

$$Z_{AB} = 100 + j100 \rightarrow |Z_{AB}| = \sqrt{10^4 + 10^4}$$
$$= \sqrt{20000}$$
$$= 100\sqrt{2}$$

$$\rightarrow \varphi(Z_{AB}) = \text{Arctan} \frac{100}{100} = \frac{\pi}{4}$$

$$e(t) = 200\sqrt{2} \cos \omega t$$

$$\rightarrow \hat{e} = 200\sqrt{2} e^{j0}$$

$$\hat{i} = \frac{\hat{e}}{Z_{AB}} \rightarrow |\hat{i}| = \frac{|e|}{|Z_{AB}|} = \frac{200\sqrt{2}}{100\sqrt{2}} = 2 \text{ A}$$

$$\rightarrow \varphi(i) = \varphi(e) - \varphi(Z_{AB}) = -\pi/4$$

$$\hat{i} = 2 e^{-j\pi/4}$$

↑
amplitude de
max

$$I_{\text{eff}} = \frac{I_{\text{max}}}{\sqrt{2}}$$

