

# XC7300 CPLDs & XABEL-CPLD: The Industry's



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The combination of ultra-low-cost 44-pin XC7300 CPLDs and easy-to-use XABEL-CPLD development software provides users with the best value in programmable logic. Three XC7300 family members are now available in 44-pin PLCC, PQFP or VQFP packages — the XC7336, XC7336Q and XC7354 devices.

Xilinx 44-pin XC7300 CPLDs provide a greater range of performance and significantly lower costs than PALs and GALs. In fact, the logic from several PAL /GAL devices can be integrated into a single XC7300 CPLD at a lower device cost than the replaced PALs/GALs (and sometimes at a component cost equivalent to a single high-speed PAL). The XC7300 CPLDs also can replace TTL bus drivers, further reducing component count and cost. Advanced system features such as 3.3V or 5V I/O

signaling levels and 100% PCI compliance provide support for the newest CPUs and high-performance memories.

44-pin CPLDs also have proven extremely adept at fixing “broken” ASICs. ASIC users are discovering that 44-pin CPLD solutions can be used to safeguard or repair ASIC functionality. Sometimes fixed-function ASICs can be rendered “unusable” by specification changes, process variations that disrupt system timing or design errors. Planning ahead by reserving board space for a small form factor, 44-pin CPLD can provide ASIC designers with “system insurance.” The CPLD can be used to implement control circuitry or correct sensitive timing paths. In this way, the flexibility to fix unwanted surprises is built-in to the design.

	XC7336	XC7336Q	XC7354	BENEFITS
22V10equiv. 16V8equiv.	3 4	3 4	5 6	lower inventory & production costs
macrocells	36	36	54	
usable gates	800	800	1500	
$t_{PD}$	5.0 ns	10 ns	7.5 ns	XC7336-world's fastest CPLD
$I_{CC}$ (typ.)	126 mA	50 mA	140 mA	Significant power savings over multiple PALs/GALs
3.3V/5V I/O	Y	Y	Y	Interface with high performance memories and MPUs
24 mA high drive I/O	Y	Y	Y	PCI Bus compliance
packages	PC44, PQ44	PC44, PQ44, VQ44	PC44	VQ44 53% smaller than PC44

## Push-Button Software Gets the Job Done

Low-cost XABEL-CPLD software obsoletes all PAL/GAL and low-end CPLD tools and provides push-button ease of use. Based on ABEL 6.0, XABEL-CPLD offers instant productivity enhancement to all PAL/GAL users and makes the migration to higher-density, cost-effective CPLD technology quick and easy.

The combination of highly-capable, low-cost silicon and software makes Xilinx 44-pin CPLD solutions the best choice in a world where product development schedules and system component budgets are shrinking at an ever-accelerating pace.

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# Best 44-Pin PLD Value

FEATURES	BENEFITS
Familiar Data I/O ABEL, Windows-based environment for design entry, simulation and fitting	Push button design flow improves productivity
Industry-standard-ABEL - HDL supports state machines, high level logic descriptions, truth tables and equation entry	ABEL-HDL familiar to PAL users, optimized for PAL and CPLD development
Hierarchical design entry and JEDEC file conversion for integration of existing PAL designs into Xilinx CPLDs	Enables reuse of existing PAL codes, simplifying design effort
Functional simulation with graphical Waveform Viewer and Static Timing Reports	Facilitate rapid design verification
Advanced XACTstepv6 XC7K & XC9K fitter with automatic device selection, multiple pass optimization, partitioning and mapping, and timing driven fitting	Fitter's architecture-specific knowledge frees the user to focus on design functionality
Animated tutorial and on-line help	Reduces learning curve: <ul style="list-style-type: none"><li>• tutorial leads users through entire design process in minutes</li><li>- extensive on-line help places all documentation a mouse-click away</li></ul>