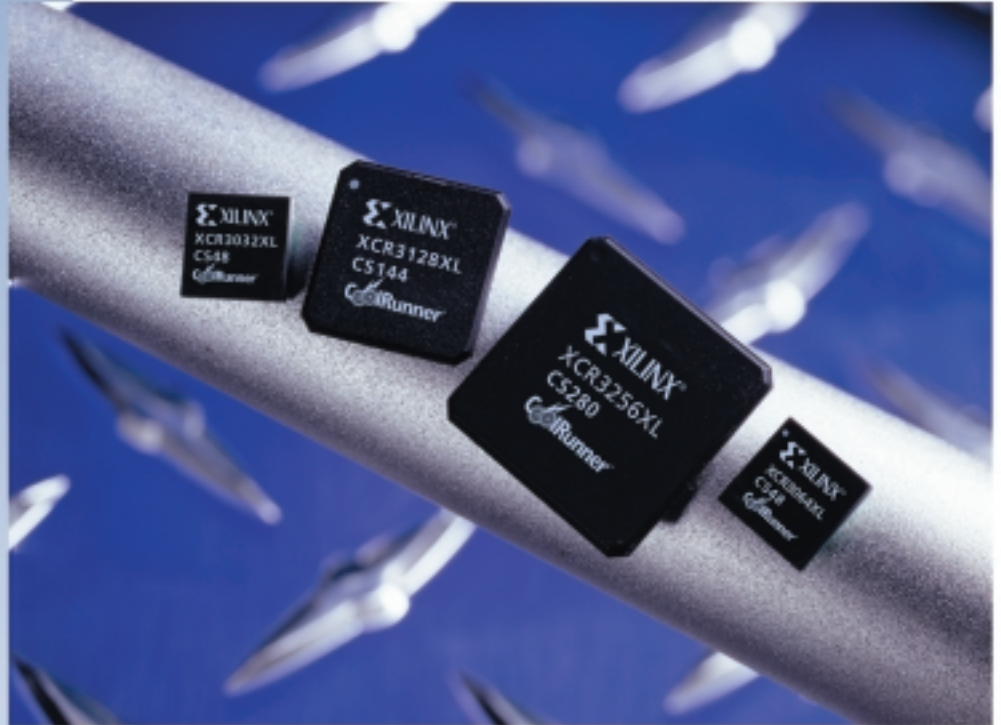




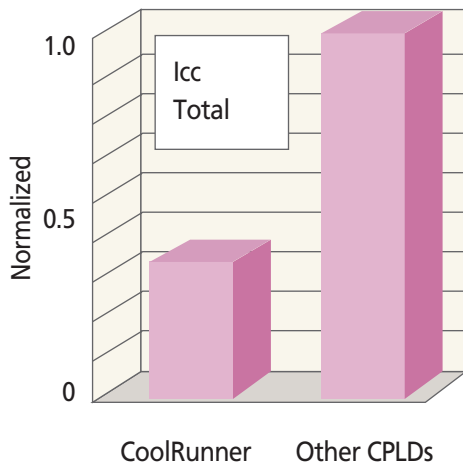
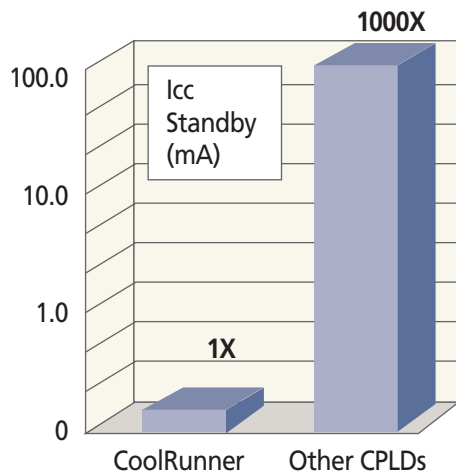
# Xilinx CoolRunner™

## XPLA3 Family

The CoolRunner™ XPLA3 family of CPLDs is targeted for low power applications that include portable, handheld, and power sensitive systems. Each member of the XPLA3 family includes Fast Zero Power™ (FZP) design technology that combines low power and high performance for the first time ever in a programmable logic device. The XPLA3 family offers true pin-to-pin speeds of 5.0 ns, while simultaneously delivering power that is less than 100µA (standby) without the need for special power down techniques that negatively affect device performance.



