

IC Packaging

IC Packaging is done for

- Mechanical Strength to the silicon chip
- Protect chip from external Environment
- Air Tight

Classification of IC Packages

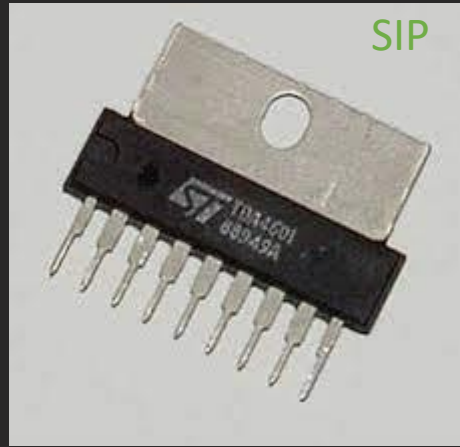
- Through-hole Packages (Lead Pointing downward)
Holes are drilled in PCBs for mounting of IC
- Surface Mount Technology

Through-hole Packages

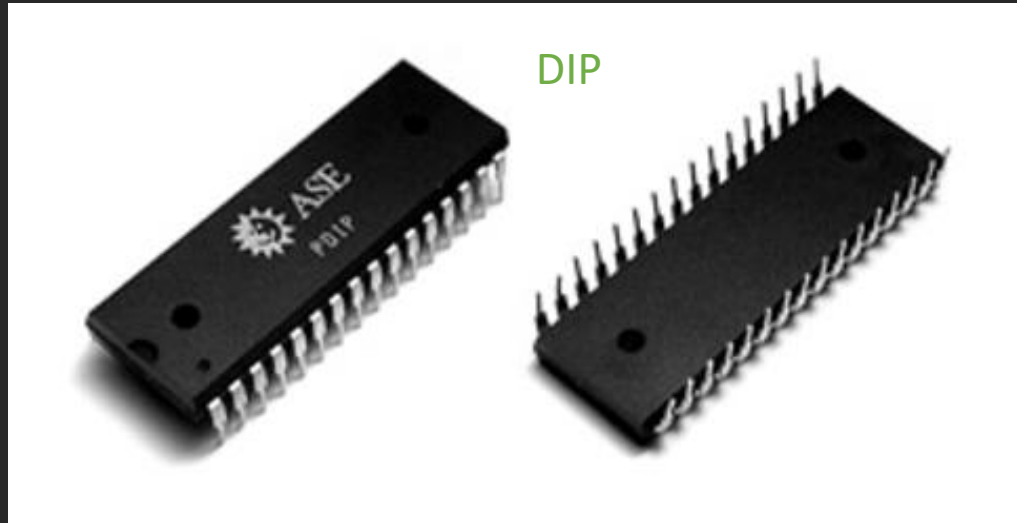
- Single in line package (SIP)
- Dual in line package (DIP)
- Pin Grid array



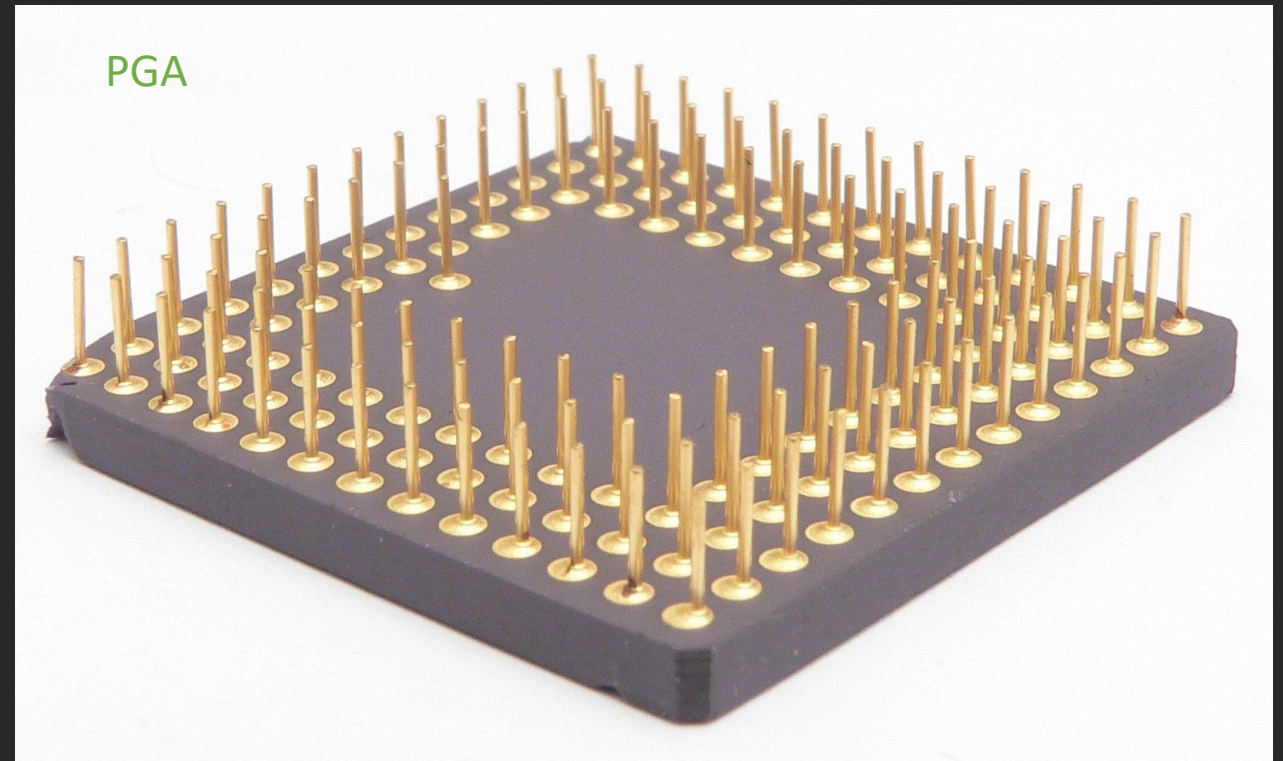
SIP



SIP



DIP



PGA

Surface Mount Technology



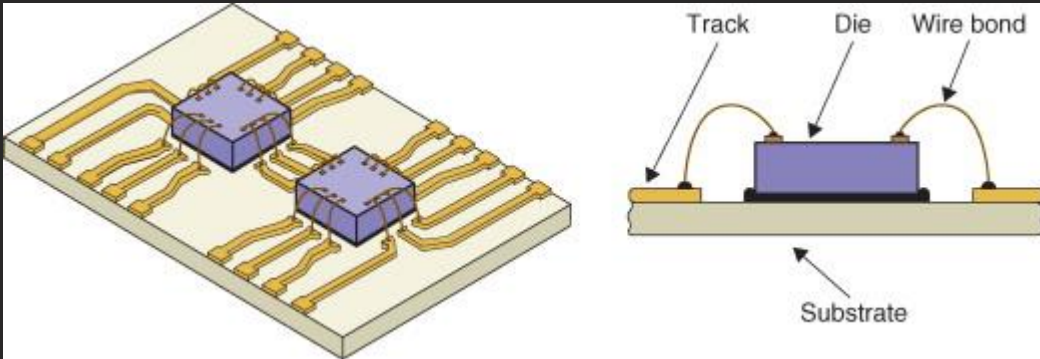
Quad Flat array



Ball grid array

Connecting Package and chip/Die

- Wire Bonded
- Flip chip technology



Wire Bonded

Problem with gold wire is electromigration

Flip Chip technology

