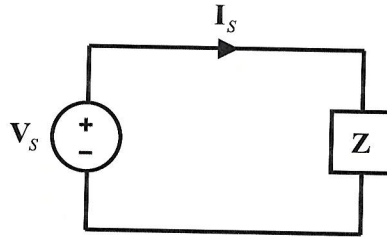


EE 3340
Homework Problem #046



Find Z , given that

$$v_s(t) = 10 \cos(377t + 15^\circ) \text{ V}$$

and

$$i_s(t) = 3 \sin(377t + 30^\circ) \text{ A.}$$

$$V_s = 10 \angle 15^\circ \text{ V}$$

$$I_s = 3 \angle [-90^\circ + 30^\circ] = 3 \angle -60^\circ \text{ A}$$

$$Z = \frac{V_s}{I_s} = \frac{10 \angle 15^\circ}{3 \angle -60^\circ} = \frac{10}{3} \angle 75^\circ \ \Omega$$