

$$\textcircled{6} \quad \bar{Z} = j7 + j \frac{64}{8-j8} = j7 - j \frac{8}{1-j1} = j7 - j \frac{8(1+j1)}{1+1}$$

$$\bar{Z} = j7 - j4(1+j1) = 4 + j3$$

$$\bar{I} = \frac{U}{\bar{Z}} = \frac{100}{25} (4-j3) = 4(4-j3) = 16 - j12 \text{ A}$$

$$S = \bar{U} \bar{I}^* = 100 (16 + j12) = 1600 + j1200 \text{ VA}$$

$$P = 1600 \text{ W} \quad Q = 1200 \text{ var}$$