

10 Capacitor energy and dielectrics – Part 2 —Answers

Answers

Work through these after you have tried the questions yourself.

2.1 $U = \frac{1}{2}CV^2$.

2.2 $U = \frac{1}{2} \times 200 \times 10^{-6} \times 10^2 = \frac{1}{2} \times 200 \times 10^{-6} \times 100 = 1.0 \times 10^{-2} \text{ J}$.

2.3 four times larger (energy depends on V^2).

2.4 a camera flash (or a defibrillator).

2.5 it increases the capacitance, so more charge and energy can be stored at the same voltage.