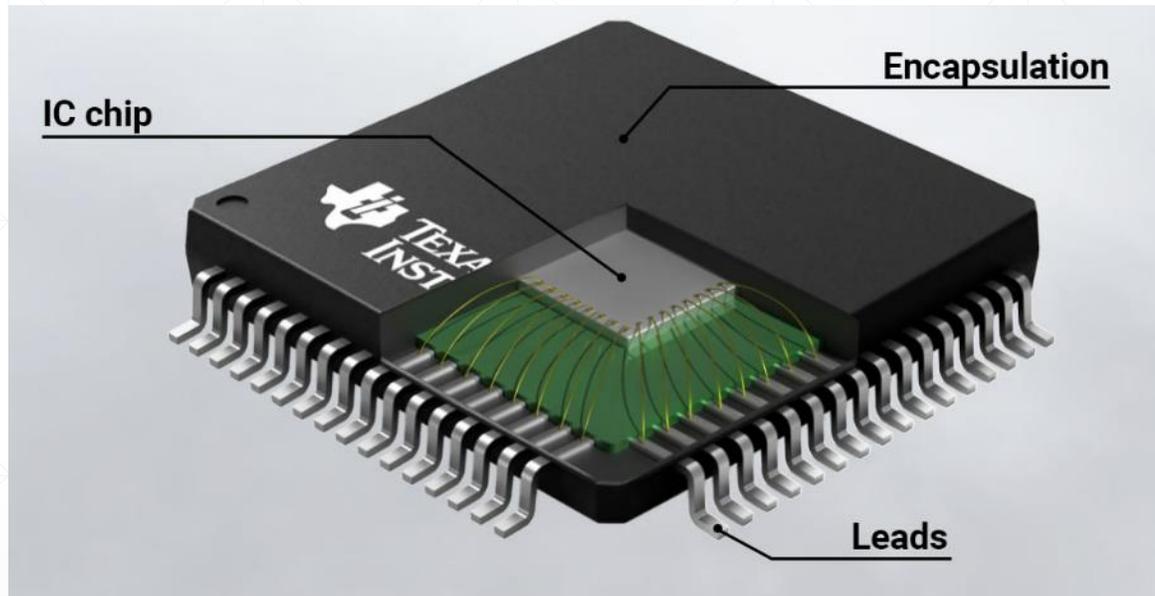
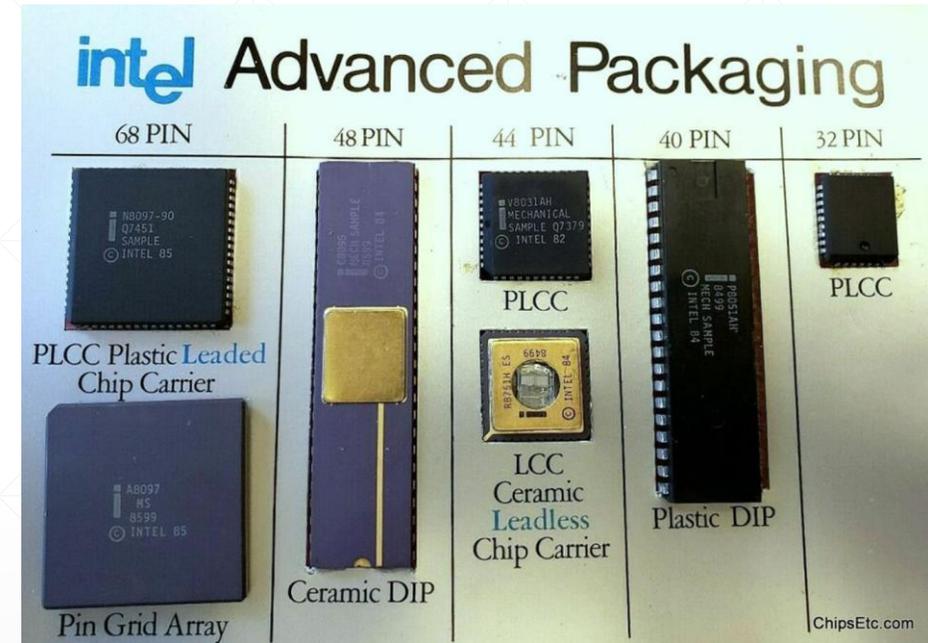


