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ASE news

ASE to Collaborate with IBM on Next Generation Flip Chip Packaging Technology

Surface Lamina Circuit™ (SLC) flip chip packaging technology designed to support higher performance and more complex chip designs.

Santa Clara, California, July 15, 2002 - Advanced Semiconductor Engineering Incorporated (ASE) (TAIEX: 2311, NYSE: ASX), one of the world's largest semiconductor packaging and testing companies, announced today that it is collaborating with IBM Corporation (NYSE: IBM) to utilize IBM's Surface Lamina Circuit (SLC) substrates for the development of ASE's flip chip packaging technology.

The collaboration will enable ASE to design, build and assemble flip chip modules using these advanced flip chip substrates. ASE and IBM will jointly provide substrate design services as well as electrical, mechanical and thermal modeling. IBM will provide SLC substrates based on IBM's build up technology currently manufactured in Yasu, Japan, while ASE will provide assembly and testing services at its various facilities in Asia.

"We are very impressed with the flip chip capabilities of the ASE engineering team and are glad to be collaborating on advanced packaging solutions for both our customers. Flip chip applications demand synergy between substrate and assembly processes, materials and product requirements. Together, IBM and ASE are providing a powerful solution to cover these demanding requirements," said Hal M. Lasky, Director, Interconnect Products, IBM Microelectronics.

"In recent years, we have seen the proliferating use of flip chip technology to package chips with higher I/Os and increased functional complexity, and ASE is dedicated to provide advanced flip chip packaging technologies to support this demand," said J.J. Lee, Vice President, ASE Group Research and Development. "We continue to tap on solutions from key technology leaders such as IBM, one of the industry's foremost supplier of interconnect products and services. Integrating IBM's SLC substrates into our flip chip package offerings makes possible higher density IC designs at all levels for a wide variety of applications," he added.

Today's announcement is a significant recognition of ASE's flip chip technology expertise and attests to the company's ability to offer its customers a complete turnkey flip chip solution from

wafer bumping, wafer probing, flip chip assembly, material supply to final testing; all under one roof. ASE to date has worked with over 40 customers on more than 60 devices including copper ICs using its flip chip technology and services.

IBM also announced today that its new SLC package is constructed with laser microvias and is available with advanced wiring ground rules and microvia diameters down to 48 um. The package passes 1000 cycles DTC (-55 to 125oC) and Jedec 3 preconditioning. Prototypes featuring 150 um C4 area array pitch and 212 um core pitch are planned to be available in the 4th quarter of this year.

About ASE Inc.

ASE Inc. (TAIEX: 2311, NYSE: ASX) is one of the world's largest independent providers of semiconductor packaging services and, together with its subsidiary ASE Test Limited (Nasdaq:ASTSF), the world's largest independent providers of semiconductor testing services, including front-end engineering testing, wafer probing and final testing services. The Company's international customer base of more than 200 blue-chip customers includes such leading names as Advanced Micro Devices, Inc., Altera Corporation, Cirrus Logic Inc., Conexant Systems, Inc., LSI Logic Corporation, and Qualcomm Inc. With advanced process technology capabilities and a global presence spanning Taiwan, Korea, Singapore, Malaysia and the United States, ASE Inc. has established a reputation for reliable, high quality products and services. For more information, visit the website <http://www.aseglobal.com>

About IBM Microelectronics

IBM Microelectronics is a key contributor to IBM's role as the world's premier information technology supplier. IBM Microelectronics develops manufactures and markets state-of-the-art semiconductor and interconnect technologies, products and services. IBM makes chips for a wide range of devices from the world's most powerful computers to the smallest cell phones. Its superior integrated solutions can be found in many of the world's best-known electronic brands. More information about IBM Microelectronics can be found at: <http://www.ibm.com/chips>

Editor's notes:

- Surface Laminar Circuit is a registered trademark of IBM Corporation.

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Contact Information:

Clementine Chen

Jennifer Yuen

ASE Group

ASE Americas/Europe

+886-2-8780-5489

+1-408-986-6519

clementine_chen@asek.asetwn.com.tw

jennifer.yuen@aseus.com