

# Introducing the New Spartan™ FPGA Family for Low Cost Applications



## Under \$2 by the Year 2000

In early January, Xilinx announced the new Spartan series of FPGAs, designed to address high-volume FPGA applications. This series incorporates a new technology with on-chip RAM, easy core implementation, high performance, and low cost. Initial devices are available in 5-volt versions, based on our 0.5-micron technology (see Table 1); 3.3-volt versions based on our 0.35-micron technology are scheduled for 3Q98.

"It's not enough to simply offer low-cost replacements for traditional ASIC designs. Designers want the benefits of performance, RAM, intellectual property, and lower costs to add in-system programmability and time-to-market advantages, especially in the fast-paced consumer markets," said Wim Roelandts, Xilinx president and chief executive officer.

### New Process Technology Generates New Feature Set

"In our aggressive process migration, we've realized new layout and circuit-design techniques through finer geometries and new technologies that translate directly to cost savings for our customer," continued Roelandts.

These leading-edge process technology advances offer the smallest possible die sizes.

Further, for the first time in the PLD industry, low-cost ASIC replacement solutions incorporate on-chip RAM using the

Xilinx SelectRAM™ feature pioneered in the XC4000 series. Together, the robust Spartan series offers a total cost management solution while delivering all the key ASIC requirements of performance, on-chip SelectRAM, cores, and low price, with all the time-to-market advantages of FPGAs.

To address total cost management, Xilinx reduced the cost of Spartan devices by not only reducing the die size but by also re-assessing all stages of the manufacturing cycle, including packaging, test, and manufacturing overhead costs.

In the third quarter of 1998, Xilinx will introduce the 3.3-volt version of this series. You can design now using our 5-volt technology with confidence that the new 3.3-volt devices will be completely footprint compatible. Additionally, the 3.3-volt devices will be offered at even lower price points than their 5-volt predecessors, taking advantage of the process migration step to 0.35 micron.

### Software Support

The majority of Xilinx high-volume customers are sensitive to time-to-market pressures, preferring a complete front-to-back development environment, with minimal learning curves and high-quality results. The Xilinx Foundation Series software is the ready-to-use solution that meets this need. The Foundation and Alliance Series software are available for all Spartan devices, with software pricing starting at \$495.

In addition to design tools, intellectual property cores will be offered, specifically targeting the Spartan Series, including a new PCI interface. Cores are available today from several of the Xilinx AllianceCORE partners, including T7L, Integrated Silicon Systems, Virtual IP Group (formerly ARM Semiconductor), and Memec Design Services (offering RISC processors, microprocessor peripherals, and DSP cores). All DSP cores in the Xilinx LogiCORE product series, and AllianceCORE products from third-party providers are also available.

### Available From Distributors Now

The first three members of the Spartan family, the XCS20, XCS30, and the XCS40, are available today in high-volume quantities. Package offerings will include plastic quad (PQ), thin quad (TQ), and very thin quad (VQ) flat packs; plastic leaded chip carrier (PLCC); and ball grid array (BGA) options. ♦

Table 1

DEVICE	LOGIC CELLS	SYSTEM GATES	MAX. I/Os	MAX RAM BITS	HIGH VOLUME PRICE*
XCS05	238	2,000 - 5,000	80	3,200	\$3.95
XCS10	466	3,000 - 10,000	112	6,272	\$5.50
XCS20	950	7,000 - 20,000	160	12,800	\$6.50
XCS30	1368	10,000 - 30,000	192	18,432	\$7.95
XCS40	1862	13,000 - 40,000	224	25,088	\$19.95

\*100,000 unit pricing for end-98