

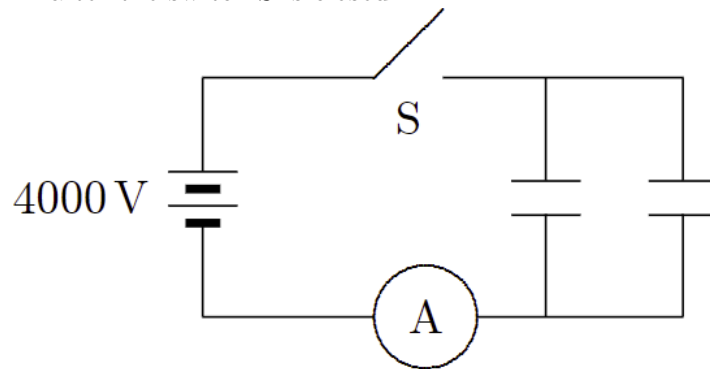
Physics 158 Circuits Problem Bank

Time Independent Circuits

Time Dependent Circuits

Problem 1

Each of the two $25\ \mu\text{F}$ capacitors shown is initially uncharged. How many coulombs of charge pass through the ammeter A after the switch S is closed?



Solution:

When the switch is closed the two capacitors and power supply are all at 4000V. The charge on each capacitor is $q = CV$ which in this case is

$$q = (25\ \mu\text{F})(4000\ \text{V}) = 0.1\ \text{C}$$

for each capacitor so a total of 0.2 C flows through the ammeter

RLC Circuits

AC Circuits