Analog Electronics

Experiment 1: CE Amplifier

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Slot: L33+L34

Aim:

To design a CE amplifier for the given specifications and plot it's frequency response.

Design:

Voltage gain (A_V) =100

Vcc =12v

Ic = 4mA

f=100Hz

β=200

To find R_E : V_{ce} =6V

V_{RE} =1.2V

V_{RC} =4.8V

To find R_1 and R_2 :

$V_{R2} = V_{BE} + V_{RE}$

=0.7+1.2

=1.9

Assume the current passing through R_1 and R_2 as $10I_B$ and $9I_B$.

$I_B = I_c / \beta = 0.02 \times 10^{-3}$

R_2 =10.55kΩ

R_1 =50,500kΩ

R_c =1200Ω

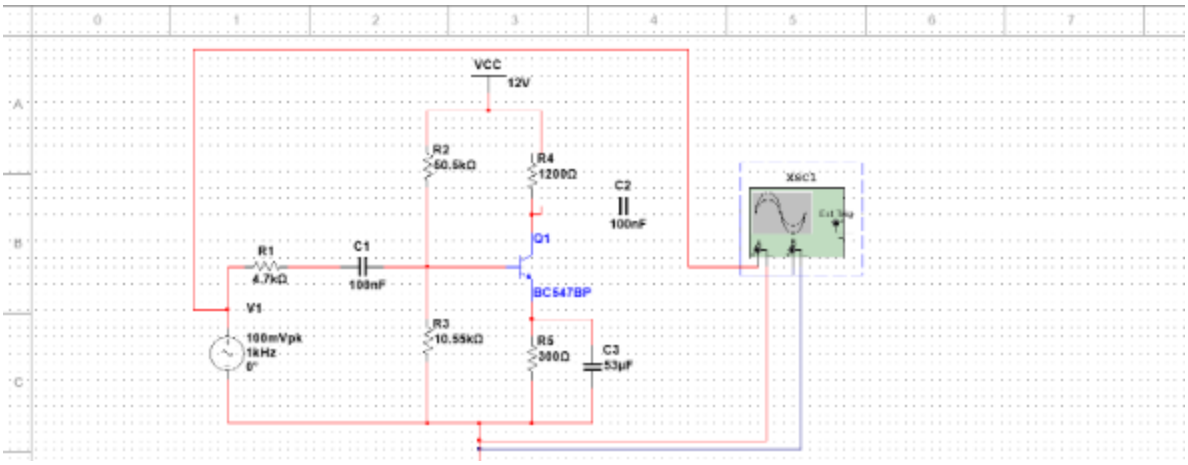
V_{RC} =4.8V

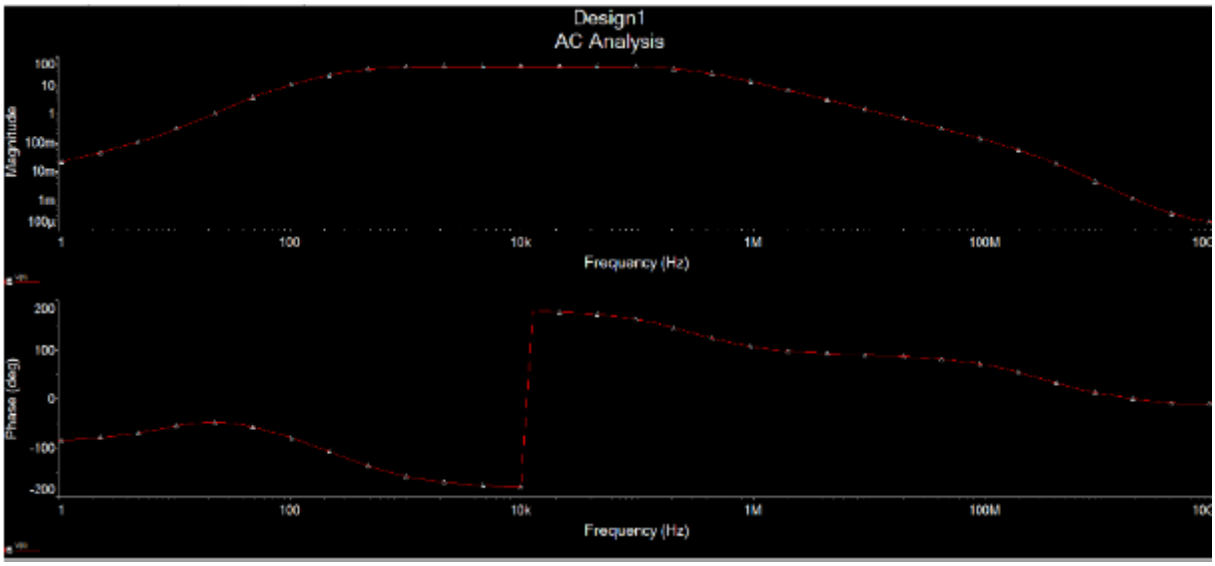
R_B =8730.62Ω

C=100nF

C_E =5.3×10 $^{-5}$ F

Output





The End
