

## **Solar Powered Phone Charger**

The objective of the project is to develop a Solar Charging Circuit to Charge a Cell Phone through Ni-Cd or Lead Acid Battery. The charge produced by the 12V Solar panel is fed to the 6V, 4.5Ah Rechargeable Battery through the Voltage Regulator LM 317. The charger has voltage and current regulation and over voltage cut-off facilities. A Variable Resistor is placed between the adjust pin and ground to provide an output voltage of 9 volts to the battery. A Resistor and diode combination is used to restrict the charging current and to prevent discharge of current from the battery. Transistor and Zener diode ZD act as a cut off switch when the battery is full, thus preventing the battery from being Overcharged. The way the circuit is designed lets the solar panel be constantly charging the batteries and by flipping the switch the batteries start to charge the USB powered device.