



SpartanXL Family

High Volume System Solutions

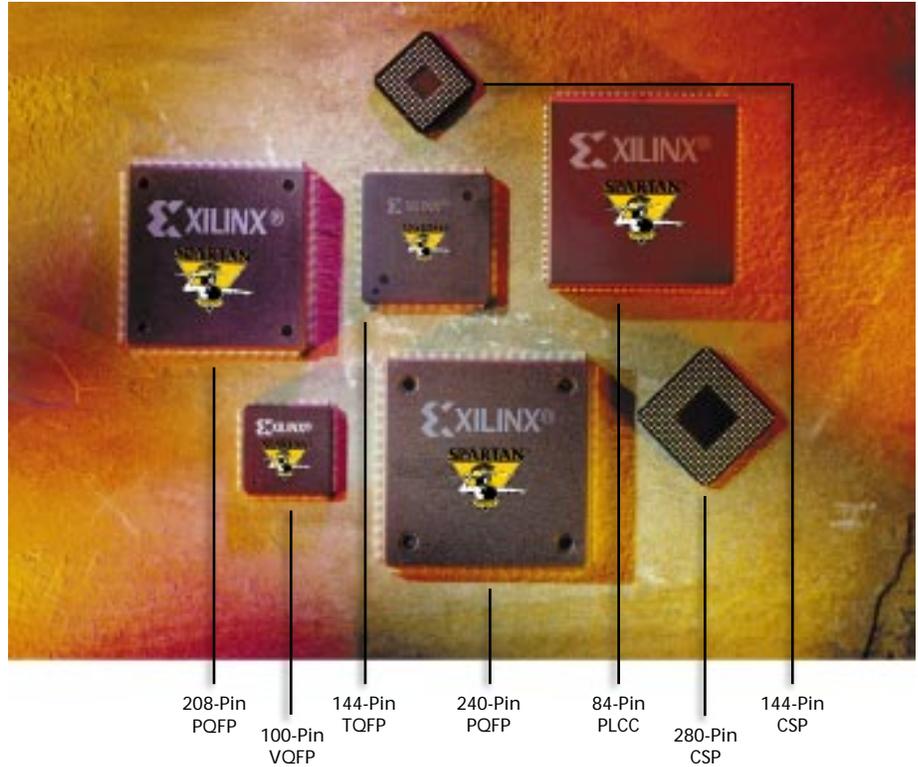
Derived from the industry standard XC4000 architecture, the 3.3 volt SpartanXL™ FPGA family combines unparalleled performance with low prices to provide the highest performance to price ratio available in the industry. Fabricated on a leading edge silicon process, the SpartanXL family provides a full feature set including on-chip dual-port RAM, aggressive power management, an extensive library of intellectual cores, densities ranging from 5K to 40K system gates and small form factor packaging. In short, The SpartanXL family is the first FPGA family that meets all the key requirements of ASIC designs for high volume production, and delivers unmatched benefits over competing PLDs.

The first ASIC replacement FPGA family to provide:

- On-chip dual-port RAM (SelectRAM™)
- Power management
- .8mil pitch micro-BGA packages
- First ASIC replacement FPGA family to break the \$2.50 price barrier

Effective ASIC replacement

- PCI compliant
- High performance, with system speeds over 100MHz

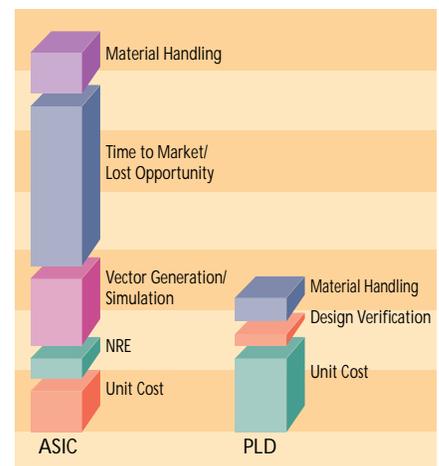


- Low power consumption
- Extensive core support
- Design flow same as ASICs
- Power down (sleep mode)

