An Introduction to Electronics Systems Packaging

Video Course -2012

G V Mahesh, DESE, Indian Institute of Science, Bangalore 12

Quiz for Module 3

Semiconductor Packages

Video Sequence 11-14

---

1. Define a single chip package, or module- SCM.
2. Give an example of a SCP or SCM.
3. What are the functions of a single chip package?
4. What are the broad classifications of a single chip package?
5. Distinguish between peripheral and area array package?
6. Define packaging efficiency. Which package has the least packaging efficiency and which one the highest?
7. What is CSP? How is it different from a BGA?
8. Compare WLP with conventional IC packaging?
9. Wires or bumps? Give your choice for best interconnect with two valid reasons.
10. What are the functions of a package in a chip?
11. How do you explain ‘space transformation’ in a package?
12. Expand the acronyms: PBGA, CBGA, FC-BGA, SOP, QFP, and CQFP.
13. Draw the cross-section of a PGA and BGA package.
14. What are the first-level interconnections possible in a BGA package?
15. Name two products which predominantly use BGAs in their PCBs.
16. List two lead-free materials used for soldering or used as solder balls in BGAs.
17. What is meant by hermetic sealing in packages?
18. Explain a LGA interconnection on a PCB.
19. Suggest an application area for CGA packages.
20. What are the benefits of 3-D packaging?
21. What are the three types of MCMs? Explain briefly each of them.

22. Clearly show the uniqueness of SIPs by way of advantages over MCMs.
23. Expand the following: JEDEC, VfBGA, WLP, MELF, CDBGA, DFN amd LCCC.