

For DC

 $\beta_F = 200$ $|V_{BE}| = 0,6V$ $V_T = 25mV$ $V_i = 0$

V_o is at the middle of the interval in which T2 is in the active region

 $g_{m2} = 4 g_{m1}$

$R_1 = ?$ $R_2 = ?$

$$g_{m2} = 4 g_{m1} \rightarrow \frac{I_{C2}}{V_T} = 4 \frac{I_{C1}}{V_T}$$

$$I_{C2} = 4 I_{C1} \quad I_{C2} + I_{C1} = 1mA$$

$$I_{C2} = 0,8mA \quad I_{C1} = 0,2mA$$

$$V_{R1_{DC}} = V_i - 0,6V - (-10V) = 9,4V$$

$$I_{R1} = I_{C1} \rightarrow R_1 = \frac{V_{R1}}{I_{R1}} = 47k$$

$$V_{C2_{max}} = V_{B2} = 0 \quad V_{C_{min}} = -V_{EE} = -10V$$

$$V_o = \frac{V_{C2_{max}} + V_{C_{min}}}{2} = -5V \Rightarrow V_{R2_{DC}} = 5V$$

$$I_{R2} = I_{C2} = 0,8mA \rightarrow R_2 = \frac{V_{R2}}{I_{R2}} = 6,25k$$

