

# MICROWAVE OVEN

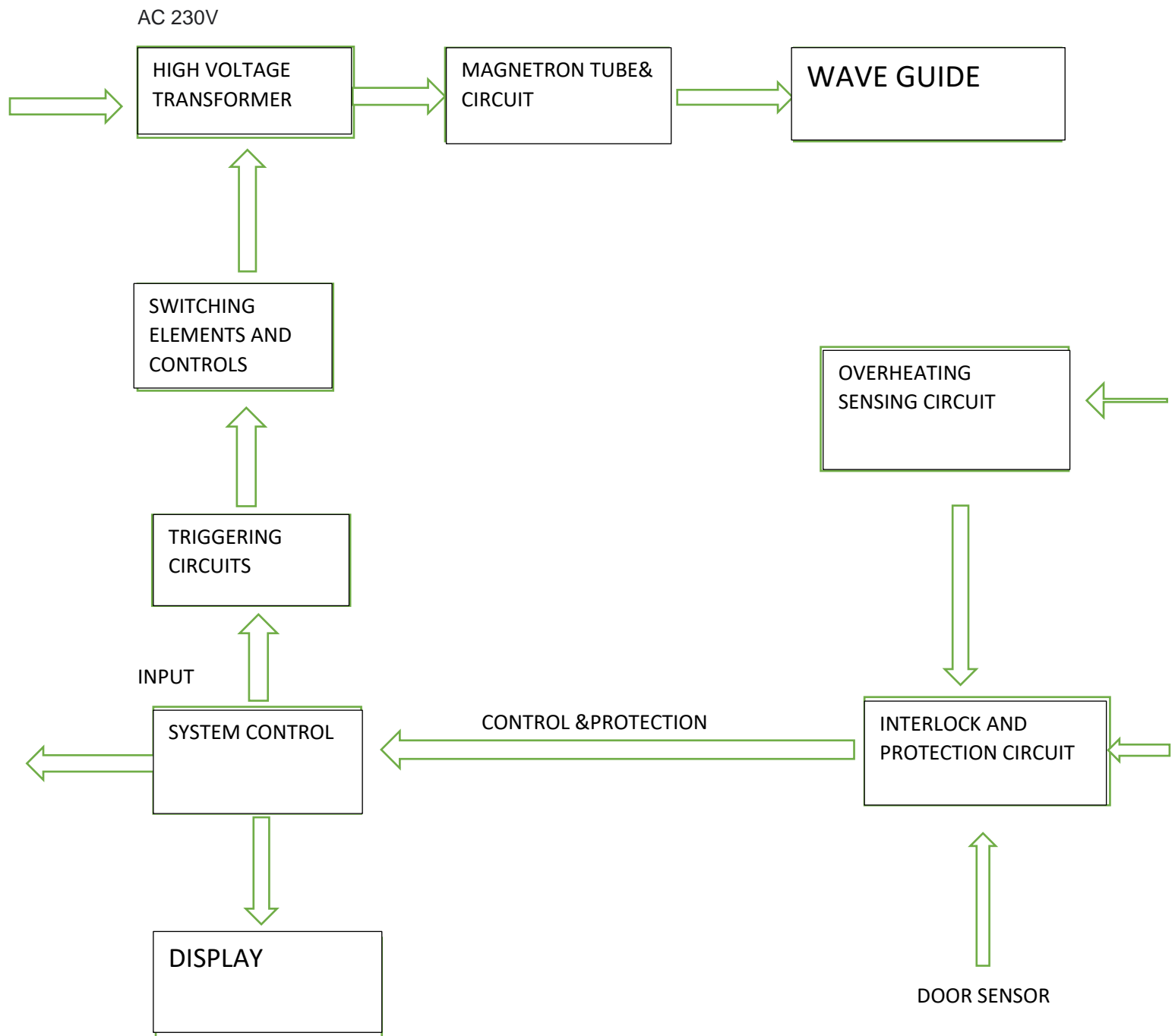
## INTRODUCTION:-

Microwaves are used in radar, radio transmission, cooking and other applications that have become essential in our modern society. Microwaves are electromagnetic waves generally defined as lying within the frequency range of 100 MHz (3 m wavelength) to 300 GHz (1 mm wavelength).

Microwave oven heats food using microwaves, a form of electromagnetic radiation similar to radio waves. Microwaves have three characteristics that allow them to be used in cooking: they are reflected by metal; they pass through glass, paper, plastic, and similar materials; and they are absorbed by foods.

Microwave radiation can heat body tissues the same way it heats food. Exposure to high levels of microwaves can cause skin burns or cataracts. Less is known about what happens to people exposed to low levels of microwaves.

## BLOCK DIAGRAM:-



# COMPONENTS

## 1 Transformer

Microwaves require a high voltage of power to adequately capacity and cook food. Following the rule at the very least degree of between 3000 or 4000 volts. Standard electrical plugs in the United States give only 115 volts of power. Hence require a transformer to modify the power level and give a sufficient voltage to the machine.

## 2. The Magnetron

This piece of a microwave gets the high voltage of power provided by the transformer and converts it into microwave energy to warm the food. The **Magnetron** does this with the utilization of a uniquely made diode, which controls electrons utilizing attractive fields. There are two ring-molded magnets that divert the electrons. This makes them move a round way and keep them from shooting off. As the electrons rapidly go through cavities in the anode, it makes microwaves. At the point when microwaves were first designed, the magnetron was extremely huge. Hence, this is the reason more seasoned microwaves are altogether greater than present day microwaves. As innovation has improved, magnetrons can be more modest. Thus, considering the whole apparatus to be cut back.

## 3. A waveguide

The waveguide is only a part of the microwave that directs the waves. It is an empty cylinder produced using metal. This communicates and coordinates the microwaves delivered by the magnetron towards the cooking hole or chamber. The internal

dividers are intelligent, permitting the microwaves to skip this way. Additionally, a significant security work as they don't permit the waves to get away and consequently shield close by individuals from injury. Thus, the microwaves reflect to and fro from the waveguide in the pit, going through the food as they do as such, and making it heat up.

## 4. Cooling fan

Very much like other warming electronics, a microwave is also in danger of overheating. Hence, it contains a cooling fan as an important microwave oven component to keep this from occurring. The cooling fan in a microwave attempts to disperse the hotness created by the stove. This guarantees that it stays at a protected level. However, more seasoned microwaves didn't have cooling fans yet rather highlighted a stirrer fan which was intended to do exactly the same thing. Although, the stirrer would be fitted at the highest point of the microwave inside the cooking pit and attempted to flow the microwaves to help guarantee in any event, warming of the food and forestall overheating.

## 5. Control Panel

Talking further of microwave oven components, is the Control Panel. This is the prime console from where the user gives the instructions to cook or warm the food. The design of the microwave control panel varies from model to model. In some variants, the interface is touchscreen, while the rest have buttons to control everything.

## FEATURES OF MICROWAVE OVEN

- DEFORST
- PRE-HEAT.
- TIMER
- CHILD LOCK
- AUTO COOK MENU

