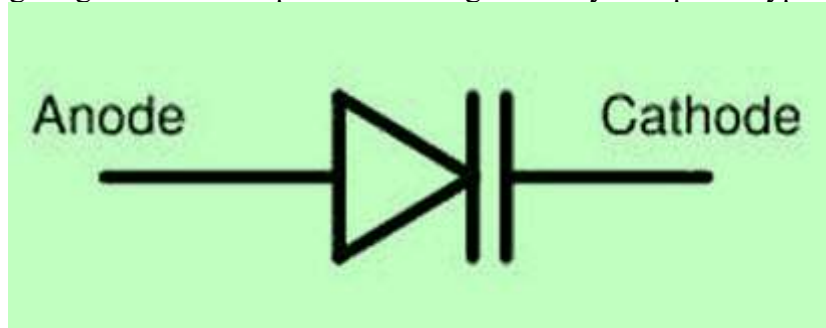


Varactor diode

Varactor diode is one kind of semiconductor solid-state device and the applications of this diode mainly involve in where variable capacitance is preferred which can be accomplished by controlling voltage. These diodes are also named as varicap diodes. Even though the outcome of the variable capacitance can be shown by the normal P-N junction diodes, but these diodes are chosen for giving the desired capacitance changes as they are special types of diodes.



Varactor Diode

The symbol of the Varactor diode looks like a common PN- junction diode that includes two terminals namely the cathode and the anode. And at one end this diode is inbuilt with two lines that specify the capacitor symbol.

Working of a Varactor Diode

The volume of the depletion region of the diode varies with change in reverse bias. If the reverse voltage of the diode is increased, then the size of the depletion region increases. Likewise, if the reverse voltage of the Varactor diode is decreased, then the size of the depletion region decreases. Hence, by changing the reverse bias of the diode the capacitance can be changed.

Applications of Varactor Diode

- Voltage Controlled Oscillators
- RF Filters
- A few of the main applications of Varactor diodes can be listed below:
 - These diodes can be used as frequency modulators and RF phase shifters.
 - These diodes can be used as frequency multipliers in microwave receivers.
 - These diodes are used to change the capacitance in-tank LC circuits.