

An editor's glance at the Xilinx 3.3-volt Spartan Series

New 3.3-volt Spartan series from Xilinx offers programmable logic advantages to high volume ASIC users

The SpartanXL family is a 3.3-volt derivative of the popular 5-volt Spartan FPGA family, announced in January 1998, targeted for high-volume, high-performance, low-voltage applications. All five members of the 5-Volt Spartan family have been in production for nine months and receiving overwhelming demand for the RAM capabilities, low-power benefits an ASIC-like price points. The SpartanXL family continues the Xilinx standard of superior high performance set with the 5-volt version at a reduced cost, lower power, and improved performance.

Technology description:

- First FPGA to combines on-chip RAM, high performance, and robust core support at ASIC prices.
- Manufactured on a hybrid process at the Seiko facility in Taiwan

Key features:

- Inherent performance improvements and lower cost and price in the migration to 0.35-micron process
- Spartan series has fastest unit shipment growth rate of any other FPGA in the industry
- Addresses high-volume ASIC applications up to 40,000 system gates
- Industry's smallest die size FPGA with RAM due to addressing the cost of manufacturing in all stages of cycle: packaging, assembly, test, and overhead costs
- Footprint compatible across multiple package options
- Programmable 5V/3V compatibility with 5-volt version of Spartan series
- Priced lower than the 5-volt predecessors due to the migration to 0.35-micron technology

<i>Product availability:</i>	Logic cells	System gates	Maximum I/Os	Maximum RAM bits	Price *	Production Availability
XCS05XL-3 (PC84)	238	2,000 - 5,000	80	3,200	\$2.95	98Q4
XCS10XL-3 (PC84)	466	3,000 - 10,000	112	6,272	4.45	98Q4
XCS20XL-3 (VQ100)	950	7,000 - 20,000	160	12,800	5.45	98Q4
XCS30XL-3 (VQ100)	1368	10,000 - 30,000	192	18,432	6.95	now
XCS40XL-3 (PQ208)	1862	13,000 - 40,000	224	25,088	9.90	98Q4

* Pricing for 100,000-plus unit quantities in mid-1999

Package options:

plastic leaded chip carrier (PLCC); plastic quad (PQ), thin quad (TQ), very thin quad (VQ), flat packs; and ball grid array (BGA)

Software support:

Available now in the latest version, version 1.5, both the Foundation and Alliance Series software

Cores support:

- Cores available specifically targeting this series from several Xilinx AllianceCORE partners
- PCI and DSP cores in Xilinx LogiCORE series
- New PCI interface from the Xilinx LogiCORE offerings are available, including the zero wait-state 33 MHz PCI LogiCORE

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