

LECTURE-18

METALIZATION

- Metallization is the final step in the wafer processing sequence. Metallization is the process by which the components of IC's are interconnected by aluminum conductor.
- Metalization is used to create contacts with the silicon and to make interconnections on the chip.
- Desired properties are
 - low resistivity
 - in ohms/square
 - good adhesion to silicon and insulators
 - good coverage of steps in chip surface
 - immunity to corrosion
 - ductility (so temperature cycles don't cause failures)



- For metallization in case of **p-type** we choose **Al** and for **n-type** we choose **Ag**.
- The process by which metallization is done is known as **vacuum evaporation** system. We choose it for the following reasons:
- To avoid the oxide of the metal.
- Mean path should be free.

Types of EVAPORATION

- Vacuum thermal evaporation system
- Vacuum electron beam evaporation system
- Vacuum radio frequency generator
- Vacuum plasma system