

## FlipChip International Announces High Volume Lead-Free Bumping and Wafer Scale Packaging Production

PHOENIX, Arizona, March 17, 2004---FlipChip International, LLC today announced achieving high volume production of lead-free semiconductor bumping and wafer scale packaging services for several customers. FlipChip International's tin-silver-copper (SnAgCu) lead-free alloy processes have enabled customers to provide environmentally friendly products in the European, North American and Asian consumer markets.

Increasing global concern about the environment is bringing regulatory and consumer pressure on the electronics industry, primarily in Europe and Japan, to reduce the use of lead (Pb) in all products. As Europe and Japan have moved aggressively toward lead-free electronics, semiconductor manufacturers now require reliable high volume sources of lead-free flip chip and wafer level packaging solutions. FlipChip International was one of the first wafer bumping solution providers to qualify a lead-free process and now has eight customers fully qualified with its lead-free technology.

Bob Forcier, FlipChip International President and CEO, said, "FlipChip International qualified its lead-free wafer bumping process in April 2001, well in advance of other flip chip bumping service providers. FlipChip International worked closely with several semiconductor manufacturers to qualify our lead-free bumping and wafer scale packaging solutions and now we are seeing the results of those programs as we ramp volume production this year. We expect FlipChip International to produce more than 10 million lead-free components per month by the middle of 2004, with additional customers moving to volume production by the first quarter of 2005."

FlipChip International selected tin-silver-copper (SnAgCu) as its lead-free alloy based on the National Electronics Manufacturing Initiative's (NEMI) decision in 2000 to recommend SnAgCu as the preferred alloy for reflow applications, which represent 70 percent of all board assembly production. SnAgCu alloy was also recommended by the European IDEALS consortium as the best lead-free alloy for reflow as a result of reliability testing from -20C to 125C for up to 3000 cycles. "FlipChip International's unique solder printing technology allows us to utilize the recommended ternary SnAgCu lead-free alloy compared to solder plating technologies which are limited to a binary alloy" stated Dr. Joan Vrtis, FlipChip International's Chief Technology Officer.

FlipChip International, LLC is a privately held supplier of products and services for the wafer bumping and wafer scale packaging semiconductor market. FlipChip International products include the Flex-on-Cap flip chip bumping process and the *Ultra* CSP® wafer level packaging process. FlipChip International also provides Eutectic, 90Pb10Sn, 95Pb5Sn, Low Alpha and Ultra Low Alpha solder solutions in addition to its SnAgCu lead-free alloy. FlipChip International, LLC is a wholly owned subsidiary of RoseStreet Labs, LLC, a supplier of products and services for wireless infrastructure in the life science and homeland security markets.

For further information contact:

Stephanie Sarabia

FlipChip International

602-431-6020 x216

[ssarabia@flipchip.com](mailto:ssarabia@flipchip.com)

website: [www.flipchip.com](http://www.flipchip.com)