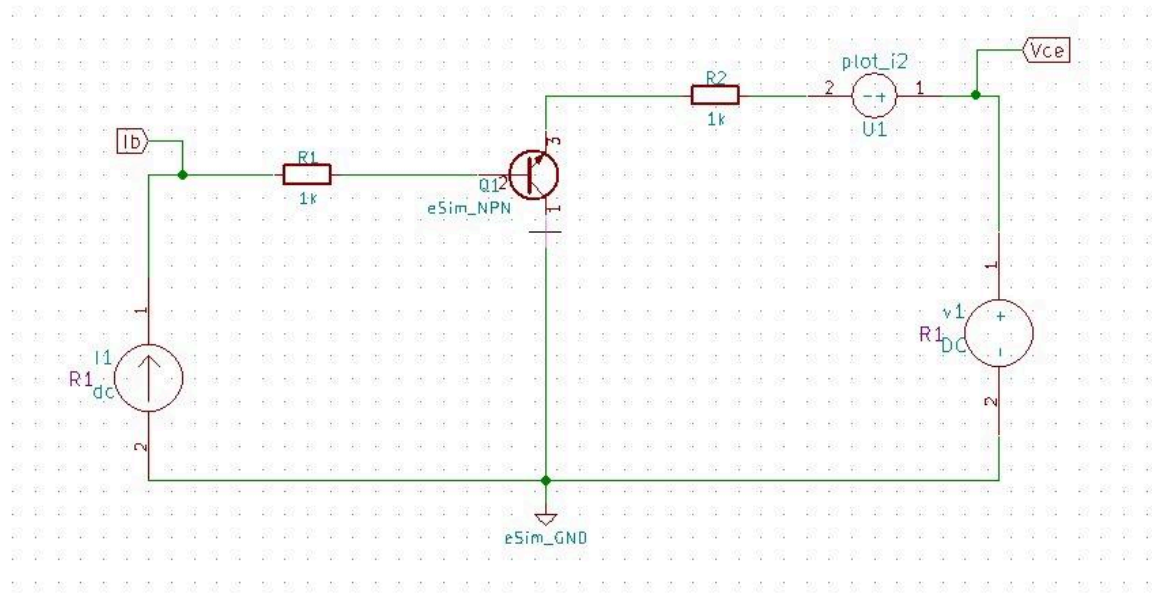


Common Collector configuration of NPN transistor

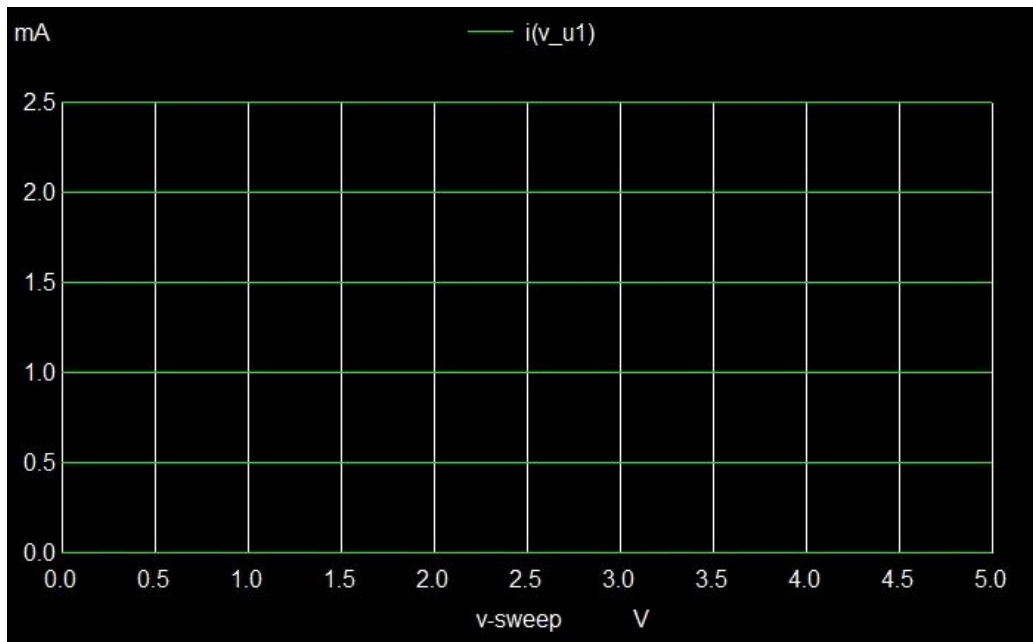
eSIM REQUIRED COMPONENTS:

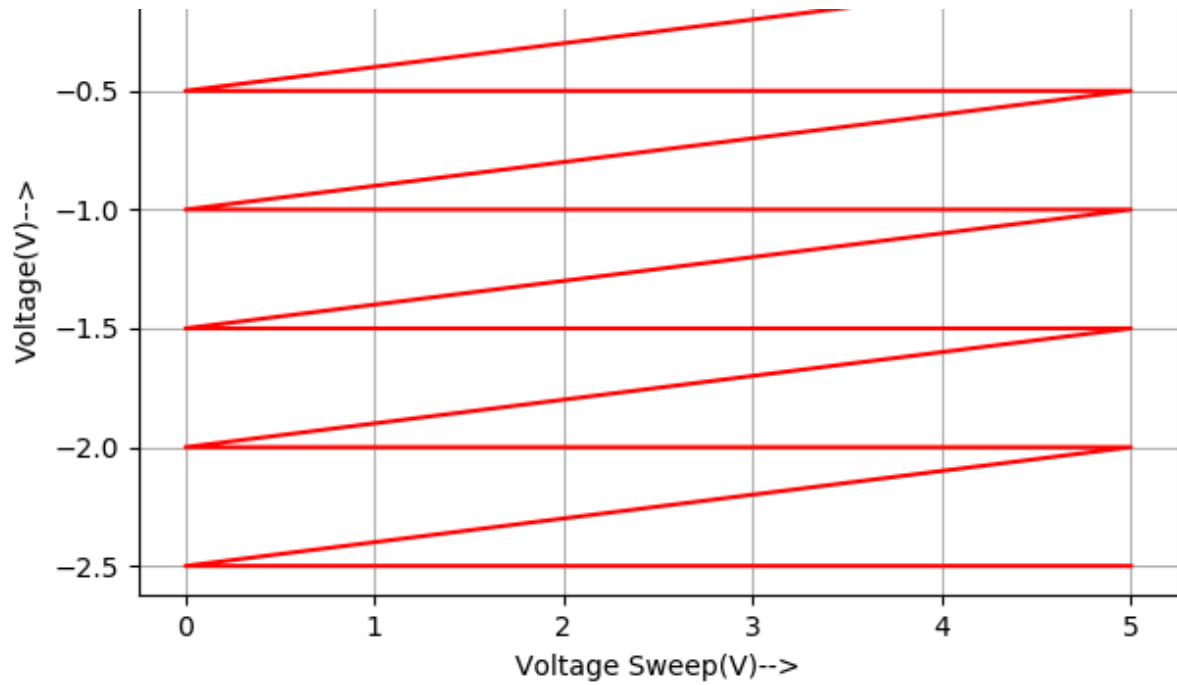
COMPONENT	TYPE
eSIM NPN	Transistor
Current Source	DC
Voltage Source	DC
Resistors	1k ohm

eSIM CIRCUIT:



OUTPUT:





REFERENCES:

<https://www.learnelectronicswithme.com/2020/08/common-collector-configuration-input.html>

<https://www.electronics-tutorials.ws/amplifier/common-collector-amplifier.html>