8.5

$$\begin{cases} v^+ = 0 \\ v^- = \dfrac{V_e/Z_1 + V_S/R}{1/Z_1 + 1/R} \end{cases}$$

$$Z_1 = R + \frac{1}{jC\omega} = \frac{1 + jRC\omega}{jC\omega}$$

$$v^- = v^+ = 0 \quad \Rightarrow \quad \frac{V_e}{Z_1} + \frac{V_S}{R} = 0$$

$$\frac{V_e}{Z_1} = -\frac{V_S}{R} \quad \Rightarrow \quad \boxed{\frac{V_S}{V_e} = -\frac{R}{Z_1}}$$

$$\frac{V_S}{V_e} = -\frac{R}{\frac{1+jRC\omega}{jC\omega}} = -\frac{jRC\omega}{1+jRC\omega}$$

$$\boxed{\frac{V_S}{V_e}} = -\frac{jf/f_a}{1+jf/f_2} = -\left(jf/f_1\right)\cdot\left(\frac{1}{1+jf/f_2}\right)$$

T_1 $\qquad$ T_2

$$f_1 = \frac{1}{2\pi RC} = 1{,}6\,\text{kHz} \qquad f_2 = \frac{1}{2\pi nC} = 16\,\text{kHz}$$