Device Packaging



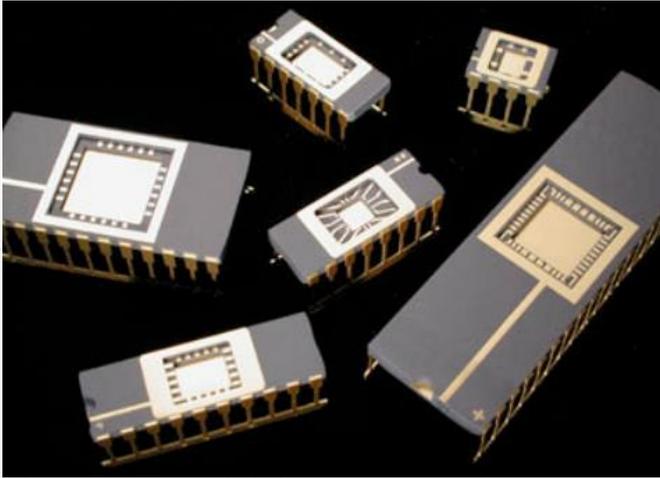
<https://news.ti.com/blog/2021/06/01/the-power-packaging>



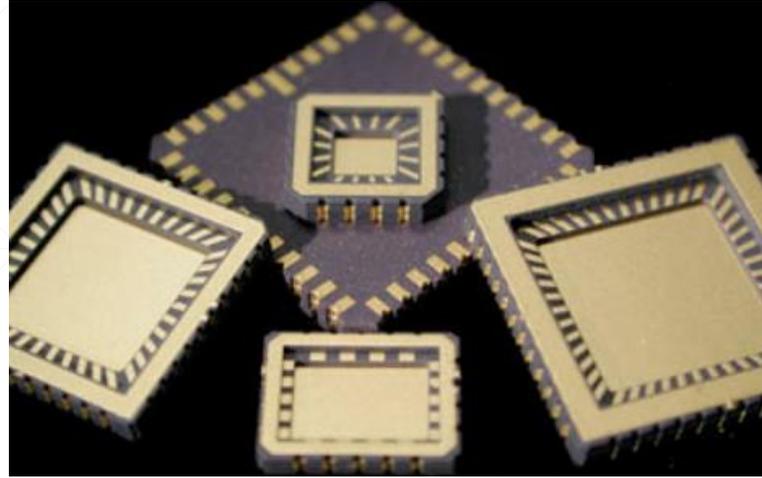
<https://www.chipsestc.com/integrated-circuit-package-types.html>

Chip Carriers

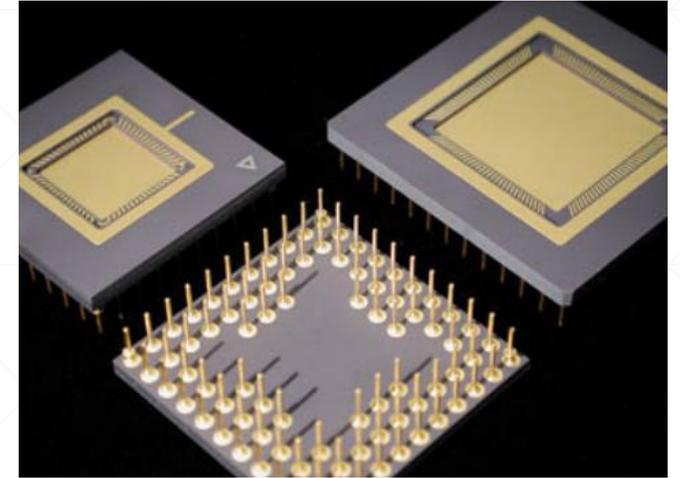
Dual-in-Line Package (DIP)



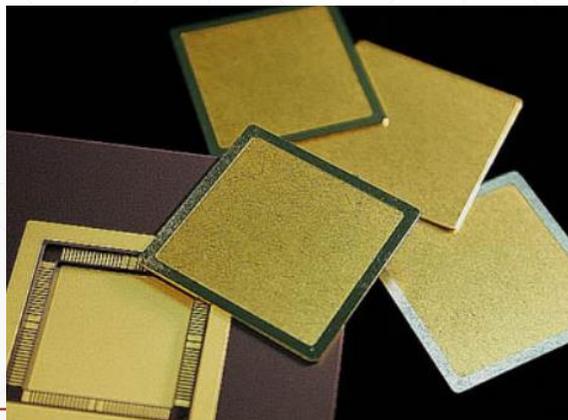
Leadless Chip Carrier (LCC)



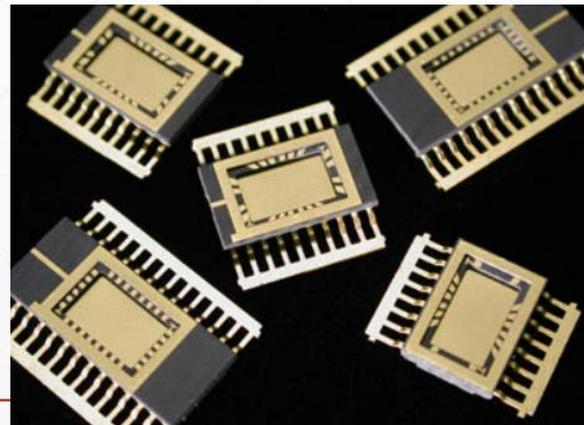
Ceramic Pin Grid Array (CPGA)



