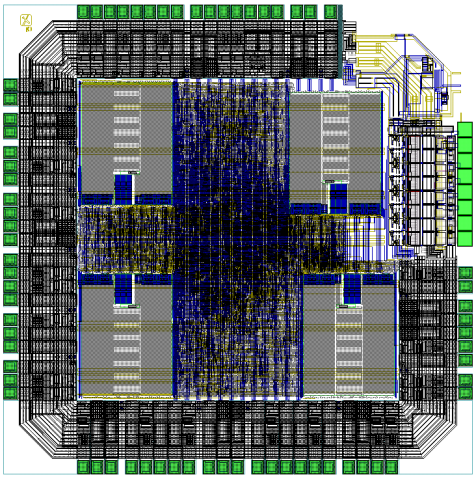
Product Brief

CX4900
0.25 µm Standard Cell ASIC/SoC

Overview

The CX4900 ASIC and System on Chip (SoC) offering from ChipX combines the well-proven UMC standard six-metal 0.25-µm deep submicron process technology with a rich portfolio of silicon-proven processors, memory structures, analog, I/O and digital IP, and advanced packaging technology, to offer excellent solutions for medium performance, high volume products. The CX4900 0.25um technology is an excellent solution for Consumer Electronics products.



All layers are available for customization, resulting in optimal performance and die size. Prototypes can be manufactured, assembled, tested, and shipped in as little as 9 weeks, with production parts in 12 weeks.

ChipX can offer data converters, PLLs, and a wide range of I/O all in combination with ChipX synthesizable processors and controllers, to form complete subsystems capable of achieving compliance with the relevant standards body such as USB-IF.

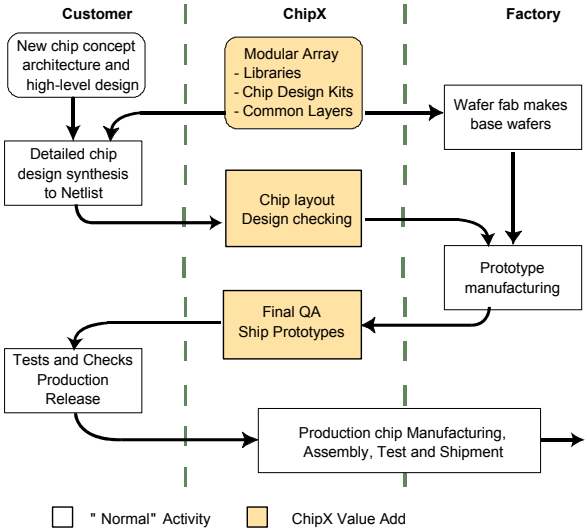
The CX4900 builds on several generations of ChipX Standard Cell experience. The core technology combines our accumulated design expertise with a focus on consumer, military, and industrial needs. The CX4900 Standard Cell ASIC/SoC offering delivers an ideal solution that is low power, medium performance, and appropriate for medium- to high-volume production.

XPath

Proven Conversion from Structured ASIC to Standard Cell

Easily and seamlessly convert from Structured ASIC to Standard Cell when volumes increase. The ChipX XPath methodology allows you to have the best of both worlds—start in a Structured ASIC (SA) and benefit from fast time to market and easy, low cost silicon changes—then convert to Standard Cell for optimal economy, and get credit for most of the SA NRE. XPath offers continuity in production, full reuse of previous design efforts, and significant simplification of design flow. Only one signoff is required from the customer.

Design Flow



ChipX spends considerable development effort to ensure that taping out a design to a CX4900 Standard Cell ASIC is simple, painless, and low risk. ChipX provides downloadable libraries online for Magma, Synopsys, and Synplify, and uses industry standard development tools to ensure first time working silicon on schedule.

Experience

Standard Cell solutions require the best engineering talent to ensure success every time. All engineering disciplines need to be strongly represented, so all aspects of a specific design can be taken into consideration, be it efficient digital or analog design, solid modeling and verification, or optimal package design. The ChipX customer support team has taped out more than 1500 Structured ASICs, and more than 400 Standard Cell products, including 0.25 µm designs up to 2M gates at 150 MHz. Millions of ChipX Standard Cell products have shipped over the past decade. As an ISO 9001 certified company, ChipX adheres to strict quality control standards.

The ChipX team will get to know you and your application, and will be able to work with you throughout the project. Regular meetings and design reviews keep all teams aligned, and if desired, the customer remains in full control at all times.

To date, we can proudly claim over 98% first time right silicon, and 100% within one spin.

Intellectual Property (IP)

Standard Cell developments can be large and complex, including selection and negotiation for many different blocks of IP. ChipX makes it easy with a wide portfolio of over 250 blocks of synthesizable and analog IP. Silicon-proven, fully verified and well documented, the IP used by ChipX dramatically lowers the effort required to select and integrate. Where required, ChipX can also offer full integration and even software services through its extensive partner network, offering local support to customers worldwide.

IP includes 32 bit synthesizable processors, 8 bit processors, USB (Controller and PHY), PCI, Ethernet, Processor peripherals, ADC, DAC, PLL, encryption/decryption, MPEG 4, H264, Powerline communications, MIL-STD-1553, and more. For more information, please contact ChipX or visit www.ChipX.com.

Key Features and Benefits

- Up to 6 layers available for routing
- 150 MHz maximum global operating frequency, over 250 MHz local
- True ASIC gate count of up to 2M usable gates
- High speed embedded SRAM up to 2Mb
- Support for more than 200 I/O types, including LVTTL (5V-tolerant), LVPECL, LVCMOS, HSTL, PCI, PCI-X, and XOSC
- Core operating voltage of 2.5 V
- On-chip 3.3-V core regulator allows single 3.3-V supply.
- I/O voltage of 3.3 V (5V-tolerant); output drive strengths up to 16 mA
- Commercial and industrial grade temperature libraries
- PLLs with Spread Spectrum tracking, output range of 10 MHz to 200 MHz
- Packages from 56 QFN to 676 PBGA
- Fast time to prototypes and production, with XPath migration from Structured ASIC to Standard Cell

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