$$\Delta x = \frac{L}{2}$$

and, $\quad \Delta p \geq \frac{\hbar}{a}$

The momentum p must be of this order, so

$$K = \frac{p^2}{2m} \sim \frac{(\Delta P)^2}{2m}$$

or

$$K_o \gtrsim \frac{\hbar^2}{2ma^2}$$

$$\therefore K_{min} = \frac{\hbar^2}{2ma^2} \approx 4eV$$