

## INTEGRATED CIRCUIT (IC)

An integrated circuit, or IC, is a small chip that can function as an amplifier, oscillator, timer, microprocessor, or even computer memory. An IC is a small wafer, usually made of silicon, that can hold anywhere from hundreds to millions of transistors, resistors, and capacitors.

### CLASSIFICATION OF IC

ICs can be classified on the basis of their chip size as given below:

**Small scale integration (SSI)**-less than 100 components  
(about 10 Gates)

**Medium scale integration (MSI)** - less than 500 components  
(more than 10 but less than 100 gates)

**Large scale integration (LSI)** - Between 500-300000  
components (more than 100 gates)

**Very Large scale Integration (VLSI)** -More than 300000  
components per chip

**Ultra Large scale Integration (ULSI)**

## What is inside IC?

IC is a complex layering of semiconductor wafers, copper, and other materials, which interconnect to form transistors, resistors or other components in a circuit.

## What is IC function?

Integrated circuit (IC), sometimes called as a chip or microchip, is a semiconductor wafer on which a thousand or millions of tiny resistors, capacitors, and transistors are fabricated. An IC can be a function as an amplifier, oscillator, timer, counter, computer memory, or microprocessor.

## How IC pins are numbered?

The pins are numbered anti-clockwise around the IC (chip) starting near the notch or dot. The diagrams show the numbering for 8-pin and 14-pin ICs, but the principle is the same for all sizes.



**8 pin IC- 741, 555**

**14 Pin IC- 7400, 7402, 7404 , 7408, 7432**

**40 pin IC- 8085, 8086**

### IC image



### **Where is IC used?**

An IC can function as an amplifier , oscillator , timer, counter, computer memory, or microprocessor. A particular IC is categorized as either linear (analog) or digital , depending on its intended application.