IEEE Rel / CPMT / ED Singapore Chapter

Institute of Microelectronics A*STAR

Recent Advances in Anisotropic Conductive Adhesives (ACAs) Interconnection Technology – Low Temperature and Fast Assembly Methods

Jointly organised by IME and Singapore IEEE REL/CPMT/ED Chapter

GUEST SPEAKER

Prof. Kyung-Wook Paik
Korea Advanced Institute of Science and Technology (KAIST), Korea

When: **20th July 2009, 3.00 p.m. to 4.00 p.m.**
Where: **Institute of Microelectronics, Singapore (Level 2, Auditorium)**
11 Science Park Road Singapore Science Park II Singapore 117685

Abstract

As the improvement of electronic devices proceeds on, fine pitch interconnections gain popularity as one of the electronic packaging candidates to meet these trends. Although interconnection and assembly using solders or sockets are popular for flip chip technology and flexible circuit interconnection, fine pitch interconnection using conductive adhesives such as ACAs have been extensively applied for various applications such as LCD display, touch panel, and mobile products because of their potential advantages such as (1) lower processing temperature, (2) finer pitch interconnect, (3) lower cost, (4) green process, and (5) fast processing compared with solder interconnection.

ACAs consist of polymer adhesives matrix with electrical conductive particles added. ACAs have been widely used in the area of display packaging technologies such as OLB(Outer Lead Bonding), COF(Chip On Film) , COG (Chip On Glass), and FOG (Flex on Glass), because of their fine pitch handling capability up to 35 micron pitch and low temperature processes. Recently, ACA interconnection becomes popular in touch panel applications. In addition, ACAs have brought much attention as an alternative for flip-chip-chip on organic boards and socket interconnection between flex and rigid boards. Detailed reliability data, high frequency characteristics, current handling capability, and newly developed ACAs will be presented. Recently, novel room temperature and fast curing ACA assembly technique using vertical ultrasonic vibration is invented, and applied to FOB, FOG, and touch panel applications.

Speaker Biography

Prof. Kyung-Wook Paik received the B.Sc. degree in Metallurgical Engineering from the Seoul National University in 1979, the M.Sc. degree from the Korea Advanced Institute of Science and Technology (KAIST), and the Ph.D. degree from the Cornell University in Materials Science and Engineering, in 1981, and 1989, respectively.

From 1982 to 1985, he was with KAIST, Seoul, Korea as a Research Scientist and was responsible for various materials development such as gold bonding wires and non-ferrous alloys. After the Ph.D. degree, he worked at the General Electric Corporate Research and Development from 1989 to 1995, where he was involved with the R&D of materials and processes of GE High Density Interconnect (HDI) multichip module technology and power I/C packaging as a Senior Technical Staff. After he joined the Korea Advanced Institute of Science and Technology (KAIST) in 1995, he has been working at the department of Materials Science and Engineering as professor. In his Nano-Packaging and Interconnect Laboratory (NPIL), he is currently working in the areas of flip chip bumping & assembly, adhesives flip chip, embedded capacitors, and display packaging technologies. He had visited the Packaging Research Center (PRC) at the Georgia Institute of Technology and Portland State University as a visiting professor at 1999 and 2005 respectively, and involved in the packaging education and also integrated passives research programs. He is currently commercialising the ACF materials for LCD applications and patented several ACFs for flip chip on organic substrates. He has published more than 100 technical papers in the area of electronic packaging and currently holds 18 US patents and 4 US patents pending.

Prof. Paik has been the chairman of Korean IEEE-CPMT chapter during 1995-2007, and also a member of the IMAPS, SEMI, and MRS. He has formed the CPMT Daejon chapter by recruiting new IEEE-CPMT members in 1995, and served the Korean packaging society by offering numbers of workshops, symposium, and technical seminars. He is also actively involved in numerous international electronic packaging conferences such as ECTC, EMAP, EPTC as an organiser, technical committee, international liaison, and chairs.

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Registration

Pre-registration required. Please send the following details through email to:
Ms. Daphne Khong E-mail: khongkw@scei.a-star.edu.sg

Closing Date: Friday, 17th July 2009

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