

# Xilinx Achieves Impressive Reliability Results

Because Xilinx FPGAs are built on a standard, highly-reliable CMOS SRAM process, Xilinx has outstanding quality results. The following data is from the Xilinx internal reliability monitor. A FIT is a Failure In Time measured as failures that occur in one billion ( $10^9$ ) hours of device operation. If you are more familiar with

Mean Time to Failure (MTTF) as a measure of reliability, then just take the inverse of the FIT measurement:

$$\text{FIT} = \text{failures}/10^9 \text{ hours} = 1/\text{MTTF}$$

For example, equipment that contains 1,000 devices, each with a 4 FITs reliability level, has a 50 percent probability of having one device failure in  $10^9/(4 \times 1000) = 250,000$  hours (about 30 years) of uninterrupted operation (24 hours/day).

As is clear from the chart, Xilinx continues to deliver world-class reliability in these high-volume FPGA products. Xilinx FPGAs have significantly better reliability than many other forms of logic.

Xilinx's quality and reliability guide, available from your local sales representative, is updated on a quarterly basis. ♦

**Static and Dynamic High Temperature Operating Life (HTOL) Test • FIT Rate at 70°C**

Quarter	XC2000	XC3000	XC3100	XC4000
June 1992	6.0FIT	20.0FIT	-	45.0FIT
June 1993	4.0FIT	28.0FIT	23.0FIT	35.0FIT
June 1994	5.0FIT	21.0FIT	10.0FIT	38.0FIT
June 1995	1.0FIT	17.0FIT	1.0FIT	29.0FIT

## Xilinx Earns ISO 9002 Certification

### *International Recognition Complements Awards From Customers*

The Xilinx manufacturing facility in San Jose, California obtained certification in October to ISO 9002 — “Quality Systems - Model for Quality Assurance in Design, Development, Production, Installation, and Servicing.”

The ISO quality standards were developed by the International Organization for Standardization, a Geneva-based organization with representatives from 91 countries. In simple terms, the ISO 9000 standards state that you must document what you do, perform to the documents, and record the results.

The high quality standards at Xilinx have not gone unnoticed by our users. Recent awards received from Xilinx customers include:

- Honeywell's “Top Rated Supplier”
- Bull's “Quality Vendor”
- Kodak's “Class-B Certification”
- Siemen's “72500 Compliant”
- AT&T's “Partners in Qualification”

Each of these certifications involves “dock-to-stock” programs, wherein the companies do not inspect Xilinx products on receipt, instead relying on the inspection and

testing programs at Xilinx, and, thereby, saving considerable time and expense.

Xilinx currently is undertaking an intensive program to achieve ISO 9002 certification for the new manufacturing facility in Dublin, Ireland in 1996. ♦

### **A company must earn high ratings in these 19 elements to earn ISO 9002 certification:**

1. Management responsibility
2. Quality system
3. Contract review
4. Document and data control
5. Purchasing
6. Control of customer-supplied product
7. Product identification and traceability
8. Process control
9. Inspection and testing
10. Control of inspection, measuring, and testing equipment
11. Inspection and test status
12. Control of nonconforming product
13. Corrective and preventive action
14. Handling, storage, packaging, preservation, and delivery
15. Control of quality records
16. Internal quality audits
17. Training
18. Servicing
19. Statistical techniques