



Press Release

SiliconPipe Off-the-Top IC Packaging Technology

FOR IMMEDIATE RELEASE

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SiliconPipe has just announced details relating to its new integrated-circuit package technology. The new "off-the-top" package eliminates discontinuities that currently hinder signals as they move through today's IC packages. The new IC package design implements a straight-through signal from die to die, enabling signals to be transmitted and received at full silicon speeds. Existing ICs can take advantage of the new package immediately; IC redesign is unnecessary. The IC is simply packaged in the new SiliconPipe package. The new technology enables designers to create their own multichip modules using FPGAs. System designers can segment their designs across a number of FPGAs, enabling FPGA performance previously reserved for costly full-ASIC implementations.

New generations of ICs are communicating at ever-higher data rates. I/O speeds from 1Gb to 2.5Gb and faster are becoming more prevalent. As I/O speeds increase, package and PCB discontinuities become hindrances to interconnecting these high-speed devices. SiliconPipe pioneered the off-the-top solution when developing its high-speed memory interconnects. SiliconPipe's Seriplexer[®] solution performs at 12.8Gbps with off-the-top and other packaging innovations. High-speed memory interconnects are important for consumer solutions, such as gaming systems like PlayStation, Xbox and multimedia set-top boxes.

In addition to improving signal integrity, the new package lowers cost and maintains high reliability. According to Bill Wiedemann, SiliconPipe's senior VP of sales and marketing, "It is not often that system designers see a solution that is easily implemented and offers such great benefits. Our chip-to-chip packaging and interconnect solution lets designers achieve higher performance and greater system design margins by simply repackaging their existing die."

IC designers benefit in several ways. They gain increased performance without needing die redesign to overcome package and PCB discontinuities. Adapting SiliconPipe's off-the-top IC package design also enables more simplified transceiver designs. Simplified transceivers provide savings in die area, power consumption, reliability and die cost.

SiliconPipe's off-the-top IC package design enables migration to new and smaller silicon geometries. As silicon geometries shrink, enabling higher levels of integration, I/O signal swings decrease. By sidestepping the traditional package and PCB discontinuities, the new off-the-top package provides virtually zero skew interconnects from die to die, averting problems associated with the smaller I/O signal swings of finer silicon geometries.

SiliconPipe is actively licensing its chip-to-chip packaging and interconnect solutions. The new off-the-top package can easily be manufactured by any current IC packaging company. SiliconPipe partners with

existing suppliers, such as TeraFlex, to rapidly bring SiliconPipe's solutions to market. SiliconPipe has incorporated TeraFlex's new HydroFlex[®] connector as a reliable high-signal-integrity interconnect between SiliconPipe packaged devices.

According to Jack Smith, senior VP and CTO for TeraFlex Connectors, "The HydroFlex connector provides a high-performance PCB interconnect, eliminating the impedance discontinuities in standard printed circuit boards. By connecting our HydroFlex interconnect directly to the IC package, discontinuities in the IC package are also bypassed, providing a high-performance signal path from die to die."