Solar Energy Harvesting
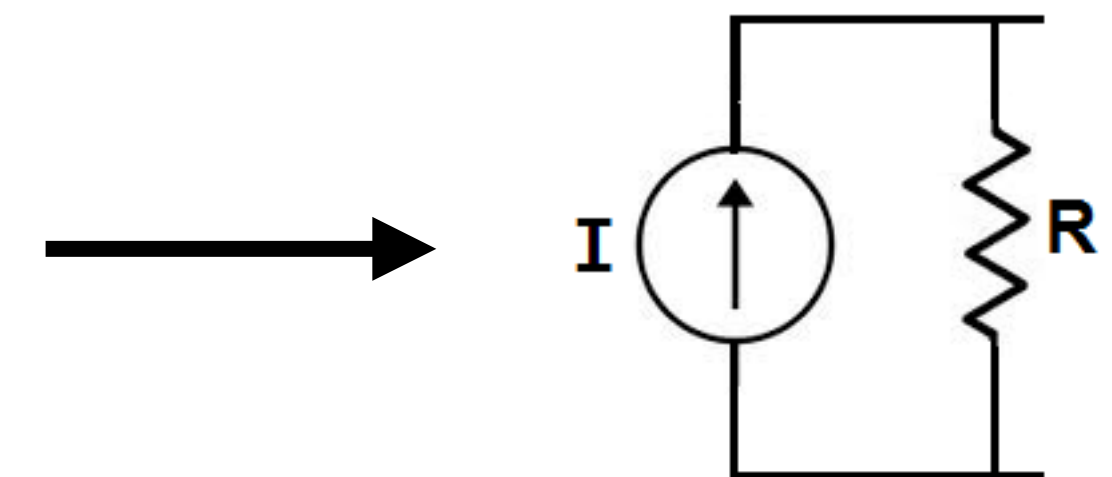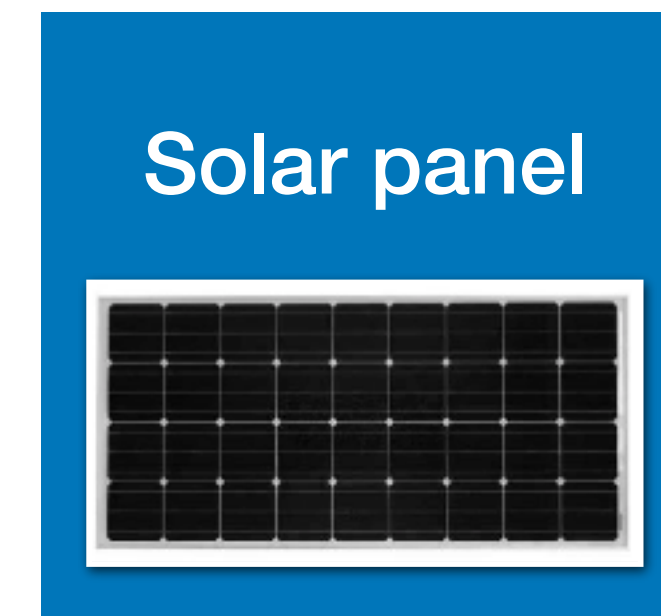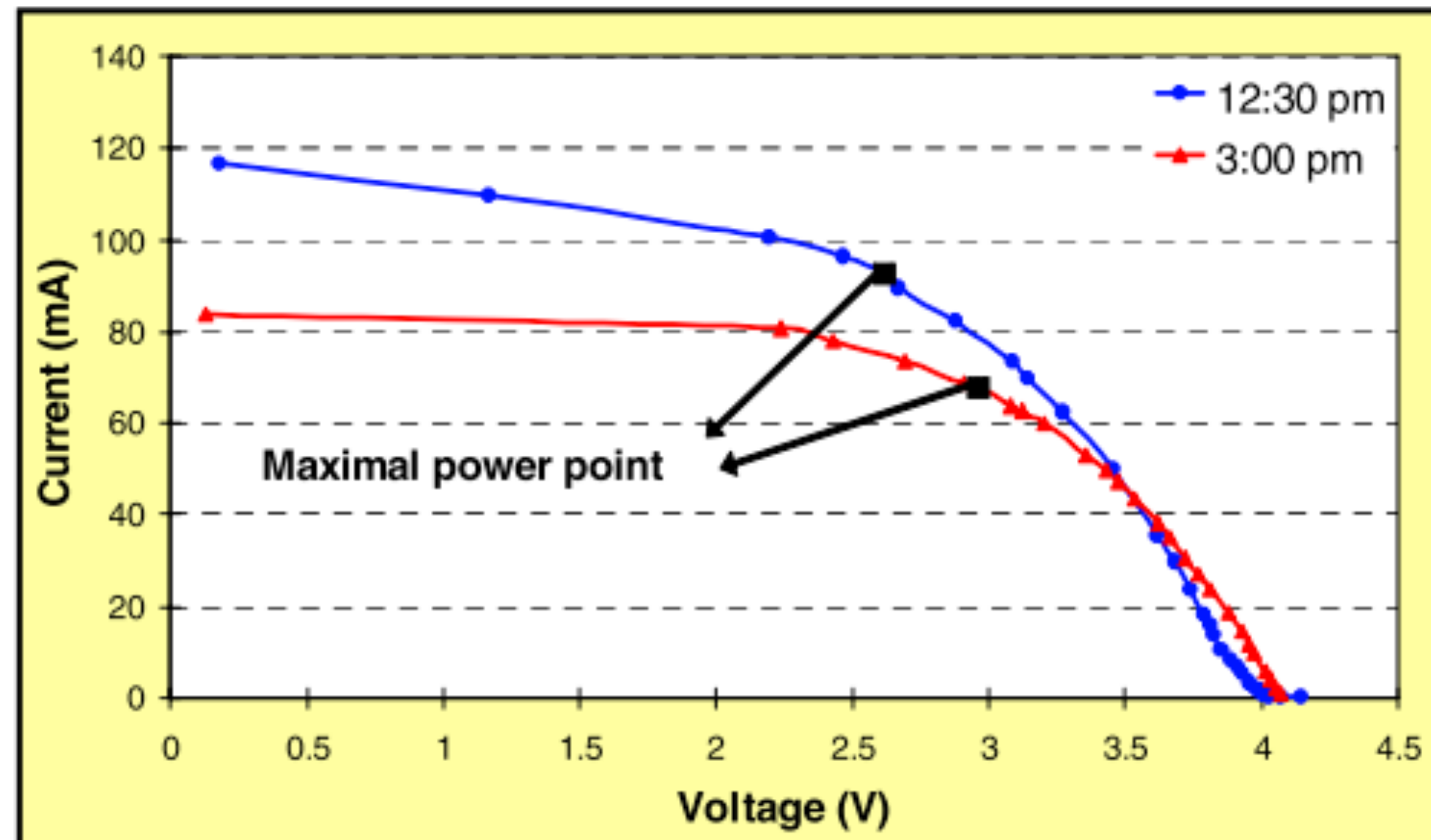## Circuit abstract of Solar Panel

- Best way to profile a device - V/I curve

  - Connect to a resistor load then measure the voltage and current

Solar panel

**However, the mote device
usually <u>needs a stable voltage input</u>,
Instead of a variable voltage changing with the load**

an energy pool that provides a stable voltage is needed

Solar Energy Harvesting
Using **Battery** to store those energy

Energy storage device → Battery / Ultra-capacitor / Combined of the above two

Ultra-capacitor: ❌ leakage problem, not suitable for long term use

Combined of the above two: ❌ extra overhead For management

Battery →
- Sealed Lead Acid — ❌ low energy density
- Nickel Cadmium — ❌ temporary capacity loss
- Nickel Metal Hydride
- Lithium based — ⭕ longer cycle lifetime, lower self-discharge ❌ expensive, complicated charging circuit, unable to charge at low rate