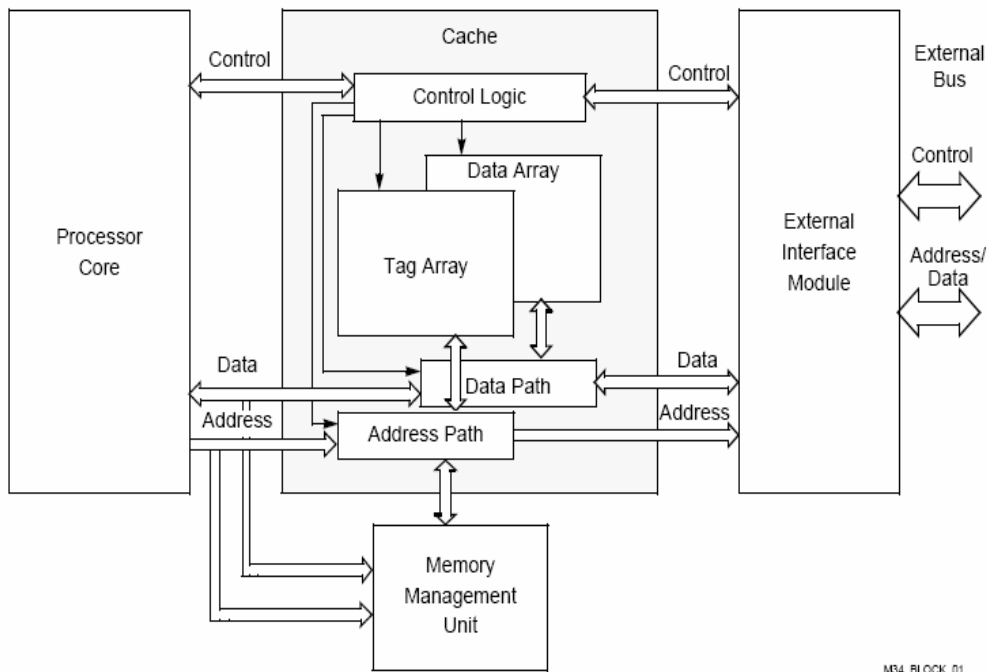


32 bits RISC CPU Core with CACHE and MMU Data Sheet

Summary

The C340 is a member of the C*Core™ High-Performance Low-Power 32-bit RISC core family. It has been designed for high-performance and cost-sensitive embedded applications, with particular emphasis on reduced system power consumption, making it suitable for battery-operated, portable products. The C340 contains a 8-kbyte/16-kbyte 4-way set-associative, unified (instruction and data) cache with a 16byte line size Which improves system performance by providing low-latency data to the C340 instruction and data pipelines. A MMU (memory management unit) is also designed inside to provide the virtual to physical address translation and memory cache/map range partition through the 4G space. The MMU also enforces supervisor only and read/write/execute protect permission.



MS4_BLOCK_01

Core Features

- Ø Low power RISC core
- Ø 32-bit load/store architecture
- Ø Highly optimized pipeline
- Ø Single-cycle 32x16 multiplier
- Ø Fixed-length 16-bit instructions
 - † Mostly single-cycle execution
 - † Two-cycle branch execution
- Ø 16 32-bit general purpose registers
- Ø 13 32-bit control registers

- Ø C*Bus MLB bus architecture
- Ø MMU inside
- Ø C*Bus MLB bus architecture
 - † Support byte/halfword/word access

- † Optional AMBA wrapper
- Ø Fast interrupt support
 - † 16 32-bit alternate registers for fast context switching
 - † Vectored/auto-vectored interrupts
 - † 128 interrupt/exception vectors
- Ø Debug support via JTAG-based OnCE™ Design
- Ø 8K/16K cache.

Performance and Characteristics

- Ø Frequency (WCS): 150 MHz
- Ø Power Consumption: 0.9mW/MHz
- Ø Die Size: 3.8 mm²
- Ø Process: SMIC 0.18µm (WCS, 1.62V, 125°C)
- Ø Scale : 500K transistors
- Ø Bus : C*Core Local Bus(CLB)
- Ø Test Method : Mux D Flip-flop Scan Test & Cache memory BIST Test.

Application Examples

- Ø HDTV
- Ø Consumer Electronics
- Ø Office Automation
- Ø Communication/Network

Availability

- Ø Q3, 2005

*To obtain more information about the C340 or other C*CORE™ products, please contact the C*Core Technology Co., Ltd. by phone: 0512-68091377, email: support@china-core.com or web: <http://www.china-core.com>.*

*C*Core™ is a trade mark of C*Core Co., Ltd.*