

Solar Cell

P6-7201



SPECIFICATIONS:

In bright sun, the cell will produce a voltage of approximately 0.5V and a current of approximately 500mA.

INSTRUCTIONS:

1. Connect the solar cell to an appropriate load, such as a small motor.
2. Place the cell in bright sun, with the sun's rays perpendicular to the cell surface.
3. Conduct your experiment.
4. To create more current, connect two or more cells in parallel. Use the swinging buss bar to hold the array together. Total maximum current can be found by multiplying 500mA by the number of cells.
5. To create more voltage, connect two or more cells in series. Use the swinging buss bar to hold the array together. Total maximum voltage can be found by multiplying 0.5V by the number of cells.

HOW DOES A SOLAR CELL GENERATE ELECTRICITY?

"A solar cell consists of several layers of silicon-based material. The top, p-type layer, absorbs light energy. This energy frees electrons at the junction layer. The freed electrons collect at the bottom, n-type layer. The loss of electrons from the top layer produces "holes" in the layer that are then filled by other electrons. When a connection, or circuit, is completed between the p-type and n-type layers the flow of electrons creates an electric current." Handy Science Answer Book, Centennial Edition. Canton, MI: Visible Ink Press, 2003.

RELATED PRODUCTS:

Fuel Cell Car Kit (P6-6000). Use solar energy for electrolysis of water. The hydrogen produced becomes fuel for a working fuel cell and a propulsion source for a model car.

Digital Multimeter (P6-8015). Fully functional multimeter to measure voltage, current, and more. Great for student electronics projects.

Mini Alligator Leads (P4-3000). Pack of ten 24" leads.

Handy Science Answer Book (P8-0260).