Features	Benefits
• FZP design technology	• Lowest stand-by and total current consumption of any CPLD
• 32 to 512 macrocell offerings	• Full range of densities
• Fast pin-to-pin timing, 32 macrocell - 5 ns	• Perfect fit for high-speed systems
• 3.3V operation with 5V tolerant I/Os	• Simplifies multivoltage system design
• Full 36 by 48 PLA – Fully programmable AND / programmable OR structure	• Optimizes sharing and resource utilization (all product terms available)
• Bus friendly I/O	• Pull-up resistor for I/O termination
• Multiple clocking options	• Maximum clocking resources for design flexibility
• Fast input registers	• Supports direct high-speed interface
• 3.3V in-system programmable (ISP) using JTAG IEEE 1149.1 interface	• Easier board production and field upgrades
• Small, surface mount packages (0.8mm and 0.5mm ball pitch BGAs)	• Smallest footprint for maximum board space savings
• Advanced 5-layer-metal process technology	• Lowest cost
• Extended supply voltage industrial devices (2.7V - 3.6V)	• 2.7V extends system battery life



## Architecture

The XPLA3 architecture features a direct input register path, multiple clocks, JTAG programming, 5V tolerant I/Os, and a full PLA structure. These enhancements deliver high performance coupled with the best flexible logic allocation which results in the ability to make design changes without changing pin-outs. The XPLA3 architecture includes a pool of 48 product terms that you can allocate to any output in the function block. This combination allows logic to be allocated efficiently throughout the function block and support as many product terms as needed on any output with no speed penalty.

## Free CPLD Design Tools

CoolRunner XPLA3 devices are supported in all versions of the Xilinx Integrated Software Environment (ISE), including the free ISE WebPACK™ and WEBFITTER™. ISE WebPACK is a complete downloadable desktop solution that offers HDL and ABEL synthesis, design verification using MXE, HDL Bencher and Xpower and iMPACT programming support for all Xilinx devices. WebFITTER is a free, intuitive, online design tool that allows you to evaluate your designs using XPLA3 and all other Xilinx CPLD devices. Both are available at [www.xilinx.com/ise/webpack](http://www.xilinx.com/ise/webpack).

## Contact Us!

For additional information, please visit our website at [www.xilinx.com/products/xpla3.htm](http://www.xilinx.com/products/xpla3.htm)

	XCR3032XL	XCR3064XL	XCR3128XL	XCR3256XL	XCR3384XL	XCR3512XL
Macrocells	32	64	128	256	384	512
Usable Gates	750	1,500	3,000	6,000	9,000	12,000
t <sub>PD</sub> (ns)	5	6	6	7.5	7.5	7.5
f <sub>SYS</sub> (MHZ)	200	145	145	140	127	127
Packages (Max. User I/Os)	VQ44 (36) PC44 (36) CS48 (36)	VQ44 (36) PC44 (36) CS48 (40) CP56 (48) VQ100 (68)	VQ100 (84) CS144 (104) TQ144 (104)	TQ144 (120) PQ208 (164) FT256 (164) CS280 (164)	TQ144 (118) PQ208 (172) FT256 (212) FG324 (220)	PQ208 (180) FT256 (212) FG324 (260)

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

**Europe**  
Xilinx, Ltd.  
Benchmark House  
203 Brooklands Road  
Weybridge  
Surrey KT13 ORH  
United Kingdom  
Tel: 44-1-870-7350-600  
Fax: 44-1-870-7350-601  
Web: [www.xilinx.com](http://www.xilinx.com)

**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](http://www.xilinx.co.jp)

**Asia Pacific**  
Xilinx, Asia Pacific  
Unit 1201, 12/F, Tower 6  
Gateway  
9 Canton Road  
Tsimshatsui, Kowloon  
Hong Kong  
Tel: 852-2-424-5200  
Fax: 852-2-494-7159  
E-mail: [ask-asiapac@xilinx.com](mailto:ask-asiapac@xilinx.com)

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**FORTUNE** 2002  
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