A New Solution for Discontinued Chips:
Phoenix Semiconductor Recreates the XCF Platform Flash PROM

Component obsolescence is one of the most persistent risks in electronics supply chains. When a critical semiconductor reaches end-of-life (EOL), OEMs are often forced into costly decisions that impact product lifecycles, program sustainment, and long-term supply continuity.

One such example is the **Xilinx XCF Platform Flash PROM**, a widely deployed configuration memory device used in FPGA-based systems across communications, industrial, and defense platforms.

After years of broad adoption, the device received a **Product Discontinuation Notice (PDN) in May 2021**, leaving OEMs without a compatible replacement at the time. For systems that rely on these PROMs to initialize FPGA devices at startup, the implications were significant.

Today, **Phoenix Semiconductor** has recreated the device—introducing the **XCFxxP/S-PSC Platform Flash PROM** as a drop-in replacement designed to extend the lifecycle of platforms that still depend on this critical component.

A Critical Component in FPGA-Based Systems

The original **XCF Platform Flash PROM family**, first made available in **June 2016**, became a standard configuration solution for many FPGA designs.

These PROMs store the configuration bitstream required to initialize Xilinx FPGA devices at power-up. Because they provide **non-volatile storage and reliable configuration delivery**, they are commonly used in systems where deterministic startup behavior is essential.

Over time, the XCF family became embedded across a large installed base of platforms, including:

- Telecommunications infrastructure
- Industrial automation and control systems
- Aerospace and defense electronics
- Embedded compute platforms
- Long-lifecycle infrastructure equipment

In many of these systems, the PROM is deeply integrated into the architecture, making replacement difficult once a device is discontinued.

The Obsolescence Dilemma for OEMs

When a semiconductor supplier announces a **PDN**, OEMs typically face two choices.

Last-Time Buy (LTB)

The most common option is a **Last-Time Buy**, where companies purchase enough inventory to support future production and sustainment.

However, this strategy requires **accurate forecasting many years into the future**. Programs in aerospace, defense, and industrial infrastructure often operate for **10–20 years or longer**, meaning companies must estimate lifetime demand with precision.

This approach also ties up **significant capital in long-term inventory**, creating financial and operational risk if forecasts prove inaccurate.

System Redesign

The alternative is a **hardware redesign** to accommodate a different component.

For complex FPGA-based platforms, redesign can involve:

- Hardware architecture changes
- Firmware and configuration updates
- System requalification and certification

In many cases, redesign efforts can cost **$5 million or more** and require **several years of development**, making them impractical for long-life or already-deployed systems.

A Third Path: Chip Recreation

Phoenix Semiconductor has introduced a new approach to solving semiconductor obsolescence through **chip recreation**.

The company has developed a **proprietary process that enables discontinued components to be recreated without requiring new silicon, original wafers, or a fabrication facility**. This allows Phoenix to produce **drop-in compatible replacements** designed to support legacy systems without forcing redesigns.

The **XCFxxP/S-PSC Platform Flash PROM** represents **Phoenix Semiconductor's first flagship recreated device**, developed after a military **program-of-record customer requested a sustainable supply solution for this discontinued component**.

The Phoenix XCFxxP/S-PSC Platform Flash PROM

The recreated PROM maintains the functional architecture required for FPGA configuration systems while supporting a range of capacities and packaging options.

Key capabilities include:

- **Memory Capacity:** 1, 2, 4, 8, 16, and 32 Mb non-volatile flash
- **Configuration Modes:** Serial (x1) or Parallel (x8) output
- **Design Revisions:** Up to four independent configuration images
- **Programming Interface:** JTAG (IEEE 1149.1) program, erase, verify, and readback
- **Cascading Support:** Multi-PROM daisy-chain capability
- **Clock Options:** Internal oscillator (25–50 MHz) or external clock input
- **Reliability:** >20 years of data retention with high endurance programming cycles
- **Industrial Temperature Range:** −40 °C to +85 °C

These features allow the device to function as a **drop-in replacement for legacy XCF Platform Flash PROM deployments**, helping sustain FPGA-based systems already in the field.

Supply Available Through Distribution

Phoenix Semiconductor has also taken the additional step of making recreated devices available through authorized distribution.

The **XCFxxP/S-PSC family is currently available through Avnet**, allowing OEMs and sustainment teams to access supply without entering complex custom manufacturing engagements.

For companies managing long-lifecycle products, this provides an immediate option to maintain production and support existing platforms without redesigning hardware or committing to risky long-term inventory strategies.

Addressing the Growing Legacy Chip Challenge

Across the semiconductor industry, thousands of legacy components are approaching end-of-life while still supporting critical systems.

From telecommunications infrastructure to defense electronics, many platforms rely on components that were never designed to be replaced during their operational lifespan.

Phoenix Semiconductor, headquartered in **Austin, Texas**, is focused on addressing this challenge by enabling the recreation of late-generation and legacy microelectronics. By delivering compatible replacements for discontinued parts, the company aims to help OEMs sustain critical systems while reducing the financial and operational burden of obsolescence. With the recreated **XCF Platform Flash PROM**, Phoenix is demonstrating a new path forward for extending the life of essential electronic platforms.