TRANZISTOR BIPOLAR. PSF. CONEXIUNE BAZA COMUNA

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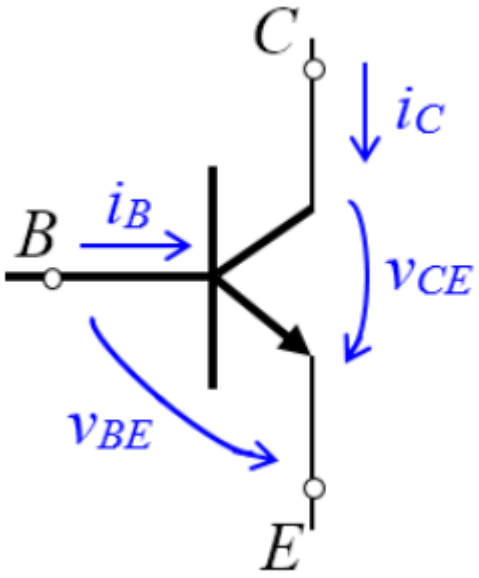
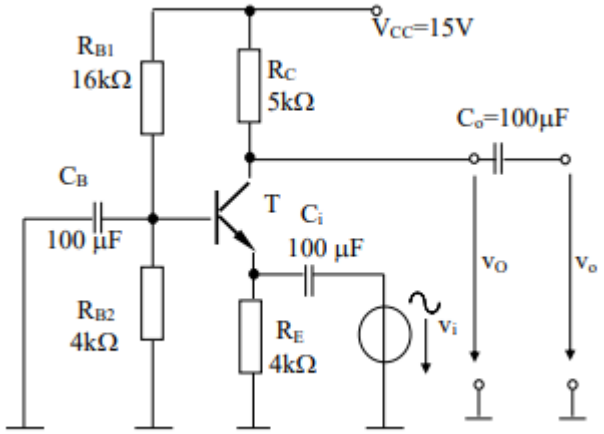
Grupa: 2125

TRANZISTOR BIPOLAR

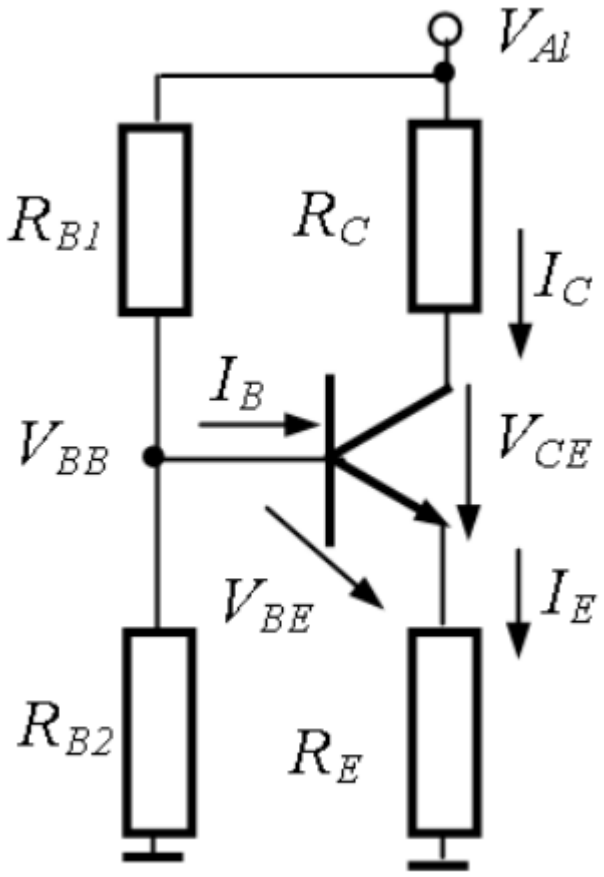


CIRCUIT INITIAL



CONEXIUNE – BAZA COMUNA deoarece baza este legata la masa, iar masa este terminalul comun dintre intrare si iesire.

CIRCUIT ECHIVALENT IN CC.



CALCUL PSF. Q(VCE, IC)

$$I_C = \beta I_B$$

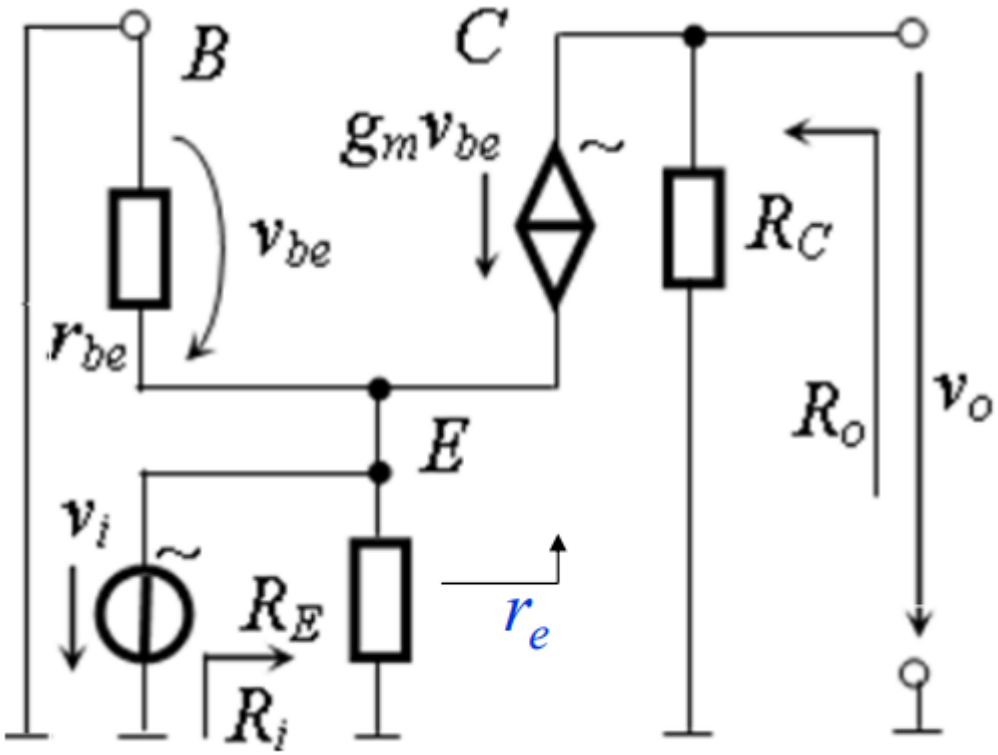
$$I_E = I_C + I_B = (\beta + 1) I_B = \frac{\beta + 1}{\beta} I_C$$

$$V_{BB} = \frac{R_{B2}}{R_{B1} + R_{B2}} V_{Al}$$

$$I_C \approx I_E = \frac{V_{BB} - V_{BE}}{R_E}$$

$$V_{CE} = V_{Al} - I_C R_C - I_E R_E$$
$$V_{CE} \approx V_{Al} - I_C (R_C + R_E)$$

SCHEMA ECHIVALENTA DE SEMNAL MIC



PARAMETRII DE SEMNAL MIC

$$g_m = 40 I_C$$

$$r_{be} = \frac{\beta}{g_m}$$

$$r_o = \frac{V_A}{I_C}$$

$$\boldsymbol{A_v = g_m R_C}$$

$$\boldsymbol{R_i = R_E \| \frac{1}{g_m} \cong \frac{1}{g_m}}$$

$$R_O = R_C$$