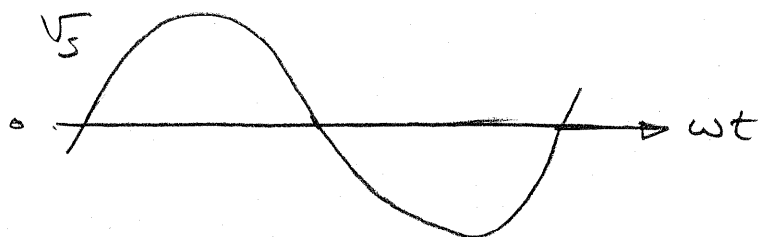


Problem 5-30



It is clear that the switching instant being sought lies between $\omega t = 0$ and $\omega t = 90^\circ$. This is simulated in PSpice by applying a voltage source $V_s = \hat{V}_s \sin(\omega t + \alpha)$ at time $t = 0$, where α is varied from 0° to 90° in steps of 5° .

Using a color display, it is clear that it corresponds to $\alpha \approx 70^\circ$ with the peak current of 165.3 A.

