Speech subject： Study on the moisture induced failure for advanced embedded packaging

Speech leader: *Meiying Su—Professor, Institute of Microelectronics of the Chinese Academic Sciences*

Speech Description/Objective:
Moisture-induced failure is aways a long-term reliability problem for plastic-encapsulated electronic components. This report analyzes the diffusion behavior of moisture in advanced organic polymer encapsulation materials based on embedded package technology, and explores the relationship and difference between Fick and non-Fick diffusion theories. It also analyzes the advantages and shortcomings of typical simulation environments with respect to the interface discontinuity problem when moisture diffuses in different materials. For the typical application of embedded packaging such as power devices or silicon bridges, the reliability simulation method of moisture diffusion is explained with practical cases. And using isotope tracer technology to realize the qualitative analysis and simulation verification of moisture intrusion.

Speech Outline:
Reliability issues for Advanced packaging, Importance of material characterization, Typical simulation environment, Case sharing

Who Should Attend:
Students, Engineer, professor etc. in IC and Semiconductor areas

Introduction of Speaker:

Meiying Su, Female, Phd. Researcher of Institute of Microelectronics of the Chinese Academy of Sciences (IMECAS), special researcher of Chinese Academy of Sciences (CAS), Lecturer of University of Chinese Academy of Sciences (UCAS), who is engaged in the basic research of IC advanced packaging reliability related design technology. Dr. Su's research is advanced packaging reliability of integrated circuits, and she joined the Institute of Microelectronics of the Chinese Academy of Sciences (IMECAS) in 2012 to conduct research on 3D system in packaging. She has presided over one GG project, one 02 National Special Project, one National Natural Science Foundation of China (NSFC), one key project of Beijing Natural Science Foundation, and has participated in many national science and technology major projects, key R&D programs, joint funds and joint R&D work of enterprises. She has published more than 30 SCI and EI papers in international journals and conferences, one book, two group standards, and more than ten inventive patents. She is serving as a reviewer for MR, TCPMT, JESTPE and other international academic journals.