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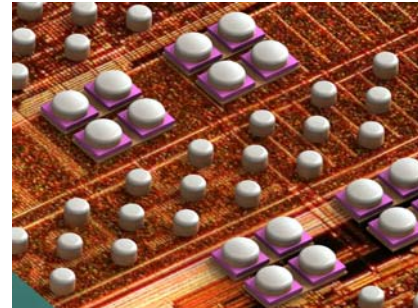
Nextreme Announces Breakthrough in Flip Chip Semiconductor Process Technology - the Thermal Copper Pillar Bump

Breakthrough represents a true paradigm shift in thermal and power management for the entire electronics industry

Research Triangle Park, N.C. (October 9, 2007) –

Nextreme, a manufacturer of micro-scale thermal and power management products for the electronics industry, has integrated cooling and power generation into the widely accepted copper pillar bumping process used in high-volume electronic packaging. This breakthrough in flip chip process technology addresses two of the most serious issues in electronics today – thermal and power management constraints.

Nextreme's approach uses proven, fully scalable technology to deliver new, enabling functionality in flip chip applications.



Thermal Bumps and Copper Pillar Bump Interconnects on a Flip Chip

In electronics today, it is widely acknowledged that heat and power issues are gating progress – nowhere is this felt more than in high-end, flip-chipped devices. At the semiconductor chip, package and system level, higher densities, more features, higher speeds and miniaturization are all contributing to more heat and higher power densities emanating from our electronics. There is often a misconception that system level cooling using heat sinks, fans, water cooling and even refrigeration, can ultimately solve these problems. While this is true technically, the power required to achieve the system level cooling solution is in of itself a fundamental limitation to achieving desired results – something that is often not considered. Nowhere is this felt more deeply than in today's data centers where the majority of power (and cost) is now going into cooling the electronics rather than actually processing data.

Up until now, copper pillar bumps have been used for the electrical and mechanical connection between the electronic device – such as a microprocessor chip – and the outside world. Nextreme's innovation creates a thermally active copper pillar bump, adding two fundamentally new functionalities that have not otherwise been implemented in existing electronic packaging. When electrical current is passed through Nextreme's thermal bump, one side cools rapidly relative to the other. Alternatively, when heat passes through the thermal bump, the bump actually generates power.

Nextreme added this functionality by incorporating a thin film of proprietary nano-material into a proven and widely available manufacturing technique called solder bumping. Most recently Nextreme demonstrated its innovation in a copper pillar bump – a high-volume manufacturing approach used by Intel, Amkor and others to connect microprocessors and other advanced electronics devices to various surfaces using a process referred to as “flip chip” packaging.

“While the innovation itself is unique, it is the fact that Nextreme has developed the technology to fit into an existing, high volume manufacturing infrastructure – namely copper pillar bumping – that makes the breakthrough truly relevant,” said Nextreme CEO Jesko von Windheim. “By minimizing the need for manufacturing changes, and focusing on developing a seamless design-in solution, Nextreme will change how thermal and power management are implemented in semiconductors in the future.”

Nextreme is implementing the technology in conventional approaches for existing customers for thermal management in lasers and sensors, to cool high temperature electronics and to trickle charge miniature batteries. In the future, customers will be able to use standard electronic design tools to integrate Nextreme’s thermal bump using the integrated circuit design process. In this way, customers will be able to place cooling or energy harvesting functionality exactly where it is needed on the electronic chip. This will be done in the same manner that capacitors, resistors, transistors and electrical interconnects are designed into electronics today. Once designed in, the thermal bump will be implemented as part of the standard flip chip solder bumping process – a seamless part of the overall manufacturing sequence. This represents a true paradigm shift in thermal and power management for the entire electronics industry.

Potential flip chip applications for Nextreme's thermal bump include microprocessors, display drivers, chip sets, RF devices, medical devices, watches, smartcards and analog/mixed signal devices.

“Nextreme’s thermal bumping technology is focused on the intersection of two of the most significant shifts in the semiconductor packaging market over the past twenty years: flip chip market growth and heat dissipation issues,” said Jeff Doubrava, Managing Partner of Prismark Partners, LLC, a leading electronics industry consulting firm. “Over 40% of the flip chip devices in the market today have significant thermal challenges.”

Manufacturing of discrete thermal management devices from Nextreme will be supported with production at the Company’s US facility in North Carolina; die level integration will largely be outsourced off shore; and wafer level processing will be licensed to merchant and captive providers of wafer-level flip chip processes.

For more information on Nextreme's thermal copper pillar bumping process, visit www.nextreme.com/bump.

About Nextreme, Inc.

Nextreme designs and manufactures micro-scale thermal and power management products for the semiconductor, photonics, consumer, automotive and defense/aerospace industries. The company has embedded cooling and power generation capabilities into the widely accepted copper pillar bumping process used in high-volume electronic packaging. Nextreme’s breakthrough addresses the most

challenging thermal and power management constraints in electronics today, and delivers the only fully-scalable technology solution by leveraging the existing, high-volume flip chip manufacturing infrastructure. By minimizing the need for manufacturing changes and focusing on developing a seamless design-in solution, Nextreme will change the future of thermal and power management for the entire electronics industry.

Nextreme is managed by an experienced start-up team and world-renowned experts in electronics, thermal management and pillar bump technology. The company has 38 employees and is based in Research Triangle Park, North Carolina. For more information on Nextreme, please visit www.nextreme.com.