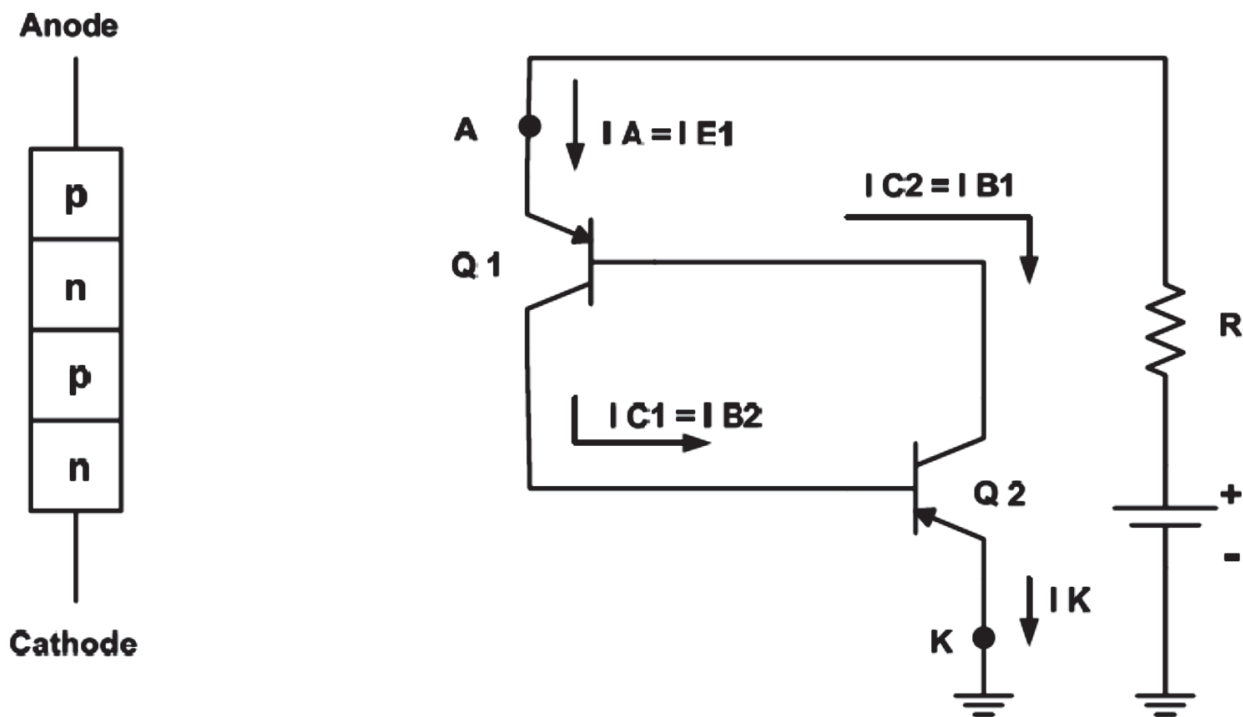


## Thyristor

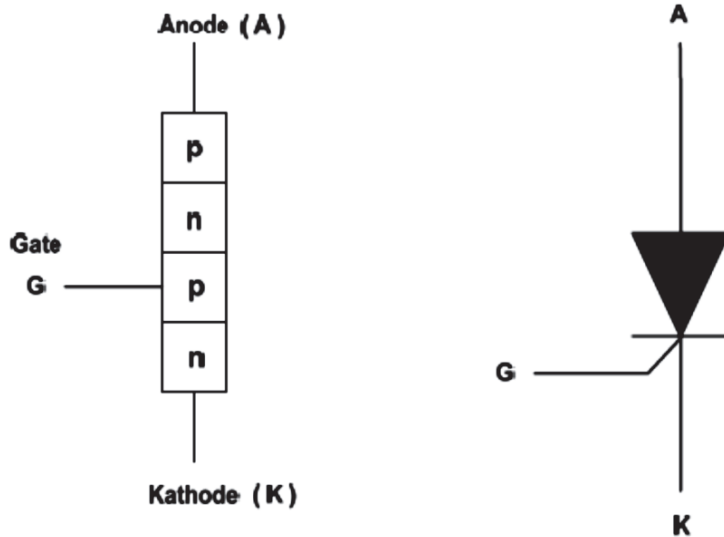
1. Construction of thyristor .
2. Thyristor characteristics

The basic thyristor is 4 – layer device with two terminals , anode and cathode . The pnpn structure can be represented by an equivalent circuit consisting of a pnp transistor and an npn transistor as shown in figure below . The upper pnp layers form Q1 and the lower npn layers form Q2 , with the two middle layers shared by both equivalent transistors .



