

New XC4000X Series FPGAs

Doubling Gate Capacities and Delivering Industry-Leading Speed

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Optimized for 3.3V designs, the Xilinx XC4000X Series FPGAs double the capacity of FPGAs while delivering industry-leading system performance. Consisting of the new XC4000XLA and XC4000XV families, the XC4000X Series is an enhanced version of the industry standard XC4000 architecture. Consisting of 12 devices with capacities ranging from 30,000 to 500,000 system gates, these FPGAs feature the patented SelectRAM™ memory; offering a completely flexible logic distribution, as well as single-port or dual-port memory. Designed with advanced CMOS processes, the XC4000X Series delivers industry-leading performance while significantly reducing power consumption.

Unprecedented Performance

The XC4000X Series uses unique architectural enhancements and aggressive process technology to attain unprecedented speed at full capacity. Additional routing resources and highly buffered clock networks ensure that you get the highest array performance possible. New three-state I/O registers and FastCLK I/O buffers significantly increase system performance.

Double the Capacity

The XC4000XV Family, offering up to 500,000 system gates, is twice the capacity of competing products. Plus, it offers a high level of performance, with efficient clock buffering and abun-

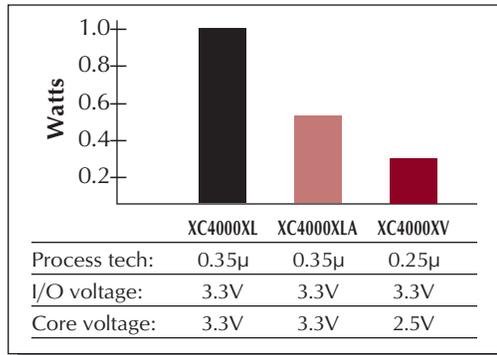


Figure 1:
Relative Power
Consumption

dant, fast, segmented routing that ensures minimal interconnect delay.

Power Consumption Less Than Half

The XC4000XLA consumes half the power of the equivalent XC4000XL device, and the XC4000XV only consumes a third of the power, as shown in **Figure 1**. These savings are derived from efficient design layout, smaller process geometries, and lower operating voltages.

Conclusion

The new XC4000X FPGA family represents the next generation of programmable logic technology, with the fastest, highest capacity devices available. Combined with our highly acclaimed Alliance Series 1.5 and Foundation Series 1.5 software, this family is the perfect choice for your next design. ☒

Table 1: The
XC4000X Family

	XC4013XLA	XC4020XLA	XC4028XLA	XC4036XLA	XC4044XLA	XC4052XLA	XC4062XLA	XC4085XLA	XC40110XV	XC40150XV	XC40200XV	XC40250XV	
Logic Cells	1,368	1,862	2,432	3,078	3,800	4,598	5,472	7,448	10,982	12,312	16,758	20,102	
System Gates	10-30K	13-40K	18-50K	22-65K	27-80K	33-100K	40-130K	55-180K	75-200K	100-300K	130-400K	180-500K	
Max RAM Bits	18,432	25,088	32,768	41,472	51,200	61,952	73,728	100,352	131,072	165,888	225,792	270,848	
User I/Os	192	224	256	288	320	352	384	448	448	448	448	448	
Packages	PQ160 PQ208 PQ240 BG256	PQ160 PQ208 PQ240 BG256	HQ160 HQ208 HQ240 HQ304 BG256 BG352	HQ160 HQ208 HQ240 HQ304 BG352 BG432	HQ160 HQ208 HQ240 HQ304 BG352 BG432	HQ160 HQ208 HQ240 HQ304 BG352 BG432 BG560	HQ160 HQ208 HQ240 HQ304 BG352 BG432 BG560	HQ160 HQ208 HQ240 HQ304 BG352 BG432 BG560	HQ160 HQ208 HQ240 HQ304 BG352 BG432 BG560	HQ240 HQ240	BG352 BG432 BG560 PG559	BG432 BG560	BG432 BG560 PG559