

XC4000EX Family FPGAs Entering Production



The XC4000EX family elevates the XC4000 series to new heights in density and performance, with up to 125,000 logic gates and 66 MHz system speeds. Designed “from the ground up” for speed and density using a deep-submicron, triple-layer-metal process, the XC4000EX family has abundant routing resources for high utilization and buffered interconnect to provide maximum performance. (See XCell #20, page 21.)

Xilinx has started sample shipments of the first two members of the high-density XC4000EX family. The XC4036EX, with a typical gate range of 22,000 to 65,000 gates, and the XC4028EX, with a typical gate range of 18,000 to 50,000 gates, will enter volume production in the fourth quarter of this year.

The next member of the family to be introduced is the XC4062XL, featuring a typical gate range of 40,000 to 130,000 gates. The XC4062XL will begin sampling in December. ♦

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Faster XC4000E FPGAs Now Available

Continuing process improvements have led to the release of a new, faster speed grade for XC4000E™ FPGAs, available now for every member of the device family.

The new -2 speed grade achieves a 15-20 percent performance improvement over the -3 speed grade as a result of a logic block propagation time (T_{ILO}) of 1.6 ns, clock-to-output delays (T_{OKPOF}) of under 5 ns and global-clock-to-out, pin-to-pin delays (T_{ICKOF}) ranging from 8.7 ns for the XC4003E to 10.7 ns for the XC4025E. See *Figure 1* for a comparison of the maxi-

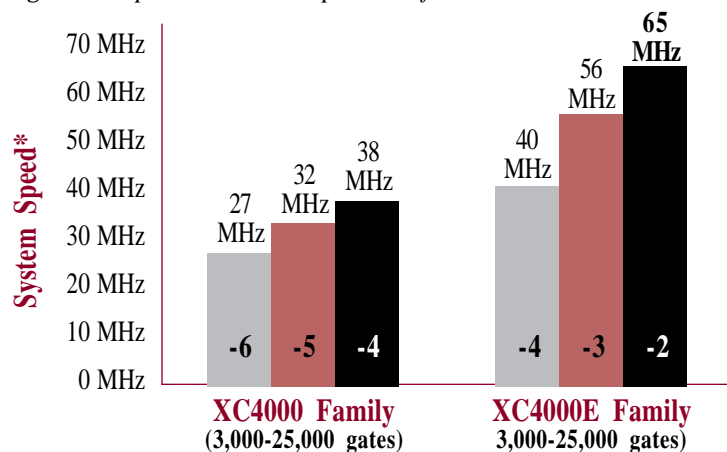
mum chip-to-chip system speeds of the XC4000 and XC4000E devices for their available speed grades.

The XC4000 series (i.e., the XC4000, XC4000E and XC4000EX families) incorporates the world's most widely used FPGA architecture with advanced features such as Select-RAM™ memory, wide edge decoders, internal three-state buffers and multiple global clock distribution networks. The high performance levels offered from the -2 speed grade, when combined with these leading-edge architectural features, further extends the range of possible applications for these popular devices.

For example, the capabilities of the XC4000E-2 device enable the delivery of the LogiCore™ PCI Initiator module — an implementation that requires extremely high performance levels, especially for FIFO buffer and registered I/O operations (see page 17).

For further technical information, please refer to the product specifications and application notes on WebLINX, the Xilinx web site (www.xilinx.com). For pricing and availability, contact your local Xilinx sales representative. ♦

Figure 1: Speed Grade Comparisons for XC4000 and XC4000E



*Maximum chip-to-chip system speed