

1. We find the capacitance from $U = \frac{1}{2}Q^2/C$:

$$C = \frac{Q^2}{2U} = \frac{(1.60 \times 10^{-6} \text{ C})^2}{2(140 \times 10^{-6} \text{ J})} = 9.14 \times 10^{-9} \text{ F} .$$