Advantages over ASICs

- No vector generation needed, all devices are tested 100% by Xilinx
- No costly NRE charges
- No costly stocking charges, standard product off the shelf
- No prototype or production lead times
- Field upgradable, accommodates new standards, incorporates new features
- \$2.49⁽¹⁾ high volume price for SpartanXL devices today (Less than \$0.025 per pin)

Total Cost: PLD vs. ASIC



Advantages over competing PLDs

• On-chip SelectRAM

The SpartanXL family's dual-port, synchronous RAM delivers over twice the performance of FPGAs with only single port RAM capabilities.

- Build as many high-performance RAM blocks as needed
- Each block can be cascaded to any width and depth
- Ideal for functions such as FIFOs, DSP filters, accumulators, and scratch-pad memories
- Placed at any desired location within the FPGA

• Broad product offering

The SpartanXL family offers 47 device-package-speed-temperature combinations.

• Advanced packaging

The SpartanXL family is the only ASIC replacement family to offer advanced .8mil pitch micro-BGAs for the smallest possible form factor.

• Industrial temperature offering

The SpartanXL family offers the largest selection of industrial grade product to enable designs in harsh environments.

5 Volt ⁽¹⁾ 3.3 Volt	XCS05 XCS05XL	XCS10 XCS10XL	XCS20 XCS20XL	XCS30 XCS30XL	XCS40 XCS40XL
System Gates*	2K-5K	3K-10K	7K-20K	10K-30K	13K-40K
Logic Cells**	238	466	950	1,368	1,862
Max Logic Gates	3,000	5,000	10,000	13,000	20,000
Flip-Flops	360	616	1,120	1,536	2,016
Max RAM Bits	3,200	6,272	12,800	18,432	25,088
Max I/O	80	112	160	192	224
Packages	PC84 VQ100	PC84 VQ100 TQ144 CS144	VQ100 TQ144 CS144 PQ208	VQ100 TQ144 PQ208 PQ240 BG256 CS280	PQ208 PQ240 BG256 CS280

* 20-30% of CLBs as RAM

** 1 LC= 4-input LUT + FF, LUT is look-up-table

• Footprint compatibility

Under 2,000 logic cells, competing vendors offer at most two devices per package, limiting migration to higher densities while keeping the same footprint.

Summary

With up to 40,000 system gates, PCI compliance, SelectRAM, an extensive library of cores, and powerful development tools, the SpartanXL family satisfies ASIC designers needs for high performance and low cost while delivering the proven benefits of programmable logic.

(1) XCS05XL - 4VQ100C @ 250K units

(2) Spartan Devices are also available in 5.0 volt core voltages. Call Xilinx sales rep. for more information.

Corporate Headquarters

Xilinx, Inc.
2100 Logic Drive
San Jose, CA 95124
Tel: (408) 559-7778
Fax: (408) 559-7114
Web: www.xilinx.com

European Headquarters

Xilinx, Ltd.
Benchmark House
203 Brooklands Road
Weybridge
Surrey KT13 ORH
United Kingdom
Tel: (44) 1-932-349-401
Fax: (44) 1-932-349-499
e-mail: ukhelp@xilinx.com

Sales Offices

England

Xilinx, Ltd.
Suite 1B, Cobb House
Oyster Lane Byfleet
Surrey KT14 7DU
United Kingdom
Tel: (44) 1-932-349-403
Fax: (44) 1-932-345-519

Japan

Xilinx K.K.
Shinjuku Square Tower 18F
6-22-1 Nishi-Shinjuku
Shinjuku-ku, Tokyo
163-1118, Japan
Tel: (81) 3-5321-7711
Fax: (81) 3-5321-7765
Web: www.xilinx.co.jp

Hong Kong

Xilinx Asia Pacific
Unit No. 4312, Tower 2
Metroplaza
Hing Fong Road
Kwai Font, N.T.
Hong Kong
Tel: (852) 2-424-5200
Fax: (852) 2-494-7159
e-mail: hongkong@xilinx.com

