

直流電與交流電

Direct Current (DC) and Alternating Current (AC)

日常生活中所使用的電子或電器產品，必須提供電能方可使其動作，並選擇適當的電源，方可使其發揮應有的功能

Electricity should be provided to the electrical or electronic products we use in daily life so that those products can function. We need to choose the power properly to make those products work to their best.

直流電源

DC Current

電路在開關接通時，電流是由電池的正極出發，是正電荷在電路中移動的方向。

When the power is on, the current flows from the positive electrode, which is the direction of the positive charge moving in the circuit.

電子流是電子(負電荷)在電路中移動的方向，為電流的反向。

Electron current flows the opposite way of the current.

經導線、負載(燈泡)，回到電池的負極，電流的方向始終維持不變，

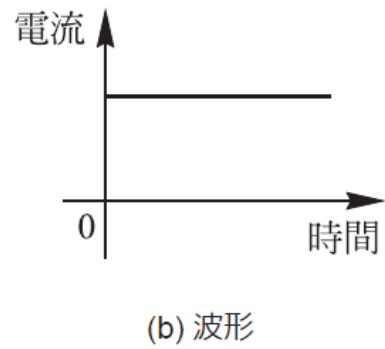
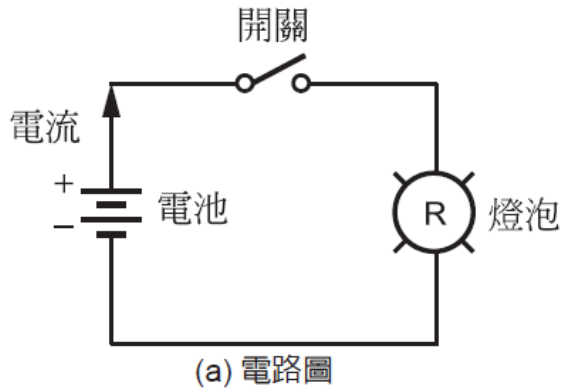
The traveling direction of the current remains the same. After the current flows through wires and loads (bulbs), it will go back to the negative electrode.

這種極性、大小不隨時間改變的電流，稱為直流(Direct Current)或直流電流，簡稱為DC或DC電流，

We call this kind of current Direct Current, which will neither change its magnitude nor change over time. We can also call it DC or DC current.

產生直流電流的電源為直流電源，如乾電池、鉛蓄電池。

Products producing DC current are called DC power supply. Those supplied include dry cell and lead-acid battery.



交流電源

AC Current

電源的極性、大小會隨時間而改變，並以正弦波波形變化的電源，稱為交流 (Alternating Current) 電源，簡稱為AC 電源

AC current periodically reverses direction and changes its magnitude continuously with time, alternating with sine wave.

台灣使用的交流電源頻率為60Hz，亦即正弦波變化一次週期為1/60 秒。

The AC power current frequencies Taiwan use is 60 Hz, which means the sine wave frequencies is 1/60 second.

一般交流電源可分為單相及三相兩種。

AC current is generally divided into single-phase and three-phase.