## Silicon – controlled rectifier ( SCR )

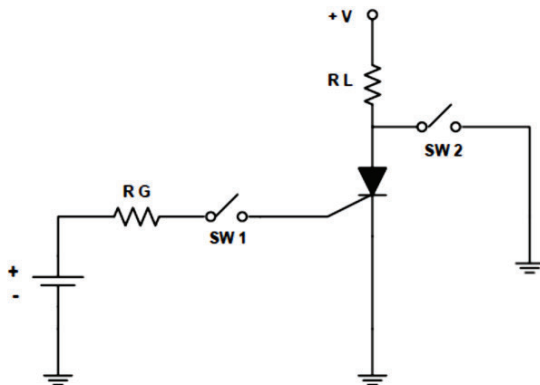
An SCR (silicon–controlled rectifier )is a thyristor with three terminals , anode , cathode and gate . The basic structure of SCR and the schematic symbol is shown in figure below .



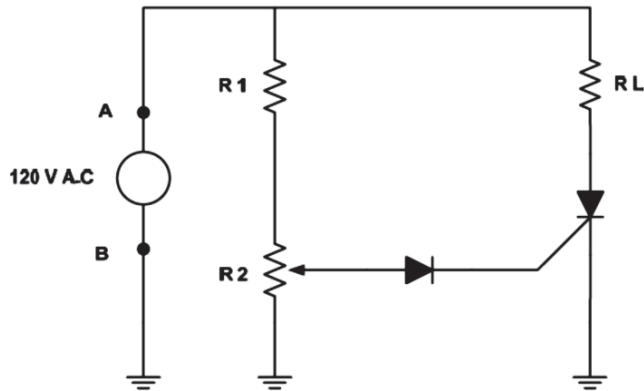
### SCR application ?

1. Switching applications .
2. Half – wave power control

#### 1. ON – OFF control of current :



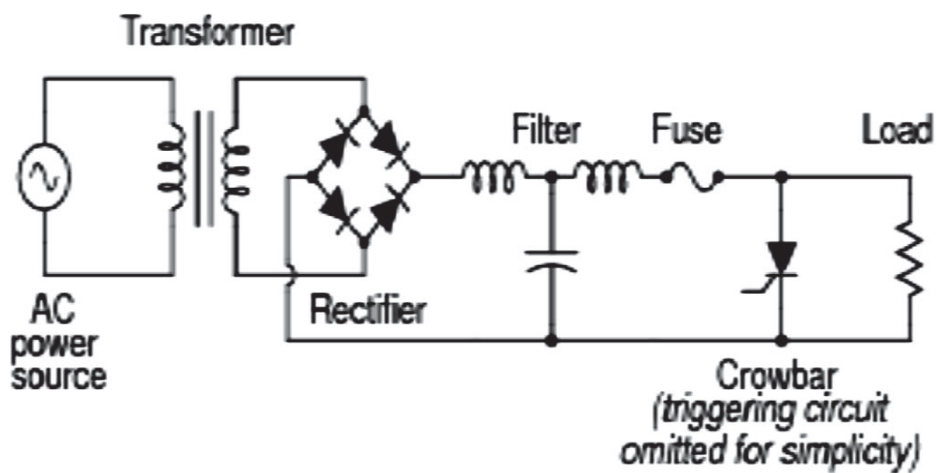
## 2. Half – wave power control



### SCR applications

1. DC motor start/stop control circuit .
- 2 Crowbar circuit used in DC power supply

#### 1. DC motor start/stop control circuit





## B-Crowbar circuit used in DC power supply