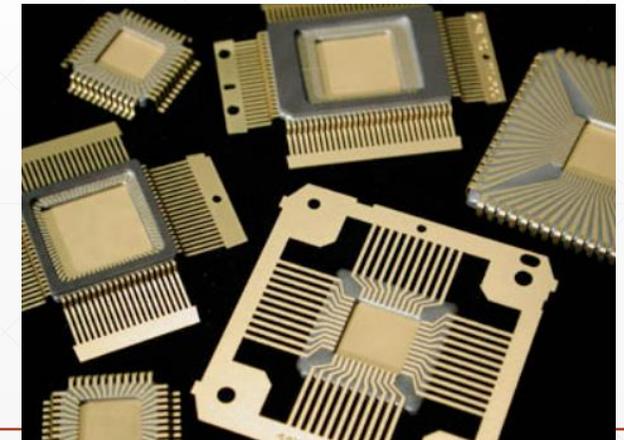
Lids



Small Outline Integrated Circuit (SOIC)



Flat Packs

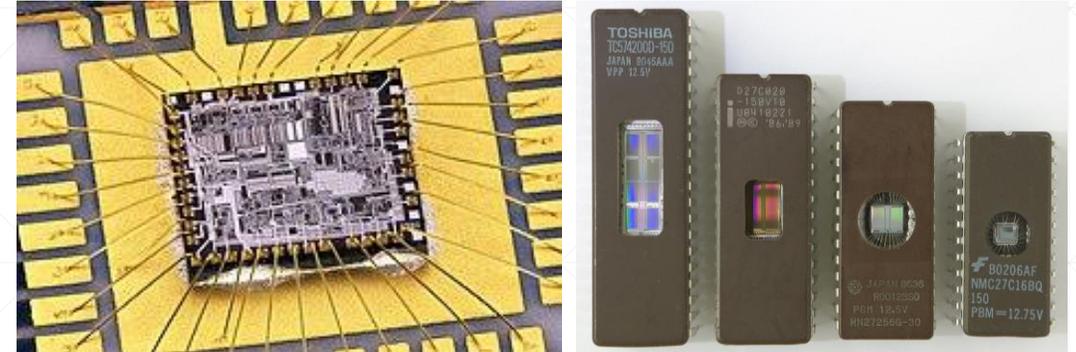


Wirebonding

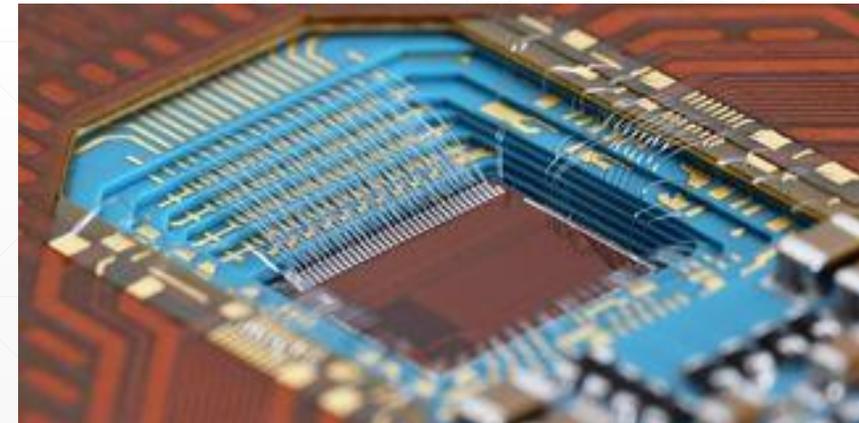
Wire bonding is the process of connecting an individual die to a circuit board, dual inline chip (DIP) or packaging to allow the chip to interact with other circuitry or components. Wire is attached via heat, pressure and an ultrasonic pulse in a programmed scenario.

Wire: 25 μm gold or aluminum

Minimum metal thickness for good bonding is 200 to 300 nm.



https://en.wikipedia.org/wiki/Wire_bonding



<https://www.microhybrid.com/en/technologies/chip-and-wire-bonding/>

Wirebonding

- **Wire Bonding Overview**

<https://www.youtube.com/watch?v=th1YxQHEpEU>

- **Ball Bonding**

https://www.youtube.com/watch?v=FRvECYvlaT0&ab_channel=Ding-MingKwai

- **Wedge Bonding**

https://www.youtube.com/watch?v=oR_K43xIFek

- **Wirebonding Training Video**

<https://www.youtube.com/watch?v=r5qehKvLo4M&t=33s>

Lab Assignment # 5

- Question 1: What temperature was used for wire bonding?
- Question 2: What metal was the wire bonding thread?
- Question 3: What type of wirebonding was used for the lab?
- Question 4: What is the model number of the wirebonder?