



An Introduction to Electronics Systems Packaging

Video Course -2012

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Quiz for Module 2

Semiconductor Packaging Overview

Video Sequence 6-10

1. Write a process flow-chart for front-end processing of a semiconductor die.
2. What processes constitute the back-end processing of a die?
3. Define 'clean room'. What does 'class 100' mean in terms of the number of particles allowed?
4. What is a 'wafer flat'?
5. What is the current wafer dia size used in large-scale manufacturing?
6. Briefly write about poly crystalline silicon or 'poly'.
7. What is an ingot? How is it prepared? What is the purity of Si in an ingot?
8. Why is doping or ion implantation necessary during semiconductor fabrication?
9. Explain the CMP process.
10. What is the material used to dice wafers?
11. What is meant by KGD?
12. Why is encapsulation necessary?
13. What do you mean by peripheral array and area array packaging?
14. What do you mean by 'lead pitch' in a component?
15. Define QFP and flip-chip method of packaging. Which one has higher packaging density?
16. Expand the terms: SOC, SIP and SOP.
17. What are the first level interconnections?
18. What are the common metals used for wire bonding process?
19. Write down three application areas for epoxy compounds in the field of electronics packaging.
20. Differentiate glob top and underfill.

21. Define inner-lead bonding and outer-lead bonding in TAB.
 22. What do you mean by C4 attachment?
 23. Expand the term BGA. How is the connection established in a BGA?
 24. Is flip chip a package?
 25. Differentiate wedge bonding and ball bonding in a wirebonding process.
 26. What is the advantage when you use thermosonic process of wirebonding?
 27. What is the common failure observed in a wire bond?
 28. How is heat dissipated in a flip-chip?
 29. How is CTE mismatch taken care of in a flip-chip connection?
 30. What is the reliability of a flip-chip connection using anisotropic conductive adhesives?
 31. What are the requirements in a substrate when you use high-density flip-chip devices?
 32. Write a few points about the UBM in a flip-chip structure. Does it affect reliability? Can we do away with UBM at all?
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