ADVANCED INTERCONNECT TECHNOLOGIES ADDS "SYSTEM-IN-PACKAGE" TO ITS GROWING PORTFOLIO OF PACKAGING DEVICES

Designed for Wireless, Networking and Flash Memory Components, New Device Houses Multiple ICs in a Single Package, Enabling Faster Time-to-Market and Improved Performance

PLEASANTON, Calif., July 22, 2002 – Advanced Interconnect Technologies, Inc. (AIT), a global provider of semiconductor assembly and test services, today introduced its family of system-in-package (SIP) devices. Designated SIP plastic land grid array (PLGA), the new packages are ideal for use in cellular phones, personal digital assistants (PDAs), digital cameras and MP3 players. AIT's family of SIP PLGAs address the growing requirements for increased functionality in many wireless and portable applications, as well as help reduce overall manufacturing costs and time-to-market by lowering component count and design complexity. As a single package housing multiple wireless, networking and flash memory integrated circuits (ICs), AIT's SIP PLGA offers designers improved reliability and electrical performance versus single IC packages.

"The SIP PLGA is a natural extension of our array packaging family, and part of an aggressive product development roadmap to further expand our line-up of advanced packaging solutions," said Ralph Duceour, president and CEO of AIT. "By introducing new packages like the SIP PLGA, we are able to assist our customers in lowering manufacturing costs, and reducing time-to-market with leading-edge technologies that address the growing requirements for more complete system-in-package configurations."

Reducing Costs and Time-to-Market Through A Modular Design Approach

AIT's SIP PLGA was developed to reduce component count by enabling design engineers to use one package, housing multiple ICs in place of several packages, each housing a single IC. The modular design of AIT's SIP PLGA also reduces design time and board complexity due to the inherent design flexibility that enables easy re-design, versus more complex system-on-a-chip (SoC) and application specific IC (ASIC) designs. Additionally, modifications to the SIP PLGA can be made without changing the board layout.

Through this modular approach of combining several ICs in a single package, the SIP PLGA package can also lower manufacturing costs by providing original equipment manufacturers (OEMs) with the opportunity to leverage single designs over multiple platforms. For example, a single device performing an entire operation such as signal amplification or noise reduction, enables the OEM to use it in a variety of cellular phone platforms, or even PDAs, without any major modifications to the design.

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In addition to the development of leading-edge packaging technologies like the SIP PLGA, AIT leverages its unique partnerships with Asian surface mount technology (SMT) component suppliers and printed circuit board (PCB) suppliers, to offer quick turn prototyping and total turn-key solution for its customers.

"Building on our expertise in the packaging, assembly and testing of ICs, AIT can further reduce manufacturing costs by providing a comprehensive suite of services to our customers that includes supply-chain-management, design, assembly, testing, failure analysis, and electrical and thermal characterization, making AIT a true one-stop shop," continued Duceour.

Combining ICs for Improved Performance

AIT's SIP PLGA offers improved electrical performance, versus packages housing a single IC due to the proximity of the SMT components to the die. The ICs housed in the SIP PLGA are mounted on specially designed die flags that employ a special PCB thermal via fabrication technology designed to draw heat from the die to the PCB, thus lowering the theta-ja of the die. In addition, many of the ICs housed in the SIP PLGA, including radio-frequency (RF) power amplifiers, are manufactured using gallium arsenide (GaAs) technology, and carry high thermal loads of 3.5 to 4 watts (W). To remove the heat and improve the thermal performance of the SIP PLGA, AIT has installed state-of-the-art, die-attach equipment and thermal die-attach materials/processes to maximize package efficiency.

Increasing Reliability by Reducing Wiring Density

AIT's family of SIP PLGAs are manufactured utilizing multi-layer and high-density interconnect (HDI) technologies that enable the wiring density inside the package to be increased by 2 to 4 times that of a standard array package. By elevating the wiring density to the package instead of the motherboard, the I/O count for the package can be reduced by up to 50 percent, further decreasing motherboard complexity and cost, while improving the reliability of the final product.

The reliability of the SIP PLGA is further enhanced due to the improved material set of die-attach, electronic mold compound (EMC) and solder. By combining multiple ICs in a single package, there are fewer steps required by OEMs during the final assembly process, enabling the production of more products with higher yields using fewer assembly lines.

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Pricing and Availability

AIT is in the process of qualifying the SIP PLGA with several customers. Customized modules, available in PLGA, fine pitch ball grid array (FBGA) and enhanced ball grid array (EBGA) configurations, will be manufactured at AIT's factory in Hong Kong, with production scheduled to begin in Q3'02. Pricing is based on volume quantity and configuration.

About Advanced Interconnect Technologies, Inc.

Advanced Interconnect Technologies is a global provider of semiconductor assembly and test services for the world's most successful electronics companies. The company's turn-key services include design, assembly, testing, failure analysis, and electrical and thermal characterization. AIT has received recognition for its field service and product yields from several of the industry's leading semiconductor device manufacturers. The company is also ISO 9001:2000, ISO 9002 and ISO 14001 certified. With approximately 4,800 employees worldwide, AIT has factory locations in Hong Kong; Batam, Indonesia; Austin, Texas; Sunnyvale, Calif. and Manteca, Calif. The company is headquartered in Pleasanton, Calif. For more information about the company, its products and services please visit their website at www.aitsales.com.

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