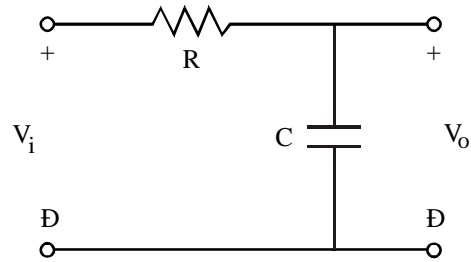


EXAMPLE 4.1

Bandwidth of an Electrical Network



$$V_o = \frac{\frac{1}{j\omega C}}{\frac{1}{j\omega C} + R} V_i$$

$$\frac{V_o}{V_i} = \frac{1}{j\omega RC + 1}$$

$$\left| \frac{V_o}{V_i} \right| = \frac{1}{\sqrt{1 + (\omega RC)^2}}$$

$$\omega_c = \frac{1}{RC}$$

$$\left| \frac{V_o}{V_i} \right| = \frac{1}{\sqrt{2}} = 0.707$$

$$\left| \frac{V_o}{V_i} \right| = \frac{1}{\sqrt{1 + (\omega/\omega_c)^2}}$$

