



# XCFxxP/S-PSC

## Platform Flash In-System Programmable Configuration PROMs

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Product Brief (PB0003)

Phoenix has developed a proprietary process for recreating discontinued chips without requiring new silicon, a fabrication facility, or original wafers. This innovation enables Phoenix to produce drop-in replacements that are seamless, fast to market, and ideally suited for long-life programs requiring a high mix of parts in lower volumes.

### 1. General Description

This document provides specifications for Phoenix Semiconductor Corporation (PSC) drop-in replacement for the previous version of the XCF Platform Flash PROMs.

The **XCFxxP/S-PSC** is an **1/2/4/8/16/32-Mbit Platform Flash PROM** designed to store and deliver FPGA configuration data for Xilinx FPGA devices. It provides a non-volatile, reprogrammable solution that supports multiple configuration modes and is optimized for high-density FPGA designs. The **XCFxxP/S-PSC** provides a scalable configuration solution for large and complex FPGA-based systems, ensuring reliable device initialization across a broad range of applications including communications, industrial, and defense electronics.

### 2. Features

- **Memory Capacity:** 1/2/4/8/16/32 Mb non-volatile Flash, sector-erasable and reprogrammable.
- **Design Revisions:** Up to four independent configuration images (REV 0 – 3).
- **Revision Selection:** Controlled via internal control bits or external pins  $\overline{\text{EN\_EXT\_SEL}}$ , REV\_SEL[1:0].
- **Configuration Modes:** Serial (x1) or Parallel (x8) output; Master or Slave operation.
- **Clock Source:** Selectable internal oscillator (25 – 50 MHz) or external CLK input.
- **Cascading Support:**  $\overline{\text{CE0}} / \overline{\text{CE}}$  interconnect enables multi-PROM daisy-chain configuration
- **In-System Programmability:** JTAG (IEEE 1149.1) program, erase, verify, and readback.
- **Security:** Non-volatile lock bits disable further programming when set.
- **Data Retention & Reliability:** Non-volatile flash technology ensuring data retention >20 years, and high endurance for repeated programming cycles.
- **Low Power:** Standby mode for reduced power consumption during system idle states
- Industrial temperature range: **-40 °C to +85 °C**.
- RoHS-compliant and Pb-free package options.

### 3. Package Options

- The **DFN2012D-48** package is a dual flat no-lead design, optimized for thermal performance and low-inductance electrical connections. It is functionally equivalent to the VOG48 package.
- The **BGA0809D-48** package is a fine-pitch ball grid array, providing enhanced board-level reliability and high-frequency electrical performance. It is functionally equivalent to the FSG48 package.
- The **DFN6P56P4D-20** package is a dual flat no-lead design, optimized for thermal performance and low-inductance electrical connections. It is functionally equivalent to the VOG20 package.

## 4. Availability & Support

Table 4.1 Ordering information

MPN	Temperature range	Package Name	Description	RoHS
XCF01SVOG20C-PSC	-40 °C to +85 °C	DFN6P56P4D-20	1Mb DFN20 PROM	Yes
XCF01SVO20C-PSC	-40 °C to +85 °C	DFN6P56P4D-20	1Mb DFN20 PROM	No
XCF02SVOG20C-PSC	-40 °C to +85 °C	DFN6P56P4D-20	2Mb DFN20 PROM	Yes
XCF02SVO20C-PSC	-40 °C to +85 °C	DFN6P56P4D-20	2Mb DFN20 PROM	No
XCF04SVOG20C-PSC	-40 °C to +85 °C	DFN6P56P4D-20	4Mb DFN20 PROM	Yes
XCF04SVO20C-PSC	-40 °C to +85 °C	DFN6P56P4D-20	4Mb DFN20 PROM	No
XCF08PVOG48C-PSC	-40 °C to +85 °C	DFN2012D-48	8Mb DFN48 PROM	Yes
XCF08PVO48C-PSC	-40 °C to +85 °C	DFN2012D-48	8Mb DFN48 PROM	No
XCF16PVOG48C-PSC	-40 °C to +85 °C	DFN2012D-48	16Mb DFN48 PROM	Yes
XCF16PVO48C-PSC	-40 °C to +85 °C	DFN2012D-48	16Mb DFN48 PROM	No
XCF32PVOG48C-PSC	-40 °C to +85 °C	DFN2012D-48	32Mb DFN48 PROM	Yes
XCF32PVO48C-PSC	-40 °C to +85 °C	DFN2012D-48	32Mb DFN48 PROM	No
XCF08PFSG48C-PSC	-40 °C to +85 °C	BGA0809D-48	8Mb BGA48 PROM	Yes
XCF08PFS48C-PSC	-40 °C to +85 °C	BGA0809D-48	8Mb BGA48 PROM	No
XCF16PFSG48C-PSC	-40 °C to +85 °C	BGA0809D-48	16Mb BGA48 PROM	Yes
XCF16PFS48C-PSC	-40 °C to +85 °C	BGA0809D-48	16Mb BGA48 PROM	No
XCF32PFSG48C-PSC	-40 °C to +85 °C	BGA0809D-48	32Mb BGA48 PROM	Yes
XCF32PFS48C-PSC	-40 °C to +85 °C	BGA0809D-48	32Mb BGA48 PROM	No

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## 5. Phoenix Semiconductor Overview

Phoenix is tackling one of the most entrenched and urgent challenges in the microelectronics sector — the shortage of domestically manufactured legacy chips critical to our national security and industrial base. By pioneering an innovative approach to recreating late-gen, legacy, and mature microelectronic components, Phoenix aims to deliver trusted, domestically produced components to government and commercial partners who rely on these technologies for sustained and secure operations. Headquartered in Austin, Texas, our innovative process is disrupting how companies solve obsolescence challenges.

## 6. Notice of Disclaimer

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